UNITED NATIONS SYSTEM
Secretariat of the Chief Executives Board for Coordination (CEB)

Compendium of Responses to the CEB Survey on Frontier Issues

27 October 2017

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Survey Submissions by Entity

CEB: UN system data platforms developed by CEB Secretariat

CEB Secretariat has developed several web platforms centered on promoting data gathering, data sharing and data innovation. Two can be considered work in progress. These projects combine to advance an effective approach to data gathering and reporting, as well as the role of innovation.

The UN Data Catalog aims to promote transparency by referencing all open data resources made available by UN System organizations. An API allows organizations to publish automatically their metadata when updated and the search interface includes topic and geographic coverage of the referenced data.

The UN Data Innovation Lab website, developed by CEB Secretariat, currently provides all multimedia that supported all five of the Lab's workshops. One proposed role of a second release later this year, is to gather and present data innovation projects as they begin to mainstream within UN system organizations.

The CEB Data Management Portal (DMP) supports the CEB Secretariat in its execution of periodic surveys in furtherance of official and ad-hoc reporting requirements. After an initial release in June 2017, a second release will provide member organizations and Committees an inter-agency survey platform.

URL: http://undatacatalog.org, https://data-innovation.unsystem.org, https://data.unsystem.org
Domain: data-related issues (privacy, openness, access, etc.)
Function: internal support function (including application to operations and management)

Outputs:
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Informational Website
- Online Forum/Community/Exchange

Actors:	**Actors Description:**
• Other UN system organizations	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Staff of your organization	
• Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date): Data Management Portal: July 2017.

CEB: United Nations Semantic Interoperability Framework (UNSIF)

The use of ICT as an agent of change and a driver of innovation in business models remains a priority for HLCM. Building on the successful practice of adopting internationally recognized standards, the HLCM Secretariat co-led, together with UN/DGACM and FAO, a joint initiative to develop a system wide UN Semantic Interoperability Framework (UNSIF). Through the collaborative spirit of staff from 16 UN entities, and with the benefit of an advisory board comprising organizations with prior experience in eXtensible Markup Language (XML) implementation, such as the European Parliament, the joint initiative succeeded in creating a unique customization of the Akoma Ntoso XML standard for UN documents, known as "Akoma Ntoso for the United Nations" (AKN4UN). The outcome also included "Guidelines for the mark-up of UN normative and parliamentary documents" and the first UN Document Ontology (UNDO), a framework for the semantic description of all components of UN documents and the links that could exist amongst them.

Approved by CEB at its 2017 Spring meeting, UNSIF has created the foundation to harmonize machine-access to UN system normative and parliamentary documents. Implementation of the standard is now the next step for entering a new era of information management for the UN system. It has the potential, through automation, to bring considerable efficiencies in document management processes and radically improve documentation services, so as to make the inter-governmental machinery more effective and transparent. Also, by making UN system documents machine-readable, it will deliver considerable productivity gains by, for example, improving translation consistency, reducing costs, and helping UN system organizations easily reuse content and automate formatting tasks. It will promote multilingualism by empowering users with faster multilingual search capabilities, facilitating accurate alignment of text in different languages and precise identification of context for use in computer-assisted translation. Other benefits will reside in multichannel dissemination of data, including greater accessibility to United Nations documents by persons with disabilities.

Furthermore, having machine-readable documents available in a common semantically rich format will be a considerable asset for the implementation of the 2030 Agenda for SD, which requires strong coordination and integration, a robust review mechanism and a solid framework for evidence-based policies and accountability. Continuing work in this area also represents a direct response to paragraph 70 of the Quadrennial comprehensive policy review of operational activities for development of the United Nations system (A/RES/71/243). Against this background, the next phase will develop around a strategic partnership with EU institutions focusing on case piloting, common tools development, and support to the UN transition towards the new paradigm of processing document information as data.

URL: http://www.unsystem.org/content/akn4un
Domain: data-related issues (privacy, openness, access, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Other: UN interoperability ecosystem

Actors:	Actors Description:
- Member States - Other UN system organizations - Other IGOs / development banks - Scientific community - Other: European Union Institutions Parliament, Council, Commission), selected national Parliaments and Executives	

Beneficiaries:	Beneficiaries Description:
- government - Public-at-large - Staff of your organization - Other UN system entities	Governments and public at large as access to UN normative documents promotes the rule of law at the international level Intergovernmental bodies as their work will be more effective, open and transparent MS as users and clients of services provided by UN entities in the area of document processing Staff across the System as they will be able to work more efficiently

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

    Explanation: ....The HLCM Secretariat needs to provide coordination of the inter-agency mechanism, develop further partnerships with public and private entities, disseminate experiences and practices, and assess achievements and/or bottlenecks

Financial Investment:.......large (expenditure $50,000 and above)

    Explanation: ....The HLCM Secretariat seeks funding to provide continuity to the initiative, which was initially funded by its Trust Fund on HBP, UN/DGCAM and FAO.

Timeline:

Work on activity began:...between 6 months and 1 year ago

Work is............................ongoing (with no set end date)

CTBTO: Establishing a credible and science-based verification regime for the CTBT

The purpose of the verification regime is to monitor countries' compliance with the Comprehensive Nuclear-Test-Ban Treaty (CTBT), which bans all nuclear explosions on the planet. One of the main tasks of the CTBTO Preparatory Commission is to build this regime and to ensure that it is operational by the time the Treaty enters into force.

The verification regime consists of the following elements: International Monitoring System (IMS); International Data Centre (IDC); Global Communications Infrastructure (GCI); On-Site Inspection (OSI); consultation and clarification; and confidence-building measures. The first four are science-based mechanisms and thus relevant to this exercise.

The IMS consists of 321 monitoring stations and 16 laboratories built world wide. These 337 facilities monitor the planet for any sign of a nuclear explosion. The IMS is supported by the IDC, located at the headquarters of the CTBTO in Vienna. The IDC processes and analyses the data registered at the monitoring stations, and produces data bulletins that are submitted to the Member States for their evaluation and judgement. The data recorded at the IMS stations is transmitted to the IDC by the GCI, which also transmits raw data and data bulletins from the IDC to the Member States. Data is received and distributed through a network of six satellites, which route the transmissions to three hubs on the ground. The data is then sent to the IDC by terrestrial links.

The IMS uses four state-of-the-art technologies: seismic stations monitor shockwaves in the Earth; hydroacoustic stations "listen" for sound waves in the oceans; infrasound stations detect ultra-low frequency sound waves; and radionuclide stations measure the atmosphere for radioactive particles (some of them also pick up noble gas; they are supported by 16 radionuclide laboratories).

Over 90 percent of the facilities are already up and running.

The CTBT is based on solid scientific and technical foundations. CTBTO has gained experience with developing and running an unprecedented global verification system and is in constant need to assess emerging technologies and their potential that directly affect the performance and the credibility of the verification system such as cybersecurity, big data, social media, citizen science, open source verification, satellite imagery, drones... In order to maintin its scientific and technological credibility CTBTO is running a technology foresight and development program.

URL: https://www.ctbto.org/verification-regime/
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Intergovernmental Meeting
- Other: Establishment of the CTBT verification regime as per Treaty provisions

Actors:

- Member States
- Private sector entities
- Scientific community
- Other: CTBTO Preparatory Commission

Actors Description:
The CTBTO Preparatory Commission is mandated to undertake all necessary preparations towards the operationalization of the Treaty's verification regime at entry into force. It does so in collaboration with CTBTO Member States on the basis of technologies and equipment developed and provided by both government and private entities.

Beneficiaries:

- government

Beneficiaries Description:
CTBTO Member States

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....A staff of over 300 works on the establishment of the CTBT verification regime, in collaboration with national personnel around the world.

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....So far, over 1 billion USD has been invested in the establishment of the CTBT verification regime.

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Over 90% of the monitoring system established. Verification regime to be completed before entry into force of the Treaty.

CTBTO: Establishing and operating the International Monitoring System

The International Monitoring System (IMS) will, when complete, consist of 337 facilities worldwide to monitor the planet for signs of nuclear explosions.

The IMS uses four state-of-the-art technologies: seismic stations monitor shockwaves in the Earth; hydroacoustic stations "listen" for sound waves in the oceans; infrasound stations detect ultra-low frequency sound waves; and radionuclide stations measure the atmosphere for radioactive particles (some of them also pick up noble gas; they are supported by 16 radionuclide laboratories).

IMS monitoring stations and laboratories will operate in 89 countries around the world. Establishing them poses engineering challenges unprecedented in the history of arms control. Many stations are located in remote and inaccessible regions of the globe. Over 90 percent of the facilities are already up and running and transmit near real time data to the International Data Centre located in Vienna. where they are processed and analysed Raw and analyzed data are then distribted to National Data Centres around the world.

CTBTO operates a global communication infrastructure to support the exchange of data and a state-of-the art computer center. Data and products are authenticated through a public key/private key infrastrusture.

CTBO has had to address unique challenges related to data handling, data security and surety issues.

CTBTO has implemented an extensive capacity building and training program to enable all states signatories to analyze data and to take the benefit of all their applications.

URL: https://www.ctbto.org/map/#mode=ims
Domain: data-related issues (privacy, openness, access, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Other: Establishment and operation of the International Monitoring System

Actors:	**Actors Description:**
- Member States - Private sector entities - Scientific community - Other: CTBTO Preparatory Commission	The CTBTO Preparatory Commission is mandated to establish and operate the International Monitoring System. It does so in collaboration with CTBTO Member States on the basis of technologies and equipment developed and provided by both government and private entities.

Beneficiaries:	**Beneficiaries Description:**
government	

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....A staff of over 100 works on the establishment and operation of the IMS, in collaboration with national personnel around the world.

Financial Investment:........large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

CTBTO: Performance Optimization

The optimization of performance involves the efficiency, quality, timeliness, reliability and cost-effectiveness of the verification process.

Sustained operation of a globally distributed network of sensors poses substantial logistical challenges and the need for a rational approach to life-cycle management. Near-real-time acquisition and forwarding of continuous and segmented data from the global International Monitoring System, and its subsequent processing and analysis at the CTBTO's International Data Centre also pose great challenges. Strict specifications for data availability, quality and timeliness must be achieved and sustained, while the results of processing and analysis pose further issues of quality and timeliness. Automation including machine learning applications play an important role in the optimaization of the data processing carried out at the International Data Centre with the aim of reducing the workload of human analysts. Special demands are placed upon the handling of OSI data, which will be governed by many requirements outlined in the Treaty and the on-site inspection Operational Manual. Also relevant is the integration of IMS data and Treaty monitoring into national operations and procedures.

URL: https://www.ctbto.org/?id=5157
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
* Other: Optimization of performance of the CTBT verification regime.

Actors:	**Actors Description:**
• Member States	
• Private sector entities	
• Scientific community	
• Other: CTBTO Preparatory Commission	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Other: CTBTO Preparatory Commission	

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)
  Explanation: ....

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

CTBTO: Promoting Entry Into Force of the CTBT

The CTBT is by essence an instrument to regulate technological advances. It constrains the development and qualitative improvement of nuclear weapons and the development of advanced new types of nuclear weapons

The CTBT was opened for signature in 1996. As of mid-2017, 183 countries have signed the Treaty, of which 164 have also ratified it. But 44 specific nuclear technology holder countries must sign and ratify before the CTBT can enter into force. Of these, eight are still missing: China, Egypt, India, Iran, Israel, North Korea, Pakistan and the USA. India, North Korea and Pakistan have yet to sign the CTBT.

A number of initiatives and mechanisms have served to promote entry into force of the CTBT over the years. While CTBTO Member States have the lead in deciding by consensus what measures consistent with international law may be undertaken to accelerate the ratification process (notably through the convening of the so-called Article XIV conferences), the CTBTO Executive Secretary conducts high-level consultations aimed at advancing entry into force. In addition, The Group of Eminent Persons (and, to a certain extent, the CTBTO Youth Group) support and complement these efforts by reinvigorating international endeavours in this regard. Other international organizations -- and in particular the United Nations -- have supported these efforts through their good offices.

CTBTO staff provide the necessary assistance and support to these initiatives and mechanisms.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Other: Nuclear Nuclear non-proliferation and international security
Function: policy advice (to support policymaking (all levels))

Outputs:
- Other: Nuclear Nuclear non-proliferation and international security

Actors:
- Member States
- Other UN system organizations
- NGOs
- Academia
- Scientific community
- Other: CTBTO Preparatory Commission

Actors Description:
CTBTO staff provide assistance and support as necessary to efforts towards promoting the entry into force of the CTBT -- in particular those of the CTBTO Executive Secretary and those by the States that have ratified the CTBT, together with the State Signatories. The Group of Eminent Persons (and, to a certain extent, the CTBTO Youth Group) support and complement these efforts by reinvigorating international endeavours in this regard.

Beneficiaries:
- government
- Public-at-large

Beneficiaries Description:
The international community as a whole benefits from these efforts -- and, eventually, from the entry into force of the CTBT.

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....A team of around 10 staff works to directly support efforts by the CTBTO Executive Secretary and Member States, as well as by the Group of Eminent Persons (and, to a certain extent, the CTBTO Youth Group), to advance the goal of entry into force of the CTBT.

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....Project-based expenditure (events, travel etc.).

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Until date of entry into force

DOCO: Applying foresight and alternative futures to the United Nations Development Assistance Framework

This scanning report answers that question with examples of foresight and other public sector innovations to improve multi-year strategic planning. It is based on consultations with development professionals (both within and outside the UN), and the author's own knowledge of strategic planning and foresight practices. It also includes key case studies from UN in-country teams (Lao PDR, Montenegro and Rwanda) who have experimented in different ways with foresight techniques in their UNDAF planning process.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Other UN system organizations • Other IGOs / development banks	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................complete (no further action to be taken)

DOCO: UNDG Guidance Note on Big Data for Achievement of the 2030 Agenda: Data Privacy, Ethics and Protection

The Guidance note has three main objectives:

• To establish common principles across UNDG to support the operational use of big data for achievement of the SDGs

• To serve as a risk management tool taking into account fundamental human rights

• To set principles for obtaining, retention, use and quality control for data from the private sector

What it is for:

To support UNDG member agencies, and UN Country Teams to manage risk associated with the use of big data for development. Based on the principles contained in the guidance note, agencies and UN teams may refer to this guidance to facilitate data transfer and enable programming decisions based on big data. The UNDG Guidance Note may also inform the development of UNDG member agencies own policies with regard to big data, privacy and ethics.

The guidance is a tool to manage the risks of use of big data, while recognizing that non-use of this unique source of data has its own risks.

URL: https://undg.org/silofighters_blog/finding-the-balance-right-to-privacy-and-the-drive-to-innovate-in-the-un/

Domain: data-related issues (privacy, openness, access, etc.)

Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	Actors Description:
• Member States • Other UN system organizations • Private sector entities • Scientific community	As part of its workplan, the UNDG data and transparency task team, under the auspice of the Business Operations Working Group, has developed this guidance note as part of the effort to remove bottlenecks to the use of big data for Agenda 2030. Agencies own data privacy policies also informed the development of the guidance.

Beneficiaries:
- government
- Public-at-large
- Other UN system entities

Beneficiaries Description:
The international conference of data privacy and protection commissioners
https://icdppc.org/

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Explanation: ....This effort was led by the Privacy specialist at UN Global Pulse and the Team leader for knowledge and innovation at UN Development Operations Coordination Office. Agency specialists who are members of the UNDG data and transparency task team and the UN privacy policy group have contributed expertise and time to produce the product.

Financial Investment:.......not applicable

Timeline:

Work on activity began:...more than 1 year ago

Work is............................N/A

DOCO: UNDG Transparency Portal

The portal displays data of all UNDG members that are currently publishing data as per the IATI standard. The data is updated in real time by pulling data from the IATI registry (http://www.d-portal.org/), the central data store gathering all data published to the IATI standard. This portal is meant to be a way for our partners to see all UNDG related data in one place. Data can be displayed by country, UN agency or sector. Next steps are to disaggregate data by humanitarian/development operations and by SDG.

URL: http://open.undg.org/
Domain: data-related issues (privacy, openness, access, etc.)
Function: other – please specify: Transparency of UN Develpoment Operations

Outputs:
- Informational Website

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

DOCO: UNDG Transparency Portal

IAEA: Assisting Member States to Protect Nuclear Information and Computer Systems from Cyber Attack

The IAEA is implementing a computer security plan of activities in support of the Nuclear Security Plan (currently 2014–2017) to assist Member States, upon request, in improving computer security capabilities at the State and facility level to support the prevention and detection of, and response to, information security incidents that have the potential to either directly or indirectly adversely affect nuclear safety and nuclear security.

This computer security plan of activities addresses computer security issues related specifically to nuclear security and is designed to support competent authorities and operators that have responsibilities for nuclear material, other radioactive material, associated facilities, or associated activities. Additionally, it is intended to support nuclear industry service providers and vendors that supply and maintain computer systems such as physical protection and nuclear instrumentation and control systems components.

The plan of activities focuses on seven key areas of Member State support:

(1) Policy, Regulation, and Programme Development –providing Member States a structured tiered series of guidance documents called the Nuclear Security Series (NSS) to assist them in implementing new nuclear security regimes, or in reviewing and if necessary strengthening existing nuclear security regimes;

(2) Cyber Threat and Risk Assessment – building awareness and guidance needed to accurately identify the credible cyber threat and the potential risk it imposes on nuclear security;

(3) Computer Security Assurance Activities – developing and training on assurance activities to assess needs and requirements against computer security system performance. Assurance activities seek to assist in the evaluation of policy and programmes;

(4) Computer Security Incident Response – computer security incident response is essential for impact minimization and rapid restoration of system functions. Incident response is not an individual activity, but is a collection of activities each of which must be considered;

(5) Protection of Nuclear Security Systems and Measures Against Cyber Attack – nuclear facilities often have unique industrial control systems (ICS) that support nuclear safety, nuclear security, and nuclear material accountancy and control. It is important to look at computer security as a component part of the larger nuclear security approach at these facilities;

(6) Human Capacity Development –Human capacity development is required to support effective implementation of computer security. Such development involves computer security awareness, specialized training and skill sets, and developing a culture of computer security;

(7) Computer Security of The Supply Chain – Organizations procure systems and services from external entities. Managing the security and/or minimizing the associate computer security risk in such relationships is pivotal.

URL: https://www-ns.iaea.org/security/infosec.asp?s=4
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries) All of the above

Outputs:
- UN system-sponsored/organized conference

- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- NGOs
- Private sector entities

Actors Description:

Beneficiaries:
- government
- Other: nuclear facility operators

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

    Explanation: ....IAEA employees; in addition the implementation of the programme requires short term support from several additional experts.

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago

Work is............................ongoing (with no set end date)

IAEA: IAEA activities on advanced nuclear fuel and fuel cycle

The IAEA carries out activities to catalyze evolution and innovation in the nuclear fuel cycle, including the nuclear fuel itself. The IAEA:

- Assists its Member States to improve their research and technological capabilities, enabling them to use, develop, design and manufacture reliable and economically viable core structures and fuels for nuclear power reactors, including innovative fuel materials with increased tolerance to accidents (Accident Tolerant Fuel (ATF), focuses on more benign steam reaction and lower hydrogen generation for currently existing commercial reactors, while maintaining or improving the fuel performance and safety characteristics during normal operations) and for new generations of power reactors (generation IV);

- Coordinates research projects in the area of fuel modelling and simulations in order to analyze and better understand, through sharing of experimental data and best practices in applying fuel modelling computer codes, the behaviour of water-cooled reactors fuel in accident conditions, as well as in the area of spent fuel performance assessment and ageing management of spent fuel dry storage systems to allow extending the current spent fuel storage time frame until a final disposal option becomes available;

- Analyses technical data and results with a focus on monitoring and mitigating fuel failures in currently operated nuclear power plants;

- Promotes information exchange through conferences, technical meetings, workshops and the work of its international Technical Working Groups (namely the TGW on Fuel Performance and Technology and the TWG on Nuclear Fuel Cycle Options and Spent Fuel Management);

- Performs scenario studies, analysing different options of fuel cycles to improve the sustainability of nuclear power through the minimization of the burden of generated waste;

- Coordinates its effort with other international organizations and initiatives focused on nuclear technology innovation like the OECD Nuclear Energy Agency, the European Commission and its Joint Research Centres.

The outputs of the IAEA activities in these areas include technical documents, proceedings of International Conferences, handbooks, scientific papers, databases and e-learning materials.

The IAEA also provides education, including training courses and workshops, on:

- The front-end of the fuel cycle: Uranium exploration methods, Secondary sources of Uranium supply, Evaluation of undiscovered Uranium resources, Uranium geochemistry, etc.;

- Fuel Cycle strategies and options for the management of spent fuel and radioactive waste for countries embarking on the use of nuclear power, as well as for young professionals in the nuclear energy field.

URL: https://www.iaea.org/topics/nuclear-fuel-cycle
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference

- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Targeted group(s)	
• Staff of your organization	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

IAEA: IAEA activities on advanced nuclear reactors

The IAEA carries out activities to catalyze evolution and innovation in different reactor technologies - in particular, in advanced water cooled reactors (WCRs), small and medium-sized or modular reactors (SMRs), high-temperature gas-cooled reactors (HTGRs) and fast reactors (FRs).

The IAEA:

- Provides technology support to near-term deployment of new nuclear power plants, both in countries planning to start a new nuclear power programme as well as in those interested in expanding existing ones;

- Carries out and manages coordinated research projects that focus on technology issues such as modelling, simulations, data verification and validation, on safety issues such as severe accident analysis, experimental facilities and data;

- Promotes information exchange through conferences, technical meetings, workshops and the work of its international Technical Working Groups;

- Develops internationally harmonized safety design criteria and guidelines for all the reactor technologies;

- Analyses technical data and results with a focus on reducing capital costs and construction periods while improving performance, safety, proliferation resistance, and sustainability;

- Performs scenario studies, analyzing different architectures of innovative nuclear systems and advanced fuel cycles;

- Develops road-maps for a transition to globally sustainable nuclear energy systems;

- Coordinates its effort with other international organizations and initiatives focused on nuclear technology innovation, such as the OECD Nuclear Energy Agency, the European Commission and its Joint Research Centres, The Generation-IV International Forum.

The outputs include technical documents, technology road-maps for development and deployment of the different advanced reactor technologies, proceedings, handbooks, scientific papers, databases, compendiums, PC-based simulators, tool-kits, e-learning platforms.

The IAEA also provides education, including training courses and workshops, on:

- Reactor technology assessments and SMR technology;

- PC-based NPPs for Education;

- Physics, technology and application of innovative reactors;

- Physics of natural convection;

- Severe accident management toolkit.

URL: https://www.iaea.org/topics/nuclear-power-reactors
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference

- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Targeted group(s)	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......not applicable

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

IAEA: Sterile Insect Technique to Control Vector Mosquitos of Dengue, Chikungunya, Yellow Fever and Zika

Aedes aegypti and Ae. albopictus are vectors of human pathogenic viruses, including dengue, chikungunya, yellow fever and Zika. Dengue and chikungunya are a major human health problem in over 100 countries, while Zika has recently spread to over 70 countries, and has been associated with microcephaly and central nervous system malformations. In 2016, the WHO announced that Zika is a potential threat for the entire world. The economic impact of mosquito-transmitted diseases is enormous with respect to health care costs, lost working days and productivity.

In the absence of efficient, safe and inexpensive drugs and/or vaccines to control dengue, chikungunya and Zika, control of the insect vector population is considered the most effective way of managing these diseases. Most vector control strategies are insecticide-based and their expanded use is resulting in growing vector resistance to all major groups of insecticides. Combined with the impracticality of eliminating all larval breeding sites throughout urban areas, there is an urgent need for novel, sustainable and environment-friendly control approaches.

The Sterile Insect Technique (SIT) relies on the mass-rearing of a target species, sex separation and transport and systematic release of sterile males in target areas where they compete with wild males for mating with wild females. Sterilization of males is achieved by means of ionizing radiation. Since the released males are sterile, their matings result in no viable offspring. Over time, the targeted population is suppressed in a sustainable and environmentally friendly way.

The Joint FAO/IAEA Division is developing the SIT package against both Ae. albopictus and Ae. aegypti for integration into area-wide vector management programmes. This package includes the development and validation at the operational scale of:

- technology for mass rearing and sterilization of males: design and testing of equipment, assessment of effect of irradiation and development of standard operating procedures;

- technology for sexing, combining sexing strains and advanced mechanical sorting;

- technology for releasing the sterile males over targeted areas with special emphasis on the use of light Remotely Piloted Aircraft Systems;

- technology for monitoring the sterile and wild male populations in the field.

Two Coordinated Research Programmes ("Exploring Genetic, Molecular, Mechanical and Behavioural Methods of Sex Separation in Mosquito" and "Mosquito Handling, Transport, Release and Male Trapping Methods") are currently ongoing with the participation of more than 30 research institutes from 23 countries. In addition, the Joint Division is supporting 4 national, 4 regional and 1 interregional technical cooperation projects in FAO and IAEA Member States for capacity building, technology transfer and, in some cases, pilot projects to validate the SIT technology against Aedes mosquito in the field.

URL: http://www-naweb.iaea.org/nafa/resources-nafa/SIT-Mosquitoes-LR.mp4
http://www-naweb.iaea.org/nafa/ipc/sterile-insect-technique.html
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Academia - Scientific community	FAO IAEA WHO 30 research institutes, among others: Australian Institute of Tropical Health; Moscamed Brazil; Institut de Recherche Sciences Santé, Burkina;Sun Yat-sen University, China; Institut de Recherche pour le Développement, Institut Louis Malarde, France; Biogents, Germany; ISRA-LNERV, Senegal; Tragsa, Spain; Univ. Greenwich, UK; Columbia University, APHIS, US.
Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large	Counterparts include entomology and human health governmental institutions of most of the affected countries in Africa, Asia, Europe, Latin America and the Caribbean.

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

IAEA: Technological Innovations on Nuclear Energy - Non-electric applications of nuclear energy

The IAEA carries out activities to catalyze innovation in the different non-electric applications of nuclear energy. The emphasis is on seawater desalination, hydrogen production and process heat applications using current and advanced nuclear reactor technologies.

The IAEA:

- Promotes information exchange through conferences, technical meetings, workshops and the work of its international Technical Working Groups. These focus on the use of nuclear energy for cogeneration and industrial systems and/or processes for process heat/steam and power, including technical concepts for combined nuclear–industrial complexes that are being pursued in several Member States;

- Develops approaches and strategies to improve efficiency in existing nuclear power plants by means of re-use of waste heat/low quality extracted steam to support globally sustainable nuclear energy systems;

- Provides road-maps for technical and economic aspects for the implementation of cogeneration with nuclear power plants for various non-electric applications;

- Provides technology support to near-term deployment of new cogeneration systems with nuclear power plants or for retrofitting projects, both in countries planning to start a new nuclear power programme and in those interested in expanding existing ones;

- Carries out and manages coordinated research projects that focus on techno-economics and socio-environmental aspects, safety of coupling for nuclear cogeneration systems, and software for economic assessment;

- Develops tools and toolkits for the economic evaluation of cogeneration systems;

- Coordinates its efforts with other international organizations and initiatives focused on the role of economics of nuclear cogeneration and low-carbon economy. These include the OECD Nuclear Energy Agency, Sustainable Nuclear Energy Technology Platform (SNETP) and the Nuclear Cogeneration Industrial Initiative (NC2I) of the European Commission as well as its Joint Research Centres. The IAEA also briefs its Member States on how this technology can support the implementation of the Paris Agreement and the UN SDGs.

The outputs on non-electric applications of nuclear energy include technical documents, technology road-maps for the demonstration, development and deployment of cogeneration projects, proceedings, scientific papers, softwares, tool-kits and e-learning platforms.

The IAEA also provides education, including training courses and workshops on:

- Technology and performance of cogeneration systems;

- Training on IAEA Softwares such as Desalination Economic Evaluation Program (DEEP), Hydrogen Economic Evaluation Program (HEEP) and Desalination Thermodynamic Optimization Program (DE-TOP);

- Training on efficient water management in nuclear power plants using its Water Management Program (WAMP).

URL:
Domain: energy technology (solar energy, battery storage, biofuels, etc.)

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States • Other IGOs / development banks • NGOs • Private sector entities • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......not applicable

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

IAEA: Use of Unmanned Aerial Vehicle (UAV) for monitoring surface radioactivity

An instrument/gadget was developed by the IAEA to monitor and measure the quantity as well as the nature of radioactivity on the earth's surface in a quick and remote manner. Quick and remote monitoring/assessment of radioactivity is needed in particular during a nuclear incident or after the remediation of a nuclear site. In brief the equipment consisted of an UAV fitted with a radioactivity detector, the signals from which were processed through a software and reconstructed to provide the distribution of surface radioactivity.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries) Data collection on radioactivity levels on earth's surface as well as capacity development are the functions for this activity.

Outputs:
- Other: The equipment itself is the output. It has been supplied to Member States at their request.

Actors:	Actors Description:
• Member States	
• Private sector entities	
• Academia	

Beneficiaries:	Beneficiaries Description:
• government	
• Public-at-large	

Scale:
Personnel Support: ....not applicable
    Explanation: ....As this equipment is already developed the support will be given at the request of Member States.

Financial Investment:.......not applicable

Timeline:
Work on activity began:...more than 1 year ago
Work is............................complete (no further action to be taken)

ICAO: ADS-B Big Data Project

ICAO is a member of the Global Working Group (GWG) on Big Data established by the United Nations Statistical Commission (UNSC) with the aim of incorporating recommendations and guidelines of the GWG to ICAO's big data activities. Focus is on the project using Big Data technology to develop a structure and analytics for the vast amount of ADS-B data, to generate strategic indicators to improve safety and air navigational efficiency and quantify the resulting economic and environmental benefits.

Big Data, in general defined as extremely large data sets that may be analysed computationally to reveal patterns, trends, and associations, especially relating to human behaviour and interactions. In cooperation with FlightAware, and in coordination with ANB and ICT, using radar trajectory Big Data to map and generate strategic indicators.

The Automatic dependent surveillance-broadcast (ADS-B) is a surveillance technology in which an aircraft determines its position via satellite navigation and periodically broadcasts it, enabling it to be tracked.

FlightAware is the world's largest flight tracking data company and provides over 10,000 aircraft operators and service companies as well as over 12,000,000 passengers with global flight tracking solutions. FlightAware leverages data from air traffic control systems in over 55 countries, from FlightAware's network of ADS-B ground stations in over 150 countries, from Aireon space-based global ADS-B, and using global datalink (satellite/VHF) via every major provider.

ICAO will be using Big Data technology to develop a structure and analytics for the vast amount of ADS-B data, to generate strategic indicators to improve safety and air navigational efficiency and quantify the resulting economic and environmental benefits.

Cooperation with academic partners in the region is envisaged, in the development process, as well as in the consecutive implementation and research.

Finally, artificial intelligence (AI), through the analysis of large amounts of data (Big Data), offers several potential uses for aviation, including: Analysis and prediction of passenger behavior/demand; Seamless airport security processes, through facial recognition and biometrics; Support to the optimization of revenue management, route network, fleet management, and pricing strategies.

URL: www.icao.int
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- Other UN system organizations
- Private sector entities
- Academia

Actors Description:

Beneficiaries:
- government
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is.............................ongoing (with no set end date)

ICAO: Aviation Security - cybersecurity

In an effort to further promote a consistent and coherent approach in managing cyber threats and risks, the ICAO Assembly adopted a Resolution on how to better address cybersecurity in civil aviation (A39-19: Addressing Cybersecurity in Civil Aviation). The Resolution seeks to obtain global commitment to action by ICAO, its member States and industry stakeholders in order to corroboratively address cybersecurity in civil aviation by promoting cybersecurity culture and working on the development of common requirements for cybersecurity guidance and training

Supplemental Information:
In light of the threat posed by cyber-attacks against civil aviation's critical infrastructure, information and communication technology systems and data, Assembly Resolution A39-19 called for a coordinated approach to achieve an acceptable and commensurate cyber resilience capability on a global scale. To that end, ICAO is working on the development of a comprehensive cybersecurity, cyber safety and cyber resilience work plan and governance structure with all relevant stakeholders. Such a governance structure will be composed of a number of working groups whose terms of reference will aim to address all elements of the international aviation framework that may be affected by cyber incidents and attacks. Coordination between those groups will be key to ensure that any required cybersecurity, cyber safety and cyber resilience provisions proposed by those same groups are developed in a harmonized fashion, which in turn will guarantee global interoperability and compatibility while maintaining required levels of safety and security.

URL: www.icao.int
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- Private sector entities
- Academia

Actors Description:

Beneficiaries:
- government

Beneficiaries Description:

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......not applicable

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

ICAO: CyberSecurity

ICAO recognizes that information is a critical asset and that how information is managed, controlled and protected has a significant impact on the organization. Information assets must be protected from unauthorized use, disclosure, modification, damage and loss. Additionally, information assets must be available when needed, particularly during emergencies and times of crisis. The decentralized nature of ICAO ICT environment is inherently difficult to manage and secure. Many Bureaus and Offices operate their own systems and applications.

In response to these challenges, ICAO is improving its information security program in alignment with ISO27001. The standard sets priorities for how the Organization can efficiently and effectively address the management of information security risks to its information assets. It outlines the strategic objectives, that all initiatives are based on, and identifies the components necessary to iteratively improve the security posture of the organization.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
• Member States	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....Three staff are focusing on the support of security operations (part-time), and two are tasked with monitoring and reporting.

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

ICAO: ICAO Environmental Protection

Improving the environmental performance of aviation is a challenge ICAO takes very seriously. The Organization has developed a range of standards, policies and guidance material for the application of integrated measures to address aircraft noise and emissions, embracing technological improvements, operating procedures, proper organization of air traffic, appropriate airport and land-use planning, and the use of market-based options.

ICAO's environmental work contributes to 10 of the 17 UN SDGs. Several years of intensive work by ICAO has materialized in a series of important decisions.

Amongst the many achievements of the 39th Session of the ICAO Assembly in 2016 was the landmark agreement on a global market-based measure scheme for international aviation, the first ever such scheme for any sector.

The agreed – Carbon Offsetting and Reduction Scheme for International Aviation – known as CORSIA, complements other elements of the ICAO basket of CO_2 mitigation measures, such as aircraft technology, operational improvements and sustainable alternative fuels, and this aims to achieve a collective medium term global aspirational goal of keeping the global net CO_2 emissions from international aviation from 2020 at the same level.

The Council in March 2017 adopted the first-ever CO_2 emissions Standard for aeroplanes. This Standard will ensure that the latest technologies are embedded into aircraft design, so environmental benefits are delivered.

Considerable progress has also been reached on the front of operational improvements, such as more efficient use of airspace and routes, and green airports. ICAO continues to intensify efforts to support the deployment of aviation sustainable alternative fuels, and it is in this regard that ICAO will organize a Conference on Alternative Fuels to be held in October 2017, with the aim of developing an ICAO Vision on Aviation Alternative Fuels.

State Action Plans are a voluntary planning and reporting tool for ICAO Member States to communicate information on their activities to address CO_2 emissions from international civil aviation to ICAO. The information contained in an action plan will ultimately enable ICAO to compile global progress towards meeting the goals set by the ICAO Assembly. ICAO is working to promote and develop capacity building programs to provide further assistance to States and facilitate the development and implementation of States Action Plans. 103 Member States have voluntarily submitted action plans to ICAO.

The ICAO Seminar on Green Airports will be held in Montréal, Canada from 29 to 30 November 2017, and will seek to facilitate discussions and encourage the exchange of best practices.

ICAO's Committee on Aviation Environmental Protection will continue to assists the ICAO Council in undertaking studies, providing aviation environmental trends assessments, formulating new policies and adopting new Standards and Recommended Practices (SARPs) related to aviation environmental impacts.

URL: https://www.icao.int/environmental-protection/Pages/default.aspx
Domain: the activity cuts across several science / technology / innovation domains
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference

- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

ICAO: Modernisation of the development and effective implementation of technical policies and standards for civil aviation

As aviation develops and diversifies at an increasingly faster pace – fuelled by the innovation driving all sectors of technology, it has become clear that the traditional processes and policies related to the "internationalization" of civil aviation must be adapted so that it does not slow down the delivery of the technologies to all parts of the world nor cause unintended safety issues. Many of the new technologies (e.g. drones) have the potential to deliver on social and economic expectations and can do so out-of-the-box. To this end, technological advances must be considered in order to increase the effectiveness across the ICAO value chain – from use management tools, through to smarter learning methodologies, through to targeted (analytics based) implementation activities.

URL: www.icao.int
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community
- Other: International Industry Organizations

Actors Description:
International Air Transport Association (IATA), Airports Council International (ACI), Civil Air Navigation Services Organization (CANSO), International Coordinating Council of Aerospace Industries Associations (ICCAIA).

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....not applicable

    Explanation: ....This activity is carried out by staff across ICAO, rather than by a dedicated team.

Financial Investment:.......not applicable

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

ILO: Artificial Intelligence and HR Analytics

This research projects analyses the new developments in the field of human resource management. Large employers have started to systematically use big data and artificial intelligence to better plan and manage their labour demand. This research tries to better understand these AI tools and to examine its impacts on company performance as well as on employees' well-being. Another aspects of this research attempts to develop links between the micro data employed by companies and broader labor market indicators on the macro level.

ILO can play a leading role in this endeavor by helping companies to integrate labour standards in their workforce planning tools as a means of raising retention rates and workplace productivity.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Other UN system organizations • Private sector entities • Academia • Scientific community	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

ILO: Future of Work - Scenario Analysis

This activity is embedded in the larger research efforts undertaken by the ILO on the Future of Work. In this context, the Research Department of the ILO carries out a scenario analysis on the future work. The purpose of this analysis is to identify possible future outcomes (scenarios) of the Future of Work, that are based on existing socioeconomic, political, legal, environmental and technological trends. This scenario analysis is supported by an academic literature review as well as an extensive statistical analysis and the employment of economic models. The outcome will be a research report that informs the Senior Management of the ILO and an Expert Commission on possible future developments and policy implications for the ILO and its constituents.

Supplemental Information:
The scenario work is truly cross-cutting and meant to include not only technological, but also demographic, political and environmental factors that are likely to affect the world of work.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Informational Website

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization • Other UN system entities	UN system

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Summer 2018

ILO: New Automation Technologies and Employment

The project has, at present, 2 main components. The first is titled Robotics and Reshoring and looks at the possible effects of the use of robots and other new automation technologies on the global division of labour, and particularly prospects and development implications of reshoring in labour-intensive manufacturing and services. This project is largely based on in-depth case studies of companies pioneering the development and application of new technologies. The second component is an quantitative analysis of the effects of robots on employment and earnings for workers at different skill levels, addressing emerging as well as advanced economies.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): End of 2017

ILO: Structural transformation and social conditions

New dynamics are emerging as a consequence of the structural change that many economies are currently facing, leading to job losses in some sectors and gains in others. These economic developments and the increasing digitalisation and technological advancement observed across countries have resulted in the emergence of new forms of employment (ILO, 2015). The standard employment relationship is being replaced by employment forms characterised by unconventional work patterns, work arrangements and places of work. Some employment forms identified as of increasing importance include job sharing, casual work, ICT-based mobile work and crowd employment. As these new employment forms are mainly represented in some specific sectors or occupations, their emergence could be related to a shift in employment in these sectors (Eurofound, 2015).

Structural and technological change may bring significant productivity gains, wealth creation and job opportunities, but not necessarily for all. It is therefore paramount not only to focus on whether overall job quality has increased but if structural and technological change benefits everyone or leaves a substantial part of the work force in comparatively worse working conditions. In this context, understanding the driving forces behind these trends and how they operate and its implications on the labour market and social conditions is very crucial. With this in mind, the aim of this project is to contribute to the structural and technological change debate through innovative research on the inter-and intra-sectoral dynamics and their impact on employment creation and job quality, as well as identify policies and sectoral approaches to translate technological change into more and better jobs.

In particular, the first objective of this research activity is to characterize the sectors that are leading employment creation and assess their spillover effects in the rest of the economy. In addition, given that the working conditions between sectors are fundamentally different, this project aims to analyse whether this shift across sectors and within sectors has affected job quality. This project will also examine trends in the distribution of job quality indicators across sectors and occupations to determine whether changing employment patterns have an influence on social indicators such as working poverty and inequality.

Supplemental Information:
The aim of our activity is to analyse the impact of structural and technological change on the sectoral composition of employment and how this shift of the workforce across sectors might also have an impact on working conditions. In terms of frontier issues, our activity is closely related to the debate on the impact of artificial intelligence (i.e. automation, robotics, etc.) but also to the potential effects of emerging sectors due to, for instance, innovation in transportation and energy technology.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

ILO: Technology and jobs

This activity, which is part of the broader ILO initiative on the Future of Work, encompasses a number of inter-related actions, including: i) Forecasting of main labour market indicators presented annually in the Trends series of the ILO flagship publications World Employment and Social Outlook; ii) Tracking new forms of employment and their relationship with technological advancement; iii) Monitoring trends in deployment of industrial robots across countries and economic sectors; iv) Analysing the effects of automation and digitalisation on employment and job quality. Forecasted labour market indicators will serve to create baseline scenarios on the evolution of the world of work worldwide, especially regarding changes in employment across types of occupation (e.g. routine vs. non-routine jobs) and industries (e.g. Low- vs High-tech sectors). This will be complemented by empirical studies aiming at quantifying the extent of job creation and destruction due to emerging technologies. More qualitative contributions, looking at how technology is changing traditional employment relationships and its repercussions of labour market institutions will also be undertaken. Such studies will make use of new databases on the deployment of new technologies (e.g. industrial robots) as well as data sources on employment and working conditions at both sectoral- and individual-level. Ultimately, the aim of this activity is to provide sound data-driven analysis to inform policymakers and stakeholders at large of the challenges, as well as opportunities, that the new wave of technological breakthrough is likely to pose to the world of work over the next future.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Not applicable	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

IMF: Big data: Challenges, Potential and Statistical Implications

In August 2016, the IMF's Statistics Department (STA) established an Internal Group on Big data (IGB) to investigate the potential and challenges of big data for macroeconomic and financial statistics. The IGB is led by STA Deputy Director Gabriel Quiros.

Note titled "Big Data: Potential, Challenges and Statistical Implications" contains all findings of the IGB and will be publicly available.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	**Actors Description:**
• Other: Statistics Department of the International Monetary Fund in collaboration with other departments	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....The IGB works in close collaboration with other IMF departments, and met with academics, national authorities, other international organizations, and private sector companies involved in the mining, compilation, and dissemination of big data and related products.

Financial Investment:.......not applicable
    Explanation: ....As of now, STA conducted analytical work on the topic of big data, hence the financial investment has been small. However, moving forward, more substantial work to operationalize viable big data projects may lead to medium level financial investments. For instance, to conduct the proof of concept of big data projects and to include potential big data projects in capacity development work.

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

IMF: Fiscal Policy and Digitalization

Technology holds vast potential for fundamental and transformative changes in fiscal policy. Electronic payment systems and biometric readers are just two examples of how these changes can improve transparency and confidence in policymaking, as well as curb corruption. They also make way for new tax and social policies that can make fiscal policy more equitable and efficient. The IMF, as a leading provider of technical assistance, is pushing the frontiers of knowledge to improve policy advice. The work is taking many forms—from innovation in technical assistance delivery like the recent 'hackathon' on improving tax administration in Senegal to the 2017 Fiscal Forum on 'Digital Revolutions in Public Finance'. Organized in collaboration with the Bill & Melinda Gates Foundation, this conference brought together the perspectives of the private sector, academia, government and civil society. The IMF's Fiscal Affairs Department is taking forward this agenda in its operational work and analytically, starting with the publication this year of a book based on papers prepared for the Spring Meetings Fiscal Forum event. A number of member countries have expressed interested in piloting digitalization ideas in tax administration and public financial management explored during the conference and plans are in place for following up within the next 18 months.

URL: http://www.imf.org/en/News/Seminars/Conferences/2017/03/29/2017-fiscal-forum-digital-revolutions-in-public-finance

Domain: the activity cuts across several science / technology / innovation domains

Function: policy advice (to support policymaking (all levels))

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States • Foundations • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization	

Scale:

Personnel Support: ....not applicable
    Explanation: ....Resources are not earmarked

Financial Investment:.......not applicable
    Explanation: ....Resources are not earmarked

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is...........................ongoing (with no set end date)

IMF: IMF Staff Discussion Note "Virtual Currencies and Beyond: Initial Considerations"

New technologies are driving transformational changes in the global financial system. Virtual currencies (VCs) and the underlying distributed ledger systems are among these. VCs offer many potential benefits, but also considerable risks. VCs could raise efficiency and in the long run strengthen financial inclusion. At the same time, VCs could be potential vehicles for money laundering, terrorist financing, tax evasion and fraud. While risks to the conduct of monetary policy seem less likely to arise at this stage given the very small scale of VCs, risks to financial stability may eventually emerge as the new technologies become more widely used. National authorities have begun to address these challenges and will need to calibrate regulation in a manner that appropriately addresses the risks without stifling innovation. As experience is gained, international standards and best practices could be considered to provide guidance on the most appropriate regulatory responses in different fields, thereby promoting harmonization and cooperation across jurisdictions.

URL: https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2016/12/31/Virtual-Currencies-and-Beyond-Initial-Considerations-43618
Domain: blockchain
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Other UN system organizations
- Private sector entities
- Academia

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:........small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................complete (no further action to be taken)

IMF: Measuring the digital economy in macroeconomic and financial statistics

Digitalization and the technologies that enable it have created new challenges, controversies and data demands for macroeconomic and financial statistics. Concerns about measurement of GDP growth and productivity growth in a digitalized economy have been widely debated. We are preparing an Executive Board paper to clarify the conceptual and compilation issues for measuring GDP, prices, balance of payments statistics and financial statistics and to develop recommendations on strategies to meet the new data demands. We made a presentation to the IMF Executive Board in June 2017. We collaborated in the writing of an OECD working paper on "Can Potential Mismeasurement of the Digital Economy Explain the Post-Crisis Slowdown in GDP and Productivity Growth?" and we are also collaborating with the OECD on developing international guidelines for supplementary national accounts statistics on the digital economy.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States	OECD and member states
• Other IGOs / development banks	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................in-progress (specify expected completion date): Mar-18

IMF: Staff Discussion Note "Fintechand Financial Services: Initial Considerations"

A new wave of technological innovations, often called "fintech," is accelerating change in the financial sector. What impact might fintech have on financial services, and how should regulation respond? This paper sets out an economic framework for thinking through the channels by which fintech might provide solutions that respond to consumer needs for trust, security, privacy, and better services, change the competitive landscape, and affect regulation. It combines a broad discussion of trends across financial services with a focus on cross-border payments and especially the impact of distributed ledger technology. Overall, the paper finds that boundaries among different types of service providers are blurring; barriers to entry are changing; and improvements in cross-border payments are likely. It argues that regulatory authorities need to balance carefully efficiency and stability trade-offs in the face of rapid changes, and ensure that trust is maintained in an evolving financial system. It also highlights the importance of international cooperation.

URL: https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2017/06/16/Fintech-and-Financial-Services-Initial-Considerations-44985

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) FinTech

Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Other UN system organizations
- Private sector entities
- Academia

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...within the last 6 months
Work is...........................complete (no further action to be taken)

IMO: Autonomous ships

Autonomous and/or remote-controlled ships could dramatically change shipping. IMO is preparing to undertake a regulatory scoping exercise to determine how safe, secure and environmentally friendly sound operation of Maritime Autonomous Surface Ships (MASS) might be introduced in IMO instruments.

The progress being made in the development of MASS has been recognized and agreed that IMO should be proactive and take an leading role on the subject.

As MASS technology continues to develop, it is necessary to address different levels of automation, including semi-autonomous and unmanned ships in the regulatory scoping exercise.

Human and legal aspects would be proper consider during the exercise, including aspects related to responsibility.

URL:
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Academia	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:
Member Governments, IGOs, NGOs, shipping industry, seafarers, public at large.

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)
 Explanation: ....Activity is being coordinated within the standard work of the Secretariat.

Timeline:

Work on activity began:...within the last 6 months
Work is.............................ongoing (with no set end date)

IMO: Cyber-security

There is an urgent need to raise awareness of cyber risk threats and vulnerabilities in order to support safe and secure shipping. Since ships are equipped with modern technologies and with the ever increasing use of software, internet and technologies, cyber-security has become an imminent threat to ship's safety and security.

Guidelines on maritime cyber risk management were recently adopted. Furthermore, cyber risk could be appropriately assessed and managed in accordance with the safety management requirements of the International Safety Management Code (ISM), with the introduction of safety management systems by shipowners and ship operators.

Work on the subject by other Organizations, such as ITU and ISO, has been taking into account and continues to be monitored.

Supplemental Information:
On the awareness raising on cyber security: the IMO included the subject as one of the elements within the security thematic priority for the 2018-2019 biennium in order to provide technical cooperation assistance to Member States, particularly SIDS ad LDCs, on the implementation of the adopted Guidelines on maritime cyber risk managements this year.

The International Safety Management Code (ISM Code) is a mandatory code adopted by the IMO and implemented since 2002 to provide an international standard for the safe management and operation of ships and for pollution prevention. It was then decided that the cyber risk would be appropriately addressed as part of the safety management systems for ships required by the ISM Code, following the orientation adopted by the Cyber Risk Guidelines.

Because the subject of cyber security is quite recent on the IMO agenda, in comparison with other security topics, at this stage, normative support is the main support, because of the above explained connection with the ISM Code, and the time frame of 2021 for the full implementation of the guidelines that has been agreed by the IMO.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

IMO: Marine geoengineering, carbon capture and storage

The London Convention (LC) of 1972 and its 1996 Protocol (LP) address marine pollution from the dumping of wastes and other matter at sea. In 2006, the LP Contracting Parties adopted amendments to Annex I of the Protocol to regulate carbon capture and sequestration in sub-sea geological formations (CCS-SSGF). These amendments created a legal basis to regulate CCS-SSGF for permanent isolation.

Since 2007, the Contracting Parties have been working to establish, a global, transparent and effective control and regulatory mechanism for ocean fertilization activities and other activities that fall within the scope of the LC and LP and have the potential to cause harm to the marine environment.

In 2013, the Contracting Parties adopted an amendment to the Protocol to include marine geoengineering engineering activities.

To support the work of the Parties to the London Protocol, as well as other stakeholders, the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) agreed to establish Working Group on marine geoengineering under the lead of IMO and supported by IOC of UNESCO and WMO. The study was initiated to better understand the potential impacts of different marine geoengineering approaches on the marine environment; and to provide advice to the London Protocol Parties to assist them in identifying those marine geoengineering techniques that it might be sensible to consider for listing in the new Annex 4 of the Protocol. The study focuses on provides a review of a wide range of proposed marine geoengineering techniques, focusing on those that are likely to have some potential for climate mitigation purposes. The working group will provide its first report in to GESAMP in 2017.

URL: www.londonprotocol.imo.org and www.gesamp.org
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) marine geoengineering and CCS
Function: other – please specify: Global regulation of marine geoengineering and CCS, including technical advice and capacity development

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
   Explanation: ....The activities are part of the duties of the Secretariat for the London Convention of Protocol, as well as the GESAMP Office, both part of the Marine Environment Division of IMO. Personnel support thus includes 4 full time staff plus part of several other staff, as well as admin support by other sections and divisions of IMO (e.g. Financial Services, Conference Division, Legal and External Relations Division, etc.).

Financial Investment: ....large (expenditure $50,000 and above)
   Explanation: ....The working group by GESAMP (administered by IMO) has received financial support by governments in excess of 50,000 USD. In addition, side-events, publications and conferences have received additional financial support.

Timeline:

Work on activity began: ...more than 1 year ago
Work is ....ongoing (with no set end date)

IOM: Data Governance Framework

Data Governance represents the institutional programme that manages the organizational structures, policies, fundamentals, and quality relevant to ensuring access to accurate, current and secure migration data and information. It is also concerned with establishing standards, accountabilities, and responsibilities, and with ensuring that migration data and information usage provides maximum value to IOM while managing the cost and quality of information handling. Data governance enforces the consistent, integrated, and disciplined collection, usage, storage and sharing of migration data by IOM.

To ensure that migration quality data is captured, processed and published appropriately and in adherence to standards, a Migration Data Governance policy has been established, guidelines and standard operating procedures have been formulated. Migration data, in this context, refers to any information that can be used to describe and analyse the migration of human beings. This can be numerical information, survey information or classification information. This data can be internal to IOM or external data.

IOM focuses on 16 migration data focus areas:

• Global data on displacement – specifies details about displaced populations collected by mobility tracking, flow monitoring, registration and surveys. This data is used to inform humanitarian response, policy, and transition and recovery efforts.

• Global migration health profiles – describes the composite health status of migrants and mobile populations as an indicator of potential burden of diseases for host and receiving countries. Data is collected through surveys and physical health assessments and may be used to inform policy decisions, programmatic interventions, and advocacy for migrant-sensitive health systems.

• Global data on vulnerable migrant populations – IOM uses this data to develop evidence-based policy and programming and for advocacy with partners.

• Global data on resettlement – personal data on refugees assisted by IOM for medical, migrant training, cultural orientation, and movement. Registration data is stored in a system called MiMOSA.

• Global data on missing migrants – Data is collected on incidents of death and presumed death of people migrating towards or across international borders.

• Migration governance data – Data based on knowledge elements drawn from government sources available in the public domain and/or based on data repositories collected by line ministries.

• Global data on migrant return and reintegration

• Public opinion data

• Migration and environment data

• Irregular migration stocks

• Immigration and border management

• Media discourse on migration – big data analysis of media reporting of migration and migrants in selected countries. Analysis is used to improve understanding of how media discourse is changing.

• Migrant training data

• Labour mobility data

• Migration and human development data

• Compliance with ethical recruitment principles data

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	Actors Description:
• Not applicable	

Beneficiaries:	Beneficiaries Description:
• government	
• Public-at-large	
• Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

IOM: Displacement Tracking Matrix (DTM)

The Displacement Tracking Matrix (DTM) is a system to track and monitor the displacement and population mobility. It is designed to regularly and systematically capture, process and disseminate information to provide a better understanding of the movements and evolving needs of displaced populations, whether on site or en route.

Conceptualized in 2004 in Iraq for the IDP assessments and monitoring exercises, the DTM has been continuously refined and enhanced through years of operational experience in countries in both conflict and natural disaster settings. It delivers an essential role in providing primary data and information on displacement, both in country and global levels. It is comprised of four distinct components: Mobility Tracking, Flow Monitoring, Registration, Surveys.

DTM data includes information relevant to all sectors of humanitarian assistance, such as water and sanitation, health, food, protection and individual documentation, making the resultant DTM data useful to all sectors of humanitarian assistance. The system flags urgent concerns (e.g. protection concerns, food shortages, sanitation problems, diseases, etc.) to relevant sectorial coordination focal points or National Disaster Management Agencies for follow up to help ensure that displaced populations are living in conditions which meet minimum requirements as defined by international guidelines.

In addition to being systematically deployed in medium to large-scale humanitarian response operations, DTM has also proven to be highly effective as a preparedness tool, as well as in support of the recovery and transition phase of the response. Integrating DTM into capacity building activities, mapping of potential evacuation and displacement sites, and setting up the DTM to be ready before a disaster occurs are some examples of how the DTM can be employed as an affective preparedness measure, while recent implementation in Haiti (since 2010) and Mali (since 2012) has shown DTM's aptitude to support the recovery and return process.

URL: http://www.globaldtm.info/
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Humanitarian Response
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

IOM: MigApp - Delivering Migration Information and Services through Mobile Applications

Migration dynamics are complex, but a lack of awareness about risks, limited knowledge of regular and safe ways to migrate, inadequate access to information on visa and travel regulations, and infrequent interaction with service providers are some key factors that contribute to high-risk migration journeys.

IOM is developing a mobile phone application—MigApp—to help migrants make informed decisions on migration by providing migration-related information and relevant services through an app and by increasing two-way communication between IOM, target migrant groups and other humanitarian players. Recognizing the increasing use of mobile phones by migrants, MigApp aims to offset the enormous amount of misleading and unreliable information currently being accessed by people on the move by providing a central and accessible source of migration information and services. The solution will provide a platform whereby governments' messages and   notifications on safe migration reach the migrant communities.

Last year, IOM assisted 26M migrants. There exists the potential to assist more but we are unable to reach them through IOM's existing resources. The MigApp has the potential to increase IOM's reach so more migrants can benefits from our services.

In its first phase, the MigApp will include the following features in its scope:

• Registration: Migrants will be able to register and enter general information about their profile. Information captured will be used to analyse migration trends and will feed into programming for a more proactive response. IOM thematic services will also use the registration for their programs, therefore serving migrants faster.

• Remittance: Offers overall comparison of remittance costs

• Notifications: Migrants will have access to targeted migration-related notifications. IOM, governments and relevant partners will be able to send alerts and targeted information to specific groups. The notifications will also be user when thematic services are integrated with MigApp, therefore sending alert to inform the beneficiaries when they leaving or medical apointments, etc

• Migration information: Information on visa requirements, migrants' rights, service providers, health requirements, processes, and risks.

• "I am a migrant": This feature will allow the migrant to upload their story and picture.

• IOM News: IOM news desk will be published on MigApp.

• IOM Services - Migrants will be able to access services relevant to them from the MigApp. For example, migrants attending a cultural orientation training can be notified via the MigApp of their schedules, results, etc.

The MigApp will be available from Google Play and the App Store in Q3 2017.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
• Support to Programme/Project Implementation

- Other: support to beneficiaries through the provision of a central online migration-related information

Actors:
- Not applicable

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): September 2017
for phase 1

ITU: 5G: Fifth Mobile Generation (International Mobile Telecommunications 2020, IMT2020)

The buzz in the industry on future steps in mobile technology -5G- has seen a sharp increase, with attention now focused on enabling a seamlessly connected society in the 2020 timeframe and beyond that brings together people along with things, data, applications, transport systems and cities in a smart networked communications environment. In this context, ITU and its partners, sharing a common community of interest, have recognized the relationship between International Mobile Telecommunication system -IMT- and 5G and are working towards realizing the future vision of mobile broadband communications.

In early 2012, ITU embarked on a programme to develop "IMT for 2020 and beyond", setting the stage for 5G research activities that are emerging around the world. The scope of IMT-2020 is much broader than previous generations of mobile broadband communication systems. Use cases foreseen include enhancement of the traditional mobile broadband scenarios as well as ultra-reliable and low latency communications and massive machine-type communications.

IMT-2020 will be a cornerstone for all of the activities related to attaining the goals in the 2030 Agenda for Sustainable Development. Main attended benefits are:

- Greater economic growth

- Better, faster, more informed decision-making

- Boosting labour productivity

- Net gain in jobs

The ITU's work in developing the specifications for IMT-2020, in close collaboration with the whole gamut of 5G stakeholders, is now well underway, along with the associated spectrum management and spectrum identification aspects as well as network and trusting matters.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) mobile broandband
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
• Principles/Standards/Guidelines/other normative products

Actors:	Actors Description:
• Member States	
• Other IGOs / development banks	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:

- Public-at-large

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)

Timeline:

Work on activity began: ...more than 1 year ago
Work is...........................in-progress (specify expected completion date): Dec-19

ITU: A new tsunami warning system - equipping submarine cables with sensors

Humanity faces environmental threats, both immediate and long-term, which require access to the deep ocean. Tsunamis have the potential to threaten many of the world's coastal communities within minutes or hours of a large seismic event. Reliable, robust tsunami-warning systems will save lives and property. Our ocean and climate are experiencing global changes that will affect us and our descendants. Without access to the seafloor for fundamental oceanographic measurements, we cannot quantify and respond to the dilemma facing humanity.

The global infrastructure of submarine telecommunication cables is the backbone of the world's connectedness. Internationally, these cables are the bottom, physical layer of the Internet.

A partnership with humanity—society, science, the telecommunication private sector, and governments—can bring forth submarine telecommunication cables which are environmentally aware. We look to a future where SMART cables serve a dual purpose, both as communications infrastructure and a scientific backbone for monitoring tsunamis, earthquakes and the world's ocean climate and circulation —Science

Monitoring And Reliable Telecommunication.

A relatively straightforward complement of instrumentation—accelerometers, high-resolution pressure gauges, thermometers—will answer many of the basic science and societal needs as well as provide for the monitoring of the physical state-of-health of the cable system itself. Technological advances have made it possible to integrate basic sensors with repeaters on submarine telecommunication cables at intervals of about 50-70 km, at a small fraction of the total cost of a new cable system deployment.

The ITU/WMO/UNESCO-IOC Joint Task Force strongly endorses the concept of embedding critical climate-relevant, tsunami-warning and cable-hazard sensors in transoceanic communications cables. We call upon the private sector, governments, scientists, philanthropic foundations and the Internet-using public to recognize this extraordinary need and opportunity, and to take concerted action to make this system a reality for humanity.

Through a series of meetings and workshops with academic and government scientists and the telecommunication industry since 2011 in Rome, Paris, Madrid, Pasadena, Singapore, Honolulu, and Dubai a growing consensus is being reached to assuage the technical, legal, and permitting hurdles facing SMART systems. White Papers documenting the scientific and societal needs, legal framework under the UN

Convention on the Law of the Sea, and technical feasibility have been produced.

Efforts at the moment concentrate on defining technical requirements for a "wet demonstrator" (a sensor prototype) and on soliciting donor funding (around USD 10 million) for the initial, non-recurring costs of sensor prototype development.

URL: http://www.itu.int/en/ITU-T/climatechange/task-force-sc/Pages/default.aspx
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) disaster warning; climate monitoring
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Support to Programme/Project Implementation

- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
- Other UN system organizations - Private sector entities - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- Public-at-large - Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

ITU: Access for all. Ensuring full digital inclusion by 2030

ICTs have the potential to transform people's lives and bring benefits in areas such as health, education, financial services, transport, energy, agriculture, and more. However, to-date 53% of the world's population still lacks access to Internet, with the majority located in Africa and Asia-Pacific. In the case of the LDCs the rate of the unconnected reaches 85% of the population.

The reasons for being offline are manifold, they include barriers such as geography, lack of infrastructure, content and relevant applications, gaps in literacy and education or even cultural barriers.

Expanding access to ICTs has become a key element of the agenda of organizations that have been undertaking initiatives to address this digital divide, by promoting further infrastructure development, developing capacity, nurturing the creation of locally relevant content, services and applications or advocating for the inclusion of access to ICTs as a basic human right.

While a significant number of these initiatives has been implemented with positive results, targeting both the rural/urban divide and the usage gaps largely at the local, community or national level, it is unlikely that they will manage to solve the issue of the digital divide. Bringing the next 1.5 billion users online will require investments of over USD 450 billion and a close collaboration between the public and the private sector.

Why is addressing this divide so urgent? Because today access to ICTs has become instrumental to accelerate sustainable social and economic development to the point that we can affirm that the SDGs will not be achieved in those countries and regions that don´t achieve full access to ICTs by 2030. The digital divide is a frontier issue, because addressing it will require the collaboration of multiple stakeholders and because lack of access to ICTs will imply lack of access to many of the innovations that are currently being driven by these technologies, such as big data, Internet of Things or AI among others.

To address this issue, ITU Membership adopted the Connect 2020 agenda, an ambitious set of goals and targets that aim at accelerating connectivity by 2020. However, with the approval of the 2030 Agenda, this agenda needs to be revised and aligned with the SDGs. ITU has already worked with a number of partners to align other initiatives aimed at connecting the unconnected, including the "Internet for all" (WEF) or "Global Connect" (US State Department) initiatives.

To maximize the impact of these joint efforts and bring other stakeholders on board ITU would like to propose to include "Access for all" as one of the frontier issues to be covered in the future by the CEB, and to leverage the work of the whole UN system to join forces to achieve full digital inclusion by 2030.

URL: www.itu.int/connect2020
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

- Online Forum/Community/Exchange
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities	World Economic Forum, US State Department, Google, Facebook, GSMA

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

ITU: Artificial Intelligence

If the scalable power of AI can be leveraged correctly, it can rapidly accelerate progress on the SDGs. AI/Machine Learning will have an impact on every SDG and the work areas under every UN agency.

At ITU we can see the potential of Machine Learning in several of our existing technical work areas including our work on connectivity, network management, cybersecurity, IoTs, 5G, e-services over mobile, multimedia encoding and in many areas ITU is involved in.

ITU XPRIZE Foundation Partnership (2016): ITU signed a partnership with the XPRIZE Foundation in 2016, a 5 million USD competition that aims to accelerate the development of scalable AI solutions to address the greatest challenges of the 21st century. ITU will draw on its global network of ICT experts to propose judges for the XPRIZE scientific advisory board, in addition assisting in the proposition of datasets, test environments and other resources to aid the research of XPRIZE entrants.

Customized briefings to UN agencies: ITU offers technical briefings to UN agencies on how they can leverage AI/Machine learning in their programmes and activities. E.g. ITU gave a briefing to the WHO DG and senior management in April 2017, resulting in a potential collaboration on data standards.

AI for Good Global Summit (2017): To address the growing opportunities and concerns over AI, ITU convened 20 UN partners and the top AI experts in industry and academia to jointly organize with the XPRIZE Foundation the AI for Good Global Summit held from 7-9 June, 2017 at ITU's headquarters in Geneva. Prior to the event, briefing sessions were held at the UN headquarters in New York and at the ITU headquarters in Geneva. The Summit hosted 499 participants onsite, selected through an application review process (excluding ITU staff), most of which were new to ITU or the UN. One third of participants and speakers were women. There were also 5000 online webcast/archive connections from around the world. Several follow-up activities to the event are under discussion, including many potential multi-stakeholder partnerships.

ITU Journal - ICT Discoveries: ITU is pleased to announce the Call for Papers for the inaugural issue of the ITU Journal – a special issue exploring the contributions of Artificial Intelligence (AI) to the performance and efficiency of communications networks.

The ITU-T Focus Group on Data Processing and Management to support IoT and Smart Cities & Communities was established in March 2017. The focus group provides a platform for dialogue, open to all stakeholder, to promote the establishment of data management frameworks for IoT and Smart Cities & Communities.

AI Repository: ITU is planning to develop a publically accessible AI repository, in collaboration with interested partners for storing Best practices of AI for good applications, AI guidelines for policymakers, AI algorithms, Data etc.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference

- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

ITU: Broadband Commission for Sustainable Development

The Broadband Commission for Sustainable Development was established in May 2010 by ITU and UNESCO with the aim of boosting the importance of broadband on the international policy agenda, and expanding broadband access in every country as key to accelerating progress towards national and international development targets. It defines practical ways in which countries — at all stages of development — can achieve this, in cooperation with the private sector.

The Commission is chaired by President Kagame and Carlos Slim and brings together a high-powered community, including top CEO and industry leaders, senior policy-makers and government representatives, international agencies, academia and organizations concerned with development. The Commission embraces a range of different perspectives in a multi-stakeholder approach to promoting the roll-out of broadband, as well as providing a fresh approach to UN and business engagement. The Commission meets twice annually at the Executive level, and carries out work between meetings through working groups (current groups focusing on education, outer space technologies, health, and digital transformation). Five targets have been set by the commission and are measured annually through the State of Broadband report.

URL: http://broadbandcommission.org/Pages/default.aspx
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: all of the above except internal support

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Foundations - Academia - Scientific community	Full list of commissioners: http://broadbandcommission.org/commissioners/Pages/default.aspx

Beneficiaries:	**Beneficiaries Description:**

- government
- Public-at-large
- Targeted group(s)
- Other UN system entities

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

ITU: Cybersecurity

At WSIS, Heads of States and world leaders entrusted ITU to be the sole facilitator of Action Line C5, "Building confidence and security in the use of ICTs", in response to which ITU launched, in 2007, the Global Cybersecurity Agenda (GCA), as a framework for international cooperation in this area. Some examples of ITU's activities (both developmental and technical aspects) are listed below:

- ITU's work on National Cybersecurity Strategies: ITU is partnering with another 15 to produce a new reference guide, which will offer a single resource for countries to gain a clear understanding of the purpose and content of a national cybersecurity strategy and how to develop one. The guide is expected to be published within 2017, followed by implementation in countries.

- CIRT Programme: ITU is helping countries to establish their National Computer Incident Response Team (CIRT). The initiative assists with assessment, planning, implementation, and operation of the CIRT. ITU has established National CIRTs in 12 countries, in progress in 3 countries, and an enhancement in 1 country. In partnership with a number of organizations, ITU has to date conducted 16 exercises (involving more than 100 countries), to ensure that CIRTs are effective in managing incidents as well as ensuring proper inter-CIRT cooperation.

- The Global Cybersecurity Index (GCI) is a survey that measures the commitment of Member States to cybersecurity in order to raise awareness. A multi-stakeholder approach instigating international cooperation, and promoting knowledge exchange on this topic, has been formulated. The 2nd iteration of GCI, was released in June 2017.

-Standardization: Security of ICTs is an important component of the ITU Standardization work. Some example areas include cybersecurity; security architectures and frameworks; countering spam; identity management; the protection of personally identifiable information; and the security of applications and services for the Internet of Things (IoT), smart grid, big data analytics, social networks, cloud computing, intelligent transport systems and mobile financial systems (including Digital Currency).

- Child Online Protection: ITU launched the Child Online Protection (COP) Initiative in November 2008 as a multi-stakeholder effort within the GCA framework. The initiative brings together partners to create a safe and empowering online experience for children around the world.

- UN-wide framework on Cybersecurity and Cybercrime: In a process that was initiated at the CEB level in 2010, ITU and UNODC led the coordination of some 35 agencies in developing over the course of 4 years two documents: a UN-wide framework on Cybersecurity and Cybercrime, which was endorsed by CEB in November 2013 and a UN System Internal Coordination Plan which was endorsed in 2014. These documents aimed at increasing collaboration among the different agencies in order to have a more UN internal coordination on cyber related matters.

URL: http://www.itu.int/en/action/cybersecurity/Pages/default.aspx
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting

- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Foundations - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Staff of your organization - Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

ITU: Digital Financial Services - how to include two billion people without a bank account in the economy

Two billion people worldwide lack access to basic transaction accounts and cannot safely send, receive, and store funds. This exclusion limits access to personal economic potential, resulting economic growth, and in some cases, threatens personal livelihoods and safety. However, of the 2 billion unbanked, some 1.6 billion have a mobile phone and thus a huge opportunity to bridge the financial inclusion gap.

In 2014, the ITU-T Focus Group on Digital Financial Services (FG DFS) chaired by the Bill & Melinda Gates Foundation, brought together for the first time, all the stakeholders of the DFS ecosystem, from both the telecom and financial services sectors to discuss the main challenges facing regulators and DFS providers to scale up DFS usage in order that the success achieved in Kenya with M-PESA could be successfully replicated in other countries. The World Bank, CGAP, Better than Cash Alliance, UNCDF, UNCTAD, Alliance for Financial Inclusion, UNSGSA, Consumers International, GSMA, MasterCard, ISO, mobile network operators and regulators from telecom and financial services sectors participated in the work of the Focus Group. FG DFS completed its work in December 2016 and developed a set of 85 policy recommendations and 28 technical reports that will fast track policy reform to support developing countries in implementing a digital financial inclusion strategy and promoting DFS at scale.

Building on the strong collaboration initiated by FG DFS, a Financial Inclusion Global Initiative (FIGI) has been set up in 2017 as a joint collaboration between ITU, Bill & Melinda Gates Foundation, World Bank, and the Committee on Payments and Market Infrastructure (CPMI) of the Bank for International Settlements, to accelerate progress towards universal access to financial services over the next three years (2017-2020). FIGI will focus on the implementation of the recommendations from the ITU Focus Group Digital Financial Services, the Payment Aspects of Financial Inclusion (PAFI) report of the World Bank and Bank for International Settlements, and the Level One Project of the Gates Foundation.

FIGI consists of two complementary streams.

• The country implementation will support national authorities in China, Egypt and Mexico where digital financial inclusion can significantly improve access to financial services to unbanked populations.

• The knowledge sharing stream will develop policy and technical guidelines in three key areas of digital finance to support the country implementation: the security, infrastructure and trust working group (lead ITU); digital identity working group (lead World Bank), and e-payments acceptance working group (lead World Bank).

URL: https://www.itu.int/en/ITU-T/focusgroups/dfs/Pages/default.aspx
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) financial services
Function: policy advice (to support policymaking (all levels))

Outputs:
• Expert Meeting/Workshop
• Policy or Research Paper/Report/Publication
• Principles/Standards/Guidelines/other normative products
• Interagency Group/Multi-Stakeholder Partnership

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Other: industry associations; standards bodies

Actors Description:

Beneficiaries:

- government
- Public-at-large
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Dec-19

ITU: Global Identity Management of staff & dependents/delegates & visitors with (Biometric smart-card)

This activity was the result of a IASMN and ICT-Network joint initiative, which was proposed by ITU in 2015.

The ITU had already merged its physical and cyber security to enhance security within the Organization (convergence of domains) that could start automating processes by use of modern technologies and thereby reducing manual interventions which are unreliable.

ITU is leading the standardization and implementation of smart card with Biometric access to premises, system, and data (the implementation will also include self service check-in).

The UNICC joined the initiative by using its research & development project funds to establish a UN System wide PKI root infrastructure for verification/revoking of access cards (similar to biometric e-Passports).

ITU member states approved the use of biometric data when Stored on CARD only (no central data management, which strengthened privacy for individuals).

WMO will follow ITU's initiative and use the same system.

Potential uses for UN System is interoperability (accreditation of 100,000 staff, 300,000 dependents + frequently returning delegates/visitors).

URL: Link to ITU Council documents: C15/INF/7-E, C16/72-E, and C17/63.
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Safety & Security Processes
Function: other – please specify: Safety and Security of staff, premises, assets and data

Outputs:
- Other: Digital Identity Management of UN System Staff (+ delegates/visitors) for access to premises, services and data

Actors:	Actors Description:
• Member States • Other UN system organizations	

Beneficiaries:	Beneficiaries Description:
• Other UN system entities • Other:	Enhanced security for all staff & dependents as well as frequently returning delegates/visitors to premises, services, and data.

Scale:

Personnel Support: ....N/A
     Explanation: ....The Convergence of Physical and Cyber security and use of technologies will not only enhance security for the organizations but it will also create savings. The UN entities and member states will have to have a change of mindset and accept the use of bio-metric data which is only stored on SMART-CARD.

Financial Investment:.......large (expenditure $50,000 and above)
     Explanation: ....Introduction of biometric access readers (could be done in connection with modernization and/or renovation of premises

access control projects). Introduction of self service check in facilities (similar approach like in airports). Change management for the UN system will need to be invoked as this will result in moving away from the current access card/badge (in use since 1980s'), to adopt and implement the new bio-metric smart-card.

Timeline:
Work on activity began:...more than 1 year ago
Work is.............................in-progress (specify expected completion date): November 2017 implementation at ITU HQ in Geneva, and WMO will be in early 2018.

ITU: Identifying, Collecting and Analyzing Big Data

Identifying, collecting and analyzing big data about different "things" which in real life are related, is a global challenge. ITU's work on identity management systems can be of assistance to the United Nations in collecting and presenting some target indicators for the Sustainable Development Goals 3, 12 and 17 for the 2030 Agenda.

In a nutshell, identity management information systems can be deployed to assign unique and persistent identifiers to "things" in a very scalable manner. By doing so, "things" will be associated with digital objects which can then be easily registered, stored and administered in a very secure way. In addition, this administrated framework allows digital objects to establish complex relationships with each other in real time. The combination of persistently identifying "things", globally resolving them and enabling complex relationships in real time results in solutions to a number of challenges which require the transformation from data to information to knowledge and finally to intelligence.

ITU has the infrastructure to run such identity management information systems but also designed several applications which can amongst other appliances be deployed to combat counterfeit consumer goods, ensure full traceability of production supply chains and e-waste management.

ITU can provide UN Agencies with services which will enable them to run registry services on a global and national level. In addition, ITU can provide applications which will be incremental in achieving the following target indicators of the Sustainable Development Goals 3, 12 and 17.

SDG 3: Ensure healthy lives and promote well-being for all at all ages.

ITU service:

• Assist to register essential health services.

SDG 12: Responsible Consumption and production by enabling.

ITU service:

• Assist to establish a Global Food loss index.

• Assist to register and measure material footprint, material footprint per capita, and material footprint per GD.

• Assist to register National recycling rate, tons of material recycled.

• Assist to register Hazardous waste generated per capita and proportion of hazardous waste treated.

SDG 17: Partnerships for the goal.

ITU service:

• Promote the transfer, dissemination and diffusion of environmentally sound technologies to developing countries.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Internet of things
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Intergovernmental Meeting
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
• Other UN system organizations	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

ITU: Internet of Things (IoT) standards on key performance indicators to guide cities

The development of IoT (Internet of Things) technologies is expected to connect an estimated 50 billion devices to the network by year 2020, impacting nearly every aspects of our daily lives.

ITU is producing standards that leverage IoT technologies to address urban development challenges. In particular, ITU's standards give general guidance to cities and provide key performance indicators for smart sustainable cities to help cities achieve the SDGs.

ITU and UNECE have launched the global initiative "the United for Smart Sustainable Cities (U4SSC)", primarily to advocate for public policy to ensure that ICTs play a definitive role in smart cities. U4SCC is supported by 17 United Nations agencies and Regional Commissions, and is open to the participation of all stakeholders interested in driving smart-city innovation.

ITU is involved in several smart city pilot projects, with cities including Wuxi, Manizales, Dubai, Singapore, Buenos Aires, Valencia, Santiago de Chile, Montevideo and Rimini, to measure the smartness and sustainability of the participating city.

ITU established a new Focus Group on "Data Processing and Management to support IoT and Smart Cities & Communities" to research data processing and management in the context of smart cities. A key priority of the Focus Group will be to propose mechanisms supporting the interoperability of datasets and data-management systems.

URL: http://www.itu.int/en/ITU-T/ssc/Pages/default.aspx; http://www.itu.int/en/ITU-T/ssc/united/Pages/default.aspx

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) internet of things

Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/DESA: E-government Survey

The Survey is a flagship recurrent publication of UNDESA since 2003.

The survey was based on the understanding that the e-government improves the quality and access to government services and a" tool at the disposal of the government, which, if applied effectively, can contribute substantially to promoting human development".

The survey gives an indicative assessment of the diffusion of e-government through a performance rating of national governments relative to one another across 193 Member States by assessing e-government development. In preparation to the next edition of the Survey, to assess the online presence of countries and its methodology, its thematic areas are being reviewed.

It is expected that the next survey will address the implications for governments - and egovernments- of artificial intelligence, data analytics and cybersecurity in particular.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia • Scientific community	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...N/A
Work is............................in-progress (specify expected completion date): Annual reporting on WSIS Action Line on E-government and annual WSIS Forum

UN/DESA: Global Platform on Data, Services and Applications in support of the 2030 Agenda for Sustainable Development

In 2014, the UN Statistical Commission created the Global Working Group (GWG) on Big Data for official statistics, mandated to provide a strategic vision, direction and coordination for a global programme and to promote the practical use of Big Data. The GWG has task teams working on satellite data for crop production statistics, scanner data for consumer prices indices, mobile phone data for tourism statistics or social media data for consumer sentiment indicators. Each of these teams is documenting and building actual applications, plus developing training materials to be able to roll out a capacity building program. The GWG organized three international conferences to showcase the progress made.

Most recently the GWG started work on developing a Global Platform (GP), which is envisaged as a network of networks offering trusted data, shared services and applications for the community of official statistics and for the society as a whole. For this purpose, a public-private partnership network of federated data collaboratives will be established that brings together expertise, data and technology from statistical institutes, private sector companies, international and regional organizations, government institutes, research institutes and universities. Over time, a global data center may be required to manage the operations, partnership and client network and the integration of the global platform with associated national and regional data centers.

At present, the work of the GP is organised along three workstreams on governance, data policy and common technology framework, and communications and sharing of best practice.

For governance it is needed to define the business operating model for the GP, including the level of standardization and integration of business processes. The choice of operating model will impact the overall platform strategy and governance. Part of the considerations are the issues of data privacy, independence within a changing global political environment, and the motives of and benefits to partners and stakeholders. In addition, when elaborating on the operating model, it will be necessary to articulate the legal structure of the GP, legal and regulatory compliance, overall governance, the structure of partner agreements, the customer network and the options for long-term sustainable financing.

In order to build the GP it is important to agree on the necessary components of the data policy and common technology frameworks based on the work of the GWG Task Teams in cooperation with the UNECE High Level Group for Modernization of Official Statistics.

Finally, the GP requires a well organised communication strategy to underpin capacity building and sharing best practices. The communication of the outputs of the GWG GP should be carried out in a modern and effective manner. The best practice sharing will be done through various data collaboratives arranged around the GWG Task teams on various Big Data applications.

URL: https://unstats.un.org/bigdata/
Domain: data-related issues (privacy, openness, access, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Training/Capacity Building Programme

- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Academia - Scientific community	national statistical offices, UNSD, World Bank, Microsoft, Amazon, Project 8

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....Investment of human resources by UNSD is still small in terms of full-time equivalents, but the team maintaining the Global Platform is expected to be at least medium.

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....Financial investment is needed for IT infrastructure and for human resources to manage and maintain the platform

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/DESA: The impact of the technological revolution on labour markets and income distribution

This study reviews the current knowledge of the technological revolution's impact on labour markets and inequality around the world. It sheds light on the main mechanisms that have driven recent trends and examines how new technologies could affect work and income inequality in the future. It then discusses policy options - both at the national and international level - that could help ensure that the benefits of rapid technological progress are shared equally.

Outline:

1. Introduction

2. The new technological revolution

    A. Learning from past technological revolutions

    B. A new revolution?

    C. Economic potential of artificial intelligence and other breakthroughs

3. Recent trends in labour markets, income inequality and productivity

    A. Employment Conditions

    B. Job Polarization and Wage Inequality

    C. Income inequality

    D. Productivity

4. The impact of technological progress on labour markets and inequality

    A. Job destruction and job creation

    B. Occupational shifts, job polarization and wage inequality

    C. Technology and globalization

    D. Technology and market structures

    E. Technology and the organization of work

    F. Technology and the informal sector

    G. Technology and female labour force participation

5. Looking ahead: What will technology mean for labour and inequality

    A. Introduction

    B. Competing views on the future of technological progress

    C. Expected jobs and tasks to be affected by technology trends

    D. Possible impacts of technology trends on global production patterns

6. National policies and the need for global cooperation

    A. Introduction

    B. Regulation

    C. Education and retraining

    D. Rising technological unemployment

E. Rising income inequality

F. Rising job insecurity

7. Areas for further research

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
- Other UN system organizations	ILO; UNDP; UN WOMEN; DESA/DSPD; DESA/DSD; DESA/DPAD

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Staff of your organization - Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): July 30, 2017

UN/DESA: World Summit on Information Society (WSIS)

DESA is facilitating the follow-up of the World Summit on the Information Society (WSIS) action lines:

. The role of public governance authorities and all stakeholders in the promotion of ICTs for development

. Applications: E-government

. International and regional cooperation

During the 2017 WSIS Forum from 13-16 June in Geneva, DESA/DPADM and ITU launched a task group on ICT for SDGs as part of the Partnership on Measuring ICT for Development initiative. The task group aims to propose a thematic list of ICT indicators to measure ICT availability and use in sectors relevant to the SDGs. DESA/DPADM organized a facilitation meeting on "The Role of Private Sector in Mobilizing ICTs for SDGs". This was the opportunity to discuss the role of government in accompanying and regulating developments in the area of IT and artificial intelligence. Similar meetings will be held on this topic in the future. DESA convened another theme meeting on "Eradicating Poverty and Promoting Prosperity through Digital Government". This too is a frontier issue since it relates to how research and development can advance the contribution of IT to leave no one behind and the impact of egovernment on the most vulnerable.

Supplemental Information:
Given DESA's areas of responsibility in the follow-up to WSIS, we look at the role of government, the private sector and other actors in AI.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
* UN system-sponsored/organized conference
* Principles/Standards/Guidelines/other normative products
* Informational Website
* Online Forum/Community/Exchange
* Interagency Group/Multi-Stakeholder Partnership
* Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....N/A

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...N/A
Work is...........................in-progress (specify expected completion date): Annual reporting
on WSIS Action Lines and annual WSIS Forum

UN/DFS: Deployment of off the shelf Quadcopter to provide high altitude camp surveillance capabilties to MINUSCA CAMPS

Obtaining firsthand information during the crisis time is crucial in strategizing the plan for protection of civilian. The peacekeepers are external entity, hence collecting firsthand information from inside the crisis perimeter is practically impossible except through intelligence. In MINUSCA a low off-the-shelf quadcopters was explored and has proven to be the cost effective solution to be used as high altitude camera during the crisis time.

The quadcopters are easy to operate with 3-4 days training and they are deployed in the air giving the Eye-in-the Sky capability to the peacekeepers. Following the success of MINUSCA other missions like MINUSMA, UNSOS also purchased similar quadcopters to be deployed in their mission.

In MINUSCA the quadcopters are deployed in all the Sector Headquarters and in many team sites. Some of the example on how this tool was effective are as follows:

• The demonstration, rallies outside the UN camps are monitored effectively by deploying this quadcopters as a high altitude camera there by facilitating in ascertaining the force requirement to restore peace and in protecting the UN assets.

• Instead of directing the troops for scouting in the direction of gun fire, the quadcopters are flown in that direction to do visual inspection. This saved the forces from being distracted by perpetrators and optimized in directing the forces into the hotspot of the crisis to restore peace quickly.

• The substantive pillars used the quadcopters service to do post evaluation of crisis and assisted the management to take policy decisions.

•The soldiers of the Mauritanian and Burundian contingents are trained to use the quadcopters during the patrol. Ever since this there is an increased demand from the forces to provide a quadcopter observation kit at all battalion level.

In summary this off-the-shelf quadcopters has proved to be a low cost effective solution in giving the Eye-in-the sky capability to the peacekeepers, thereby increasing the safety of the peacekeepers in handling armed agitators and in collecting valuable firsthand information. The only limitation is due to the low cost of the quadcopters the flying range is limited 2-3kms.

The success of this quadcopters has kick started an initiative to standardize the application of mini drones in field missions.

URL:
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: internal support function (including application to operations and management)

Outputs:
• Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs	
Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization • Other UN system entities • Other: MINUSCA Protection of Civilians during crisis	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

    Explanation: ....Minusca provided cross training to the GITTS technicians to render the quadcopter service. In places where the civilian staff can't go, we trained the military contingent to operate the quadcopters.

Financial Investment: ....small (expenditure less than $10,000)

    Explanation: ....The core quadcopters used in Minusca is less than 2000$. Additional 3 batteries was purchased to extend the flying time. Together with all the accessories and additional batteries the total cost per quadcopter is around $4 - 5000 USD. Since the service was initiated with existing staff, there was no personnel overhead in this project.

Timeline:

Work on activity began:...between 6 months and 1 year ago

Work is............................ongoing (with no set end date)

UN/DFS: Groundwater Exploration Project in UN field missions

Water remains to be the main challenge for UN field missions, located in arid and semi-arid climate regions (e.g., Somalia, Mali, Western Sahara, etc.), to sustain the deployment of UN peacekeepers and staff members. Alternative means of trucking water and distribution of bottled water are of high cost and require major logistical arrangements as well as environmental concerns.

Finding new water resources is extremely crucial for not only supporting UN field operations but also local populations. The Groundwater Exploration Project is to provide scientific analysis/study for increasing success rate of drilling target site for groundwater source in carrying out desk study on remote sensed satellite image (optical and radar images) analysis, geological and hydrological analysis, and 3-D GIS analysis, and then deploy experts to the UN field missions to conduct geophysical field testing.

UN DFS has been developed an in-house expertise/capacity, and the high success rate (some 90%) of groundwater exploration has been demonstrated in MINURSO (Western Sahara) and MINUSMA (Mali), and new project is being implemented in UNSOS (Somalia). Costs associated with the groundwater exploration project are virtually negligible compared to the potential costs of an unguided drilling campaign and/or trucking & bottled water in an arid to semi-arid environment.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
• Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Foundations • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
    Explanation: ....It depends on the number of expected drilling sites for fresh water sources. A team of two (2) experts for a period of two weeks could provide scientific analysis/study of groundwater exploration for two (2) drilling sites.

Financial Investment:.......small (expenditure less than $10,000)
    Explanation: ....The cost of project is "medium" depends on the total number of expected drilling sites for fresh water sources, since one time investment of geophysical test equipment ($125,000) has already purchased for multi-purposes. The additional cost will be acquisition of geological maps, relevant hydro-geological reports and satellite imagery (optical and radar) as well as travel cost of experts from UN Global Service Centre (UNGSC), Brindisi, Italy to the expected drilling site.

Timeline:
Work on activity began:...more than 1 year ago
Work is.............................ongoing (with no set end date)

UN/DGACM: gText

The gText project provides a complete suite of cutting-edge Internet-based language tools, in particular computer-assisted translation and statistical machine translation, as well as seamless access to indexed background information necessary for quality translation, editing and text processing. The goal of the project is to harness the power of new technologies to streamline the documentation workflow, to maximize the automation of key processes, to increase the efficiency and quality of translation and related processes, and to facilitate remote working arrangements. It also intends to gradually produce machine-readable documents using a common XML standard for parliamentary documentation (this part of the project is related to the a HLCM-DGACM-FAO project).

The center-piece of the innovative tools delivered by gText is eLUNa (electronic Languages of the United Nations), a user-friendly web-based translation interface that combines automatic identification of all previously translated sentences and terminology with access to statistical machine translation for all new sentences and instant references to all UN documents in bilingual format through hyperlinks.

The statistical machine translation system embedded in eLUNa and developed in collaboration with WIPO has been trained with a multilingual corpus of UN documents. This corpus, which DGACM has made available online, is used by researchers worldwide, registering almost 10,000 file downloads to date.

Based on the success of its translation interface, gText has recently introduced a new eLUNa Editorial interface specifically designed for UN editors. The next stage is to produce an authoring tool to produce machine-readable GA resolutions. To know more about the eLUNa family of language tools, visit our gText YouTube channel: https://www.youtube.com/watch?v=lLTZFjkzFt8.

The gText tools have been deployed in all four DGACM duty stations (New York, Geneva, Vienna and Nairobi) and regional commissions (fully deployed in ESCWA, under deployment in ECLAC and ECA in 2017). Several international organizations have shown a strong interest in adopting eLUNa, recognizing its time-saving and consistency enhancing features, which are particularly adapted to the context of the United Nations and are considered superior to commercial tools currently available in the market. The further deployment of eLUNa and other gText tools beyond DGACM is an opportunity for the organizations in the UN system to take advantage of technical capabilities of the tools, but also to share their wealth of knowledge through the exchange of documentation and terminology.

URL: https://cms.unov.org/CP2
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Interagency Group/Multi-Stakeholder Partnership
- Other: Software

Actors:
- Other UN system organizations
- Scientific community

Actors Description:
The suite of gText tools was created by translation and technical staff in DGACM and is constantly improved based on the feedback of users around the world, using the Agile methodology. The project also includes a machine translation system developed in collaboration with the World Intellectual Property Organization and trained with a multilingual corpus of UN documents. DGACM has made this corpus available online to foster research on machine translation and artificial intelligence.

Beneficiaries:
- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:
The eLUNa translation interface has more than 1,200 users worldwide, both in-house staff and contractual translators, who, in 2016 alone, translated more than 90 million words through the interface in all official languages. Its terminology component, the UNTERM portal, registered over 4 million human searches and is the main source of UN terminology for both staff and the general public.

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
  Explanation: ....Support is provided through a full-time project manager, part time assistant project managers for the different components, and a dedicated team of developers at the Enterprise Application Center in Vienna.

Financial Investment: ....large (expenditure $50,000 and above)
  Explanation: ....The project was conducted within existing resources. The tools will be made available to other organizations through SLAs. The return on investment is expected to materialize as an ability to process increasing workload through improved productivity, as well as through automation of some language support functions leading to post reductions.

Timeline:

Work on activity began: ...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN/DPA: DPA early warning system

Review of data (including confidential internal sources as well as publicly available open source information) that is currently being used within DPA, Special Political Missions and the UN system more broadly to see what information sources may be available (e.g. from humanitarian partners) but are currently not taken advantage of for the purpose of a stronger, more comprehensive early warning system. DPA will recruit a consultant to map all available data sources, look at partners' practices and make recommendations to DPA on how to harness available data sources for early warning more effectively. This may include recommendations on the requirements for an early warning tool that helps to visualize critical information in a clear manner.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Other: possibly: data visualization tool

Actors:	**Actors Description:**
• Other UN system organizations	

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...not yet begun
Work is............................not yet begun

UN/DPA: e-Analytics Workshop

As part of the DPA/MEWAD and DPKO/AMELAD intermission collaboration, MEWAD organized a three-day workshop on e-analytics that brought together political affairs officers from Special Political Missions and Peacekeeping Operations from the region as well as desk officers from the aforementioned departments in the Secretariat. The workshop followed the call of the Secretary-General to foster integrated analysis, and to enhance the UN's early warning capacities. Colleagues from DPA's Europe Division, APD, Africa 1, SCAD, PMD, DPKO OMA, DFS, EOSG, UNDP and OCHA joined for the workshop. Presenters included faculty of the Woodrow Wilson School of Public and International Affairs of Princeton University, the open-source network Bellingcat, the Eurasia Group, EOSG's flagship initiative on big data Global Pulse, DPKO/DFS's Peacekeeping Information Management Unit, UNICEF's Innovation Unit, and OCHA's Humanitarian Data Exchange Program. The workshop looked at challenges to data analysis in the Middle East drawing from comparative perspectives from other regions. Participants got equipped with concrete tools and methodologies, including harnessing big data, sentiment analysis, machine learning and social media verification, to carry out open source data analysis and integrate evidence-driven analysis of peace-making initiatives and peace operations in their regular workflow. Extra budgetary funding allowed to cover travel costs for mission staff and speakers. All training material of the workshop will be stored on the Middle East Intermission Platform (MEIP). A comprehensive note based on the workshop with concrete recommendation on how to strengthen empirical and data-driven analysis in the context of the peace and security pillar will be submitted shortly. In follow-up to the workshop to assure sustainability of the invested funding, MEWAD plans to work with EOSG Global Pulse and PMD on a short checklist on e-analytics that could be made available for the Department.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Training/Capacity Building Programme

Actors:	**Actors Description:**
• Other UN system organizations	
• Private sector entities	
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................complete (no further action to be taken)

UN/DPA: Effective data visualization of DPA's activities

DPA is harnessing data visualization, GIS mapping and satellite imagery analysis for Security Council briefings and other communications. For example, the Security Council Affairs Division (SCAD) has summarized the highlights of Security Council practices every year since 2015, using the visualization tool "QLIK Sense". You can find the 2016 highlights from here (https://unite.un.org/sites/unite.un.org/files/app-schighlights/index.html). DPA's briefings to the Security Council on DPRK were also well received by the Council members as the Department utlized maps of DPRK's missile launch, developed by the International Civil Aviation Organization (ICAO).

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Informational Website
- Advocacy

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	
• Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN/DPA: Virtual reality to capture Libyan experience

DPA sought a new approach to embrace virtual reality medium. Staffers of the UN Support Mission in Libya (UNSMIL) are using virtual reality to capture Libyan experience from the field. You can find more details from UNSMIL's article (URL). Based on the two VR training courses of trainers, these VR projects are ongoing in Tunis and Tripoli:

- 360 VR video (3 minutes) of a recent visit of UNICEF Regional Director for the Middle East and North Africa, Mr Geert Cappelaere, to Tripoli Children friendly space. Post production finished on 17 August. Video should be released soon via UNICEF and UNSMIL's social media channels.

- 360 VR video series (3 x 4 min) on migrants crisis in Libya and IOM activities. Production underway. UNSMIL plans to have it ready within the upcoming month.

Supplemental Information:
29 Sep 2017: Record 294 had been mistakenly updated instead of 295 (further 6 Sep 2017 correspondence with DPA). Records 294 and 295 both corrected today.

URL: https://unsmil.unmissions.org/unsmil-staff-use-virtual-reality-capture-libyan-experience

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) virtual reality

Function: other – please specify: strategic communication, public information

Outputs:
- Informational Website
- Advocacy

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities	UNICEF, IOM

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Staff of your organization • Other UN system entities	children in Libya, migrants departing from Libya

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....Digital media & campaign officer in UNSMIL/Public Information Division

Financial Investment:.......medium (expenditure between $10,000 - $49,999)
    Explanation: ....Cost of VR training for UNCT communication officers in Libya: $15,000 (including camera and devices)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................ongoing (with no set end date)

UN/ECA: Cloud-based open source high resolution numerical weather prediction systems for African Small Island Developing States in support of early warning and disaster risk reduction systems in a changing climate

The need for access to timely and quality climate and weather information and services is essential for climate resilient development planning and disaster risk reduction. In the absence of adequate meteorological infrastructure, as is the case with most African countries, accessible and customizable numerical weather prediction systems based on open source tools becomes essential. The African Climate Policy Centre (ACPC) of the ECA is deploying a cloud-based high resolution 1km operational numerical weather prediction and early warning system to enable African SIDS manage weather and climate-related risks. The system which is based on open-source tools provides a cost-effective and comprehensive solution to operational weather forecasting compared to most existing license-based systems where high annual subscription fees renders them unsustainable. Cloud based computing and open source software and tools have emerged as frontier technologies opening new opportunities and changing the approach to community of practice driven systems rather than corporate centralized ones. Cloud computing (despite its key constraint of the regular need for access to the internet) and open source systems are disruptive innovations in service provision and empowerment of communities of practice across borders, with open source systems pushing the frontiers of intellectual property and collective design of new solutions to environmental, economic and social challenges.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Other: Prediction andearly warning tool

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................ongoing (with no set end date)

UN/ECA: Crop suitability mapping to capitalize on emerging opportunities for agricultural production and trade under climate change in Africa

Agriculture, crop production and hence food security is being seriously impacted by adverse impacts of climate change in Africa as demonstrated by recent droughts and famine in the Horn of Africa Region. Erratic shortages in food supply triggered by climate variability and climate change impacts on agricultural production systems have often generated escalations in food prices exacerbating livelihood insecurity in Africa.

Crop suitability mapping for existing land areas and soil conditions presents an unique and transformational opportunity to capitalize on emerging opportunities for agricultural production and trade under climate change in Africa. Following climate-induced shifts in agro ecosystems and matching areas of high production to those of low production using suitability mapping of different crop species, could create the mechanism for de-risking agricultural investments and transactions. This has the potentials to generate new opportunities for agricultural trade and expanding the internal markets for agricultural commodity at different spatial and temporal scales. Trade could therefore provide the crucial pull factor required in transforming African agriculture from the realms of subsistence, into a business that generates wealth.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Informational Website
- Advocacy

Actors:	Actors Description:
• Other UN system organizations • Other IGOs / development banks • Private sector entities • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN/ECA: Harnessing the Resilience Dividend - The Africa Climate Resilient Investment Facility (AFRI-RES)

In the post-2015 era, Africa's development aspirations are framed by the UN 2030 Agenda for Sustainable Development aimed at leaving no one behind and the continent's wider development blueprint - Agenda 2063: The Africa We Want - a peaceful, prosperous and integrated Africa. Transforming African economies to attain these development objectives requires widespread access to modern and sustainable infrastructure and infrastructure services in ecosystems, energy, transport, water, sanitation, urban and information and communications technology.

However, climate variability and change is causing significant stress on a range of economic sectors and commodities, including energy, food production and water management that threaten the overall economic development and wellbeing of human and ecosystems in Africa. Intra-seasonal and longer timescale variations of rainfall, temperature trends and climate extremes, together with the growing demand for food and energy, put additional pressures on production systems and natural resources. Closing the huge infrastructure gap in Africa requires investments of the order of USD 100 billion a year. It becomes essential to ensure that these investments are made in such a way that the infrastructure will perform in both today and tomorrow's uncertain climate.

The African Climate Resilient Investment Facility (AFRI-RES) - an initiative of the Economic Commission for Africa, the World Bank, the African Union Commission and the African Development Bank, with initial funding support from the Nordic Development Fund - is an Africa-based networked centre of technical competence and excellence with the overall objective to strengthen the capacity of African institutions (including national governments, river basin organizations, Regional Economic Communities, power pools, among others) as well as the private sector (project developers and financiers) to plan, design, and implement infrastructure investments that are resilient to climate variability and change in selected sectors. In particular, AFRI-RES provides (i) project-level technical assistance to ensure integration of climate resilient in infrastructure project design, financing and implementation; (ii) outreach, dissemination and training to encourage behavioral change and develop human and institutional capacity for climate-resilient infrastructure development; (iii) guidelines, standards and good practice notes for climate resilient infrastructure investment across different sectors and stages of decision-making; and (iv) a climate knowledge and portal for ready access to climate data, tools and climate information services of relevance for climate resilient investment planning and design in Africa. As such AFRI-RES impacts on, and will be impacted by frontier developments in the areas of open systems, cloud computing and data sharing and intellectual property rights.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange

- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - Private sector entities - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Other: infrastructure project developers and financiers	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is.............................ongoing (with no set end date)

UN/ECA: Regional approaches to implementation of the Paris Agreement in Africa

A regional approach for climate change response, especially in shared and transboundary systems, for the implementation of the Paris Agreement (particularly the Nationally Determined Contribution - NDCs) and the SDGs - building on the current momentum for collaborative partnerships, regional integration and other regional arrangements in Africa - is essential for economies of scale, resource efficiency and greater impact on the continent.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Scientific community	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)

Timeline:
Work on activity began: ...within the last 6 months
Work is............................not yet begun

UN/ECA: Study on innovation hubs, clusters, parks and Africa's industrialization

The aim of the study is to generate knowledge on the innovation hubs, clusters and parks and explore how best to harness them for job creation, economic development and structural transformation. The study will assess the role of innovation hubs, clusters and parks and examine their performance and conduct and propose policy recommendations for the consideration of policy makers. It will also identify possible future areas of research and policy advisory services for ECA.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...not yet begun
Work is............................not yet begun

UN/ECA: Study on the combined effects of intellectual property laws, competition and antitrust laws on global access to, manufacturing, and trade of technology-intensive goods

This study documents successful and transferable examples from the digital and biotechnology markets that are applicable globally. The findings will be used to propose appropriate intellectual property governance that is sensitive to the new, restricted and emerging technologies and challenges, such as artificial intelligence, nanotechnologies, sound environmental and climate technologies, big data, ownership of living entities, and access to, and use of, genetic and biological resources.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • Private sector entities • Academia • Scientific community	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN/ECA: The Africa Climate Resource Platform Partnership and Information Service

Africa is at serious risk of not attaining its development goals if climate change is not integrated into development planning at all levels and scales. The Paris Agreement ushers in a paradigm shift to climate-integrated development planning. However, the lack of access to quality, timely and fit-for-purpose climate data and information services must be addressed if climate change is to be effectively mainstreamed in the planning of sustainable development in Africa.

Over the last several decades, climate data of varying quality have been collected at different scales and using various media by various private and public institutions such as national meteorological and hydrological services, as well as by different data purveyors at the global level. These data are located at different repositories with varying metadata and access and use rights. Thus it has become increasingly urgent to have a coordinated approach and framework for making these data widely available for development planning.

The Partnership and Climate Resource Platform and Information Service for Africa aims to provide an open architecture one-stop go-to place for quality and timely climate data, climate information services, open-source climate-related modeling tools and online advisory services, learning and capacity development resources and helpdesk for stakeholders, as well as an online convening and community forum for regional climate research and user groups. In particular, the resource will serve as a platform and framework for climate data standards and protocols for data sharing within the complexities intellectual property, public and commercial data interplays.

The Africa Climate Resource Platform Partnership and Information Service provides an opportunity to influence and new frontiers arising from the combined power of cloud computing (despite its key constraint of the regular need for access to the internet) and open source systems as disruptive innovations in service provision and empowerment of communities of practice across borders, with open source systems pushing the frontiers of intellectual property and collective design of new solutions to environmental, economic and social challenges.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN/ECA: The World Summit on the Information Society (WSIS) Regional Review & Expert Group Meeting on Emerging Issues in ICT in Africa

The regional review and expert group meeting included an assessment of (i) progress made by African countries in achieving the WSIS outcomes, and (ii) the use of ICT in supporting implementation of the UN 2030 Agenda for Sustainable Development. Participants included representatives of African governments, private sector and civil society, international organizations and other stakeholders in Africa's development.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Expert Meeting/Workshop
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN/ECE: Autonomous driving

The UNECE Inland Transport Committee's Global Forum for Road Traffic Safety (WP.1) leads global efforts to strengthen the international regulatory framework on traffic rules to provide for the use of autonomous vehicles.

 The Global Forum has agreed on the amendment of the Vienna Conventions on Road traffic and has been addressing the traffic rule consequences of higher-level automation. Close coordination between the UNECE Inland Transport Committee's World Forum for Harmonization of Vehicle Regulations (WP.29) and WP.1 (traffic rules) on automated driving has already started to address these challenges in a more horizontal approach.

URL: http://www.unece.org/trans/main/welcwp1.html
             http://www.unece.org/trans/main/welcwp29.html
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
   Explanation: ....UNECE Secretariat services the yearly two meetings of the Global Forum for Road Traffic Safety and accomodates its Expert Group on autonomous driving with in total around 300 delegates and experts from all stakeholders from all regions of the world.

Financial Investment:.......not applicable
   Explanation: ....Conference services and document management is provided by UNOG to UNECE on a flat rate basis

Timeline:
Work on activity began:...more than 1 year ago
Work is.............................ongoing (with no set end date)

UN/ECE: Connected and automated vehicles

The UNECE Inland Transport Committee's World Forum for Harmonization of Vehicle Regulations (WP.29) leads global efforts to establish the international regulatory framework on connected and automated vehicles. This includes the establishment of globally applicable UN Regulations providing performance requirements for automation of vehicles driving on highways. Further elements of work are related to cyber-security, data protection, privacy as well as software-updates over the air applicable for the mobility sector.

Supplemental Information:
The related activities at UNECE's World Forum for Harmonization of Vehicle Regulations are focusing on establishment of new international legal norms and as such is a normative function.

URL: http://www.unece.org/trans/main/welcwp29.html
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.) horizontal innovation domains, automation, driverless vehicles, cyber threat, data-related issues
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Foundations
- Academia
- Scientific community

Actors Description:
ITU, OECD, European Union, Eurasian Economic Commission, APEC, International Motor Vehicle Manufacturers Association, FIA, Consumer International, International Motorcycle Manufacturer Association, international vehicle parts supplier associations, etc.

Beneficiaries:
- government
- Public-at-large
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....UNECE Secretariat services the yearly three meetings of the World Forum for Harmonization of Vehicle Regulations and its six subsidiary Working Parties with in total around 1 500 delegates and experts from all stakeholders from all regions of the world.

Financial Investment:.......not applicable
     Explanation: ....Conference services and document management is provided by
                    UNOG to UNECE on a flat rate basis

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ECE: ECE mandated work on innovation and competitiveness policies

ECE work on innovation and competitiveness policies falls under the mandate of the Committee on Innovation, Competitiveness and PPPs and its Team of Specialists on Innovation and Competitiveness Policies. This work develops best practice policy guidelines, and oversees country-level capacity building activities, including workshops and training materials on selected topics and national level UNECE Innovation for Sustainable Development Reviews. These reviews are member state demand driven, and subject to the availability of extrabudgetary resources. They are a participatory policy advisory service, involving a team of international experts and close consultation with national stakeholders in the country innovation system. Findings and policy recommendations are published as official UN publications. ECE work in this area also feeds into and supports UN system wide processes relating to technological advances, for example the UN Inter-agency Task Team on Science, Technology and Innovation for Sustainable Development. Under the UN Special Programme for the Economies of Central Asia (SPECA), there is also the SPECA Working Group on Knowledge-based Development, which supports policy learning and coordination efforts to promote knowledge-based development at the subregional level, in collaboration with UN ESCAP.

URL: https://www.unece.org/eci.html, https://www.unece.org/ceci/ic.html,
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN/ECE: Electrification of road transport

The UNECE Inland Transport Committee's World Forum for Harmonization of Vehicle Regulations (WP.29) leads global efforts to strengthen the regulatory framework on electric-, hybrid electric-, and hydrogen-vehicles, an essential component for decarbonisation of future transport. For example, a Global Technical Regulation on Hydrogen and Fuel Cell Vehicles was adopted in 2013, and work has recently been finalized on a Global Technical Regulation on Electric Vehicle Safety (adoption expected in November 2017).

Further work is ongoing on energy consumption and its environmental impact of electric vehicles including up-stream emissions. Additional elements under consideration address charging infrastructure working towards harmonization of contact less charging.

Supplemental Information:
The related activities at UNECE's World Forum for Harmonization of Vehicle Regulations are focusing on establishment of new international legal norms and as such is a normative function.

URL: http://www.unece.org/trans/main/welcwp29.html
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Academia
- Scientific community

Actors Description:
OECD, European Union, Eurasian Economic Commission, APEC, International Motor Vehicle Manufacturers Association, FIA, Consumer International, Transport & Environment, International Motorcycle Manufacturer Association, international vehicle parts supplier associations, etc.

Beneficiaries:

- government
- Public-at-large
- Other: Automotive industry

Beneficiaries Description:
electrification of road transport is deemed to be a main contribution for achieving the global climate target (Paris Agreement)

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

    Explanation: ....UNECE Secretariat services the yearly three meetings of the World Forum for Harmonization of Vehicle Regulations and its six subsidiary Working Parties with in total around 1 500 delegates and experts from all stakeholders from all regions of the world.

Financial Investment:.......not applicable

    Explanation: ....Conference services and document management is provided by UNOG to UNECE on a flat rate basis

Timeline:

Work on activity began:...more than 1 year ago

Work is............................ongoing (with no set end date)

UN/ECE: eTIR

The UNECE Inland Transport Committee Working Party on Customs questions affecting Transport (WP.30) as well as the Administrative Committee of the TIR Convention have developed the conceptual, functional and technical specifications for the computerisation of the TIR transit procedure (i.e. electronic). At the same time, the required international legal framework)i.e. amendments to the TIR Convention, 1975) is under development bz the Contracting Parties. Two pilot projects have been launched, the UNECE-IRU eTIR pilot project and the UNDA based C2C pilot project.

URL:　　　http://www.unece.org/trans/bcf/etir/welcome.html
Domain:　transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function:　normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Other: transport industry	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)
　　Explanation:...............XB TIR secretariat

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ECE: Intelligent Transport Systems (ITS)

Use of information and communication technologies in all modes of inland transport: in 2012, the UNECE Inland Transport Committee endorsed its strategy and road map on the promotion of Intelligent Transport Systems. Ever since, it has been organizing the annual flagship round table in strategic partnership with host countries, as well as in partnership with ITU the Networked Car Conference during the Geneva Motorshow. Both events bring together experts and policy makers for an open and visionary debate.

Within the World Forum for the Harmonization of Vehicle Regulations, the Intelligent Transport Systems / Automated Driving group is issuing guidance, policies and resolutions on ITS. It is also brainstorming on ways to modify existing frameworks or the creation of new frameworks to enable the emergence of Intelligent Transport Systems including those with Automated/Autonomous/Driverless vehicles. The outcome of the group is delivered to the World Forum and other high level fora such as the G7 Transport Ministers' meetings. It is the policies serving as the basis for the regulatory activities of the World Forum. It issued guidelines to the Transport stakeholders on cyber security and data protection.

URL: http://www.unece.org/trans/theme_its
            http://www.unece.org/trans/main/welcwp29.html
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Principles/Standards/Guidelines/other normative products

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ECE: International Observatory on Rail Security

The Working Party on Rail Transport (SC.2) has set up the International Observatory on Rail Security with the aim of allowing stakeholders to disseminate ad hoc knowledge and best/good practices in rail security; exchange information about projects and other initiatives/proposals; and seek cooperation on specific rail security projects/tasks/studies as well as research initiatives. An online platform has been set up with restricted access to facilitate the exchange of information.

URL:
> https://wiki.unece.org/login.action?os_destination=%2Fpages%2Fviewpage.action%3FspaceKey%3Dtransrso%26title%3DIntroduction&permissionViolation=true

Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)

Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs

Actors Description:

Beneficiaries:
- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....Part of the wider activities of SC.2

Financial Investment: ....small (expenditure less than $10,000)
    Explanation: ....Conference services and document management provided by UNOG to UNECE on a flat rate basis.

Timeline:

Work on activity began: ...more than 1 year ago
Work is ....ongoing (with no set end date)

UN/ECE: River Information Services and Other ICT for Inland ICT

River Information Services (RIS) are modern traffic management systems enhancing a swift electronic data transfer between water and shore through in-advance and real-time exchange of information. The Working Party on Inland Water Transport (SC.3) has, for a number of years, been working on the harmonised development of River Information Services through the establishment and updating of Resolution 57 (Guidelines and Recommendations for River Information Services). This normative work is ongoing and is supplemented by other related activities including on Resolution 63 on International Standard for Tracking and Tracing on Inland Waterways (VTT), Resolution 48 - Recommendation on Electronic Chart Display and Information System

for Inland Navigation (Inland ECDIS) and AIS Aid to Navigation in inland waterways.

URL: http://www.unece.org/fileadmin/DAM/trans/doc/2015/sc3wp3/ECE-TRANS-SC3-201e.pdf

Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)

Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States • Other IGOs / development banks • NGOs • Private sector entities • Scientific community	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Other: Private sector (operators, forwarders, etc.)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....Part of the wider activities of SC.3

Financial Investment:.......not applicable
    Explanation: ....Conference services and document management provided by UNOG to UNECE on a flat rate basis.

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN/ECE: Systemic efficiency improvements

UNECE is working to improve the energy performance of buildings in a broader context of improving quality of life. The activity involves dissemination, training, education, and capacity building around framework guidelines on energy efficiency standards for buildings. The guidelines are principle-based and involve treating a building as an energy system in its own right, but also as an element in a larger local system (smart cities/communities) and even larger multi-national regional system (interconnected smart network). The approach involves deployment of advanced building materials, building architectural design and community/city planning, smart systems and appliances, and intelligent interconnections to the built environment to allow buildings' energy needs to be reduced to a level that can be supplied largely, perhaps exclusively, by non-carbon-based energy (renewables).

URL:
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: other – please specify: All of the above.... the framework guidelines explicitly tackle all of the items listed.

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	**Actors Description:**
• Member States • NGOs • Private sector entities • Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....This activity will involve signification extra-budgetary outlays from private companies, member States, and academia.

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................ongoing (with no set end date)

UN/ECE: United Nations Framework Classification for Resources (UNFC)

The United Nations Framework Classification for Resources (UNFC) provides countries, companies, financial institutions and other stakeholders with a futuristic tool for sustainable development of energy and mineral resource endowments. UNFC applies to energy resources including oil and gas, renewable energy, nuclear fuel resources; mineral resources; injection projects for the geological storage of CO_2; and anthropogenic resources such as secondary resources recycled from residues and wastes. The emerging challenges in these sectors are the sustainable, environmental-friendly, carbon neutral and efficient development and production of energy and raw materials required to meet the demands of the growing global population. Innovations in production, consumption and transportation are fundamentally challenging how the energy and material sectors function today. As a unique tool for harmonizing policy framework, government oversight, industry business process and efficient capital allocation, UNFC is capable of managing the natural resources required for the present and future needs of society. UNFC, in its core principles, encompasses the holistic management of all socio-economical, technological and uncertainty aspects of energy and mineral projects. The project maturity and resource progression model of UNFC can de-risk projects against costly failures and thus protect investors and their investments. UNFC fully integrates the social and environmental considerations and technology readiness required to bring clean and affordable energy resource projects into the market. UNFC aims to provide clear and consistent specifications, guidelines and best practices for all energy and mineral sectors, which are of particular importance for the management of the expanding demand of bioenergy, geothermal energy, solar energy, wind energy and hydropower resources. To help the application of UNFC uniformly worldwide, guidelines on requirements for competency of the personnel are included in the system. UNFC provides case studies and implementation examples, not only to improve the consistencies in the usage but also to improve the system through innovative applications.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ECLAC: Big Data for measuring the digital economy in LAC

Given the importance of digital technologies as enablers for economic growth, social inclusion and the sustainable use of natural resources, policies need to be based on adequate measurement of the digital economy. The availability of data is crucial for the policy making process as it allows governments to allocate resources, and evaluate the impact of different investment strategies, regulatory frameworks and policy decisions. In brief, the design of development policies must be based on measurement models that capture the sources of value creation of current patterns of economic growth. This effort implies to set policy relevant metrics, and the use of Big data combined with traditional sources as the National Statistics Offices (NSO).

The project aims to increase national capabilities to encourage the use of Big data techniques in combination with traditional tools to measure the digital economy and to enhance capacity of Latin American countries to strengthen their digital economy through evidence based polices at regional or national level.

URL:　　　http://www.cepal.org/es/proyectos/big-data
Domain:　data-related issues (privacy, openness, access, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Private sector entities
- Foundations

Actors Description:

Beneficiaries:
- government

Beneficiaries Description:

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN/ECLAC: Digital Agenda for Latin America and the Caribbean eLAC

The first Action Plan for the Information Society in Latin America and the Caribbean (eLAC), whose Technical Secretariat is held by ECLAC, was established by countries in 2005 and implemented until 2007. Two more phases followed (2008-2010 and 2011-2015) and it was renewed for a fourth stage, through 2018, in Mexico in August 2015. In August 2017 a new follow-up meeting will take place in Santiago de Chile to set the new priorities for the digital development in the region taking into account the new technological landscape. In 2018, a new plan will be discussed in the Sixth Ministerial Conference for Information Society in Latin America and the Caribbean.

eLAC is part of ECLAC's subsidiary body "Conference on science, innovation and information and communications technologies", established in October 2012. The Second Ministerial Conference on Science, Innovation and ICT took place in San José de Costa Rica in September 2016.

URL: http://www.cepal.org/es/proyectos/elac2018
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN/ESCAP: Academy of ICT Essentials for Government Leaders

APCICT is a regional institute of the Economic and Social Commission for Asia and the Pacific. It develops and implements flagship ICT capacity development programmes for government leaders, civil servants, students/youth, and women entrepreneurs.

The Centre's flagship training programme for civil servants is the "Academy of ICT Essentials for Government Leaders (Academy)". It aims to equip government leaders and policymakers with the knowledge and skills on leveraging ICT in national development strategies and programmes. It is utilized in 35 countries in Asia and the Pacific in cooperation with sub-regional and national partners from ministries of ICT, civil service organisations, international organizations, civil society, and academia. Many ESCAP Member States have integrated and institutionalized the Academy in their civil service human resource development frameworks.

APCICT leverages on the Academy programme to provide civil servants with up-to-date capacity development resources on new and emerging trends and technologies and how these can be utilized for development purposes. These resources include, among others:

- Academy Training Modules on "ICT Trends for Government Leaders"; "Information Security and Privacy"; and "Social Media for Development"

- A series publication called "Brief on ICT Trends" (first issue on the topic of Big Data)

- New Academy Training Module on Data for Smart Government (to be developed by the end of 2017).

Given the constantly changing ICT landscape, the Centre will continue in updating and enhancing the ICTD training content offered by the Academy curriculum.

URL:　　http://www.unapcict.org/academy
Domain:　the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme

Actors:	Actors Description:
• Member States	
• NGOs	
• Academia	

Beneficiaries:	Beneficiaries Description:
• government	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date):

UN/ESCAP: Asia-Pacific Information Superhighway

The Asia-Pacific Information Superhighway (AP-IS) was initiated at the 71st session of the ESCAP Commission to develop seamless broadband connectivity in response to the alarming trend of the widening broadband divide in the region. Broadband infrastructure is the meta-infrastructure which supports other critical infrastructure such as Single Windows for trade facilitation, intelligent transport management, smart grid and energy network management, financial transactions and coordinated disaster response efforts, not to mention applications such as e-learning, e-health and e-agriculture, just to name a few. Yet, based on the State of ICT 2016, published by ESCAP, it is evident that the broadband divide in Asia and the Pacific has been widening over the last 15 years. It is more alarming that emerging AI depends on the underlying digital technology, such as cloud computing and mobile broadband, and without broadband technology, the countries already lagging behind will not be able to catch up and benefit from these technologies in the future. In recognition, the 73rd ESCAP Commission session adopted a resolution to officially launch the AP-IS initiative and implement the AP-IS Master Plan to address these challenges.

URL: http://www.unescap.org/our-work/ict-disaster-risk-reduction/asia-pacific-information-superhighway
Domain: data-related issues (privacy, openness, access, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:

- government
- Public-at-large
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): The current Master Plan is effective until 2018.

UN/ESCAP: Asia-Pacific Plan of Action on Space Applications 2018-2030

With the adoption of the 2030 Agenda for Sustainable Development, space technology applications were identified as important tools for implementation, particularly for attaining the Sustainable Development Goals. In parallel, driven by advances in digital technologies, data and information derived from satellites has evolved, become more accessible and relevant to a range of developmental sectors. In view of this and considering that the Asia-Pacific Plan of Action for Applications of Space Technology and Geographic Information Systems for Disaster Risk Reduction and Sustainable Development, 2012-2017, will end this year, a new Plan of Action 2018 - 2030, is being drafted to promote cooperation among ESCAP's member countries for the attainment of the SDGs through the use of space-derived information. These tools have particular application in the areas of disaster risk management, agriculture, water management, fisheries and ocean resources management, urban development, land resources and forestry, ecosystem services, climate change monitoring and adaptation, health and social services, among many other sectors.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) space applications
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Scientific community

Actors Description:

Beneficiaries:	**Beneficiaries Description:**

- government
- Targeted group(s)
- Other UN system entities

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Due to be
                                        completed late 2018

UN/ESCAP: Capacity-building programme on New and Emerging Technologies - focus Nanotechnololgy

Nanotechnology involves the investigation and design of materials or devices at the atomic and molecular levels. Nanomaterials exhibit key physicochemical properties that make them particularly attractive as functional materials for sustainable technologies. Nanotechnology directly contributes to Sustainable Development Goals (SDGs), more specifically to SDG 2 (Zero Hunger), SDG 3 (Good health and wellbeing), SDG 6 (Clean Water and Sanitation), SDG7 (Affordable clean energy), SDG9 (Industry, Innovation and Infrastructure), SDG12 (Responsible Consumption and Production).

APCTT's programme on Nanotechnology was developed based on the recommendation of the Second Session of the Governing Council of APCTT, December 2006. In 2009, a regional consultative meeting of senior policymakers of member countries held in Colombo, suggested the need to promote the application of nanotechnology to enhance the competitiveness of industry, with specific emphasis on small and medium enterprises (SMEs). This meeting recommended the establishment of a regional network of R&D institutions working in the area of nanotechnology to promote cross-border technological cooperation between researchers and strengthening of capacity both at individual and institutional levels for R&D management and research commercialization.

In 2011, APCTT initiated a regional programme on nanotechnology to promote R&D networking and strengthen capacity of members in the area of nanotechnology-based value-added product development. Through this programme, APCTT has established a nanotechnology R&D network, facilitated sharing of knowledge and best practices, and enhanced R&D management capability of relevant stakeholders in the region. Under this programme, since 2011, APCTT has carried out several key activities such as: (1) 14 regional and national capacity building workshops and meetings in Indonesia, Islamic Republic of Iran, Malaysia, Philippines, Sri Lanka and Thailand; (2) developed a "Manual on Critical Issues in Nanotechnology R&D Management: An Asia-Pacific Perspective"; and (3) developed an online resource facility with databases on nanotechnology opportunities and R&D institutes.

APCTT organized the "International Conference on Nanotechnology for Safe and Sustainable Development, and Consultative Meeting on proposed ASEAN Nanosafety Networking Platform," on 2-4 May 2017, Putrajaya, Malaysia. The deliberations resulted in recommendations for establishing a Nanosafety networking platform for stakeholders in the ASEAN countries and to facilitate cross-border sharing of methodologies and testing procedures related to Nanosafety. As a strong outcome of this conference, APCTT received a proposal from Viet Nam requesting for support with regard to developing a labelling and certification system for certifying nano-products in Viet Nam based on Thailand's NanoQ certification system in cooperation with National Nanotechnology Centre (NANOTEC) Thailand.

URL: http://www.apctt.org/nanotech/home
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) nanotechnology
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference

- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- NGOs
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ESCAP: Regional Drought Mechanism

ESCAP over the past two decades has implemented a well-established regional space applications programme (RESAP). Anchored to this programme is the Regional Drought Mechanism. This is a regional cooperation initiative which brings together countries experienced in utilizing space applications for drought monitoring and management with those drought-prone countries with less experience to help better monitor, prepare for and adapt to drought risk in their country. Coupled with seasonal forecasts and long term climate scenarios, the Regional Drought Mechanism is moving from purely monitoring to providing tools to help with long term planning and climate adaptation through regional cooperation. The objective of the Regional Drought Mechanism is to create a toolbox or menu of products, information and services to support drought management. These are provided by various countries through regional cooperation - twinning with drought-prone developing countries to support their movement towards building resilience to drought.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....The core team within ESCAP is small (approximately 2 people) though the full team for any one pilot country is comprised of

experts from various agencies, and national government representatives dealing with drought.

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....In additional to some extra-budgetary funding, extensive non-financial contributions in terms of expert time and resources is significant, to potentially be more than $2m and growing.

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ESCAP: Science, Technology and Innovation Work Programme

PROGRESS TO DATE

The science, technology and innovation (STI) work program is a new addition to ESCAP. However, the Asia-Pacific region is home to some of the most innovative economies globally, and some of the leaders on emerging technology development. As such, ESCAP's strategy has been to leverage this expertise and facilitate greater knowledge-sharing and cooperation so that the region benefits as a whole. To date, ESCAP has focused on four main activities, many of which include agendas relating to emerging technologies.

1. Raising the profile of STI as an important means of implementation for sustainable development: To date, the Executive Secretary has raised the profile of STI for sustainable development through a series of high-level speeches at events including the Seoul Science and Technology Forum and the International Conference on Science and Technology for Sustainability in Japan.

2. Providing STI policy advice: An STI Advisory Board, made up of prominent experts from across the region, was set up to provide policy advice to the secretariat and member States. Advisory services have been provided to several Asia-Pacific member States on issues ranging from the alignment of STI policy with national development plans to enabling policies for the development of social enterprises.

3. Conducting STI research, analysis and capacity-building: In 2016, the first ever ESCAP theme study on STI – which provided a set of key recommendations to member States on harnessing STI for sustainable development – was launched at a high-level ministerial panel on STI at the 72nd session of the Commission. This publication was followed by a report that outlined specific policy approaches for Least Developed Countries (LDCs). In terms of capacity-building, ESCAP has hosted a series of workshops on emerging technology for policy makers covering topics such as the use of intellectual property for innovation and technological development, and the use of technology in support of trade for micro, small and medium sized enterprises.

4. Facilitating greater STI knowledge-sharing and cooperation between member States: To facilitate greater STI knowledge-sharing and cooperation between member States, the inaugural session of the Committee on ICT / STI was convened in October 2016.

FORWARD LOOK

Specifically on emerging technology, ESCAP will be working in partnership with some of the leading economies in the region. As an example, in partnership with the Government of China, ESCAP will be convening the "Silicon Valleys" of Asia to explore how this network could support SDG progress. The Asia-Pacific's expertise on this agenda, aligned with ESCAP's convening platforms, will be valuable resources to support member States to maximize the benefits, while minimizing the downsides, of "Fourth Industrial Revolution" technologies.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop

- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Advocacy

Actors:	**Actors Description:**
• Member States	

Beneficiaries:	**Beneficiaries Description:**
• government	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ESCAP: Space technology applications and geospatial information systems for disaster risk reduction

ESCAP assists member States in harnessing the latest advances in applications of space technology and geographic information systems for reducing and managing disaster risks and achieving resilient, inclusive and sustainable development, especially in high-risk and low-capacity developing countries. It facilitates timely access to space-derived geospatial data, enables the effective utilization of these innovative technologies before, during and after disasters, pools expertise and resources at the regional and subregional levels, promotes sharing of knowledge and good practices and creates synergies with other existing regional initiatives. The activity will be delivered through the following strengthened regional cooperation mechanisms, including the Regional Space Applications Programme for Sustainable Development and the Regional Cooperative Mechanism for Drought Monitoring and Early Warning, and via the implementation of the Asia-Pacific Plan of Action for Applications of Space Technology and Geographic Information Systems for Disaster Risk Reduction and Sustainable Development, 2018-2030.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UN/ESCWA: Academy of ICT Essentials for Government Leaders in the ESCWA Region (AIGLE)

In 2013 ESCWA launched a 3 year project entitled "Academy of ICT Essentials for Government Leaders in the ESCWA Region" to create awareness and build the capacity of decision makers in the Arab governments to use ICT for sustainable development and to give them the skills to plan, manage and fund development projects. It started with a needs assessment survey that covered 1540 Government leaders in 19 Arab countries, with aim to clarify the situation regarding ICT4D capacity building and actual needs of member states, and to identify the topics emerged as priority areas for the region.

High quality training modules were produced in Arabic with an associated Arabic-English glossary of terms and selected and adapted case studies and exercises for the Arab region. The topics covered by the AIGLE modules are: (1) linkage between ICT and development; (2) ICT4D policies: main elements and tools for management; (3) e-Government: policies, strategies, and applications; and (4) Internet governance.

104 experts have been trained to become trainers for the Academy and 11 national training plans for the AIGLE training modules have been prepared. These national training plans have a significant multiplier effect and a positive impact on the sustainability of the Academy. As a matter of fact, they contribute to institutional development and get integrated within national training programmes targeting government officials in the Arab region. The national plans are set to train more than 6000 employees of public sector leaders and decision makers during 2015, 2016 and 2017.

To ensure a wider reach, accessibility and sustainability beyond the lifetime of the project, and further to the national training plans, an on-line training platform was developed that supports distant and auto-learning and provides access to the AIGLE training modules and related content (including booklets, slides, videos, tests) in addition to a discussion forum for a virtual network of experts.

URL: http://escwa-aigle.org/
Domain: data-related issues (privacy, openness, access, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Informational Website
- Online Forum/Community/Exchange
- Advocacy

Actors:
- Member States
- Academia
- Other:

Actors Description:
The main counterpart of the AIGLE project are the national public administration academic institutions (e.g. Civil Service Board in Lebanon or The National Institute for Training in Jordan), information technology/e-Government authorities, agencies and programmes, universities/training institutes, national governmental entities.

Beneficiaries:
- government
- Targeted group(s)

Beneficiaries Description:
The main beneficiaries are civil servants at the middle management level and above, Government leaders and policymakers, all public entities at national, provincial and local levels.

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
    Explanation: ....ESCWA contributed in kind resources for the duration of the project through the following: Director (D1 level) at 5% time, Chief of ICT Policies Section (P-5 level) at 10% time, Project Manager (P-3 level) at 20% time, 1 Professional Staff Member (P-4 level) at 20% time, and 1 Research Assistant (GS-6 level) at 20% time

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....The whole budget of this project is from UN DA funds and amounted to US 509,000 Dollar.

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................complete (no further action to be taken)

UN/ESCWA: Arab Digital Economy and Smart Societies Report

The main objective of this report is to help the various stakeholders (including national policymakers) in the Arab region in identifying the priority areas in the digital economy and in developing the national digital agendas for boosting economic growth towards smart societies. The paper will also propose a profiling system to assist concerned stakeholders in the region assessing the progress of Arab countries in the change and transition to the digital economy and smart societies. This session will be devoted to the discussion of the main findings of the ESCWA study entitled Arab Digital Economy and Smart Society. The report will focus more on the main concepts of digital economies and smart societies, highlighting policy priorities as underlying technological developments and risks. It will also discuss the supply (ICT sector and infrastructure) and demand (usage patterns and skills) sides of the digital economy with highlights to their global status in developed, developing and Arab countries. It will also discuss what makes digital economies important for innovation and growth and how emerging models such as data-driven innovation and sharing economy platforms will transform established business models, create new markets and a new way of work.

This report will also focus on the measurement of digital economies and analyze the status of Arab countries in their transition towards digital economies and smart societies. After a brief review of major measurement frameworks and indicators, the status of Arab countries in different dimensions related to supply, demand and skills will be discussed.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Internet of Things, Big Data
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
*   Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Other: ESCWA supported by a technical group of Experts	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s)	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................in-progress (specify expected completion date): Expected Completion July 2017

UN/ESCWA: Arab High-Level Forum on WSIS and 2030 Agenda for Sustainable Development

The Arab High-Level Forum on WSIS and 2030 agenda for Sustainable Development brings together various stakeholders in the information society, digital economy and Internet governance in the Arab region, to review, present, and discuss the digital footprint and linkages with the 2030 agenda for sustainable development. It focuses on how digital economies and smart societies can accelerate the implementation of WSIS action lines, themes and priority areas, as well as contribute to the achievement of sustainable development in the Arab Region.

The linkages between the WSIS themes and sustainable development in its three pillars, social, economic and environmental, as well as political, would cover the topics related to both WSIS and SDGs processes, including, among others, cloud computing, Internet of things, digital economy, Arab top-level domain names, updated Arab ICT strategy, social inclusion, economic growth, peace, partnerships for sustainable development, and dialogue on the WSIS action lines and SDGs targets and the way forward.

The Forum was held for the first time in May 2017, and encompassed an expert meeting and a conference, under the main themes of Shaping the Digital Future in the Arab Region, and the Digital Technologies for SDGs. The Forum included a High-level Ministerial Roundtable and an Arab WSIS community track on Partners for SDGs, and resulted with the Beirut Consensus on Transformation and Digital Economy in the Arab Region - Towards the Achievement of the 2030 Agenda for Sustainable Development (in Arabic), available through the link: www.unescwa.org/arab-wsis-sdgs.

URL: https://www.unescwa.org/arab-wsis-sdgs
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy
- Other: Beirut Consensus addressing priority issues in the Arab region

Actors:	Actors Description:
- Member States - Other UN system organizations - NGOs - Private sector entities - Foundations - Academia - Scientific community	UNESCWA

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

    Explanation: ....The ESCWA Team that worked on the AHLF 2017 was composed of four staff members, three professionals and one general service staff, who collaborated with various staff in the organization.

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months

Work is...........................ongoing (with no set end date)

UN/ESCWA: Arab Internet Governance Forum

The UNESCWA and League of arab States joint efforts in the area of Internet Governance resulted in 2009 with the launch of the regional initiative named Arab Dialogue on Internet Governance (ArabDIG), and have led to the publication of the ESCWA study on Internet Governance: Challenges and Opportunities for the Arab region (also available in Arabic) in support of the development of a regional framework for Internet governance.

The ArabDIG initiative has engaged the various Arab stakeholders in the Internet governance policy dialogue, and has among its main results the production in 2010 of the "Arab Regional Roadmap for Internet Governance: Framework, Principles and Objectives" and of the "Call of Arab Stakeholders: Towards Activating Comprehensive Arab Cooperation for Internet Governance, Regionally and Internationally (in Arabic) that confirmed the need for an Arab IGF. Based on the Regional Roadmap and the Call of Arab Stakeholders, ESCWA and LAS has convened an open public consultation in 2012 that resulted with the formation of the Arab IGF process, to be in line with the mandate of the global IGF, and to engage all Arab stakeholders in open dialogue on international and regional Internet-related public policy issues.

The Arab IGF also aims to address a number of key issues related to Internet governance in the Arab region, including access, privacy and security, and openness. Similar to the global IGF, the Arab IGF brings together all stakeholders in the field of Internet policies, including Governments, the private sector, civil society, technical practitioners, the academic community and regional organizations. The Arab IGF offers a platform for these actors to engage in an open dialogue on international and regional Internet-related public policy issues and has the objectives depicted in the box below.

The Arab IGF addresses key issues related to Internet governance in the Arab region, including:

1. Access: Internet infrastructure and critical resources.

2. Policies: International and national Internet policies.

3. Security and privacy: Towards a reliable and secure infrastructure.

4. Openness: Rights and responsibilities.

5. Internet and young people: A culture of participation and development opportunities.

In Dec 2015, the Fourth Arab IGF concluded the first mandate of the Arab IGF process (2012-2015) and resulted in the launching by ESCWA and LAS of the AIGF2020 initiative that aims to analyse and develop the Arab IGF process in its second mandate that could extend until 2020 or 2025.

Based on the output of the AIGF2020 initiative, efforts to improve the Arab IGF process would be directed to the formulation of a new Charter (a Technical Cooperation Framework) for the second phase of the Arab IGF that is expected for the period 2017-2020. The output will also be the basis for the development of the Regional Roadmap for the four-coming years.

URL: https://www.unescwa.org/ArabDIG
Domain: data-related issues (privacy, openness, access, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy
- Other: Strategic messages addressing priority issues in the Arab region

Actors:	**Actors Description:**
• Member States	UNESCWA and League of Arab States
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

    Explanation: ....The ESCWA Arab IGF Team is composed of three staff members, two professionals and one general service staff, to support all related activities by up to 30% of their time.

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago

Work is............................ongoing (with no set end date)

UN/ESCWA: Encouraging the adoption of Government Cloud Computing in the Arab Region

Cloud computing is becoming the trend for delivering computing services, on-demand basis, to individuals, businesses and governments. It allows access a shared pool of computing tools and resources, storing data, managing ICT resources across a variety of devices and platforms. In the simplest terms cloud computing provides storage of and access to data, applications and services provided and needed by an organization using a network of remote servers hosted on the Internet, with incurring minimal ICT management costs for the organization. The main components of the cloud are: infrastructure, platforms, applications and data. In the Arab region, cloud computing is still relatively new and only recently started to pick up momentum.

As the benefits of using cloud computing, such as reduced costs, better innovation and governance, offering new job opportunities, reducing capital investment requirements, re-usability of services and applications, and ensuring openness and accessibility became more evident in the private sector, the public sector, specifically governments, became a possible new sector that could benefit from similar advantages, improving the socio-economic development of countries and the well-being of individuals. From this realization "government cloud" aims to provide government with the same capabilities as those experienced by the private sector.

Many governments have moved towards implementing the "government cloud". Several studies showed clear growth of cloud products and services in the public sector. It is also expected that these services will grow even faster than the traditional ICT services.

In the Arab region, some governments have already begun exploring cloud computing to enhance their processes, decision-making and service delivery. However, the wide implementation and adoption of government cloud require governments to prepare the needed technical and legal environment, and understand the potential challenges and opportunities of cloud computing at national and regional levels.

Based on internally-prepared background papers and on technical cooperation activities, ESCWA is undertaking efforts to encourage Arab policy decision makers to develop and adopt Cloud computing in their public institutions in order to increase efficiency and mobility, reduce costs and redundant work, and to improve the quality of public delivery services.

URL: https://www.unescwa.org/publications/information-communications-technology-development-21st-issue;http://www.mecoman.net/#!/coninfo/1;http://tcportal.escwa.org.lb/default.aspx

Domain: the activity cuts across several science / technology / innovation domains

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States	
• NGOs	
• Private sector entities	
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• government	Although these activities are aimed to target public policy makers, they are also useful to other target groups from academia, private sector and NGOs.

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
   Explanation: ....The implementation of these activities involves several staff members to provide the latest research topics and best practices on regional and international levels.

Financial Investment:.......medium (expenditure between $10,000 - $49,999)
   Explanation: ....ESCWA is making use of both budgets: RB for publication issues, and RPTC budget for advisory services and capacity building workshops.

Timeline:

Work on activity began:...more than 1 year ago
Work is.............................in-progress (specify expected completion date):

UN/ESCWA: Horizon 2030: innovation and technology for achieving the 2030 Agenda for Sustainable Development

The activity focuses on innovative integrated approaches that can help to achieve the SDGs by 2030 in the Arab region. Integrated approaches look at development challenges from various sectors at the same time, fostering collaboration to help find the needed solutions. The link between technology and innovation cannot be overemphasized; on the one hand, revolutionary technologies, products, and solutions have been the result of innovative processes, and on the other, technology is a facilitator and enabler of innovative approaches and mechanisms.

The resulting study from the activity will include a specific look at the use, adoption, adaptation and localization of emerging/disruptive technologies to provide solutions for the challenges of the Arab region. Technologies considered include robotics and automation, big data, blockchain, 3D printing, drones, artificial intelligence, Internet of things, virtual reality, machine learning, on-demand service delivery, digital ID, and physical-digital integration.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Advocacy

Actors:	**Actors Description:**
• Not applicable	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Targeted group(s)	
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN/ESCWA: Information Society and Digital Economy Horizon 2030 in the Arab Region

A flagship publication exploring the Horizon of the Information Society and Digital Economy in the Arab Region in the next decade, current regional status and global trends and opportunities, with a focus on the current gaps between the region and developed countries; the projected gap by 2030; and suggesting vision and policy changes necessary to narrow those gaps.

The study will be based on major UN documents such as WSIS Tunis Agenda, 2005; and the UNGA Resolution on WSIS+10 Overall Review, 2015 (seventieth session of the General Assembly on the implementation of WSIS outcomes); as well as the 2030 Agenda for Sustainable Development; as well as various research papers, documents and other relevant outputs that are related to WSIS/SDG processes that were produced by ESCWA during the past two years.

The document will also highlight the linkages between the WSIS and 2030 Agenda processes towards helping policymakers in the Arab region reach the targets and achieve the SDGs by the year 2030. It will evolve around:

1. The main priority SDGs pertaining to the region, in addition to information society (IS) & digital economy (DE) goals that can contribute to the fulfillment of above priority SDGs, with a particular focus on:

a. highlighting major socioeconomic development challenges in the region;

b. identification of global trends in IS and DE,

c. assessment of the current status of the Arab region and

d. identification of gaps (current and envisaged by 2030) thereof;

2. Analyzing the priority issues and challenges facing the Arab region, specifically those that are related to the WSIS and SDG items listed in point 1 above.

3. Formulating and proposing strategic policy change recommendations to address said priorities/challenge to help significantly reduce the estimated gap by 2030;

4. Projecting and determining a vision for the Arab region to help it deliver on the promises of WSIS/SDGs by the year 2030; and means of follow-up and review

Topics to be tackled will include a number of the following issues:

a. Arab Sustainable Development Aspects

b. Regional IS Status current, and projected in 2030

c. Global Trends and the Gap, current and projected in 2030

d. Regional and National Strategies, current and advised, including proposed Arab Digital Agenda

e. Internet Governance, Cyber Security and Next Generation ICT Infrastructure;

f. Digital economy and Smart Societies for Economic Growth

g. Smart Governments and digital transformation for Social Inclusion;

h. Gender Equality and Women's Empowerment.

i. Measurement related issues.

In summary, the study aims at providing thought-provoking propositions that would trigger strategic policy change in existing practices in the region to accelerate narrowing the currently widening divides.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States	
• NGOs	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Dec-17

UN/ESCWA: Innovation for economic growth and social well-being

Practice and research have shown the potential for innovation and technology to improve human welfare, economic growth, industrial efficiency, and environmental protection. These concepts have become the keys to finding solutions to the most pressing and persistent social, economic and environmental needs and challenges communities face today. To find solutions, innovation is applied in product design, processes, services, marketing and/or institutional structures. The rapid advancement of technology is providing a myriad of solutions that support innovative activities and initiatives.

In this activity the focus falls firstly on economic growth through entrepreneurship and small and medium enterprises aided by innovation and technology. The focus falls secondly on the community-based innovation and how such bottom-up approaches to innovation (including social innovation) can help in the improvement of peoples' social well-being.

The activity includes three studies one each on entrepreneurship, small and medium enterprises and community-based innovation for social well-being, as well as an expert group meeting.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Advocacy

Actors:	**Actors Description:**
• Other IGOs / development banks • NGOs • Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................in-progress (specify expected completion date): Dec-17

UN/ESCWA: Innovation Policy for Inclusive Sustainable Development in the Arab Region

The activity included the publishing of a study entitled "Innovation Policy for Inclusive Sustainable Development in the Arab Region" that provides a framework that Arab countries can use to develop a national innovation policy.

The activity also included an expert group meeting on "Mechanisms to Advance Innovation for Inclusive Sustainable Development in the Arab Region". During the meeting participants identified and discussed options and mechanisms that can be used to bridge the gaps in innovation in the Arab region in order to advance development. Recommendations from the meeting focused on the roles of stakeholders and actions that they should take to further innovation in the Arab region.

URL: https://www.unescwa.org/publications/innovation-policy-inclusive-sustainable-development-arab-region; https://www.unescwa.org/events/mechanisms-innovation-sustainable-development-arab-region

Domain: the activity cuts across several science / technology / innovation domains

Function: policy advice (to support policymaking (all levels))

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Other UN system organizations	

Beneficiaries:	Beneficiaries Description:
• government	
• Targeted group(s)	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is...........................complete (no further action to be taken)

UN/ESCWA: Open Government in the Arab Region

This activity is one part of a three-part Development Account project entitled "Institutional development for better service delivery towards the achievement of the sustainable development goals in Western Asia" which was launched by ESCWA in 2016. The project focuses specifically on the employment of emerging technologies and the embracing of the concept of openness.

New technological trends tackled in the project include open data, citizen-centric techniques, social media, e-participation, open collaboration, and open innovation as tools that can transform public engagement by supporting shared decision-making, shared responsibility, and public dialogue; and in doing so change the way government and citizen perceive each other.

The goal of the activity is to increase the capacity of Arab countries, specifically Governments, to utilize these technologies for enhanced transparency, accountability and responsiveness through better service delivery as well as the acceptance of a participatory approach for better collaboration between Government and citizen.

The activity includes a report that determines a policy framework for open government in the Arab region, a study on innovation in the public sector, an expert group meeting on open government and two regional and three national workshops on open government focussing on open data and open participation.

URL: https://www.unescwa.org/sub-site/open-government-arab-region
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Advocacy

Actors:
- Not applicable

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date): Dec-18

UN/ESCWA: SDPD-ETC- Establishing National Technology Development and Transfer Systems in selected ESCWA member states

The project's objective is to enhance national innovation system capacity through updating related policies and the establishment of National Technology Transfer Offices (NTTO) linked to universities and research institutions facilitating the partnership between the research community and economic development sector, the industry and relevant governmental and non government actors. Selected countries are Egypt, Lebanon, Mauritania, Morocco, Oman, and Tunis.

These NTTO are crucial for the development of a sustained and purposeful national technology sector. This sector can help to 1) delinking economic / industrial development from imported technologies in critical sectors thus reduce technological dependency; 2) Providing economic incentives to innovators; 3) Create a new source of income for educational sector through proper licensing structures and property right structures; 4) Establish a productive R&D culture that can go beyond basic research and into industrial applications.

NTTO s will also help to integrate capacity of innovators, investors, entrepreneurs and researchers who are developing new technological solutions to the sustainability challenges and strategic needs of the national economy.

URL: https://www.unescwa.org/escwa-technology-center
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	**Actors Description:**
• Member States	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....ETC staff are entrusted to implement the project (professional and administrative support).

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation:...............The total budget for the DA project is USD 497,000

Timeline:
Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Dec-17

UN/ESCWA: Smart Digital Transformation in Government

ESCWA study on Smart Digital Transformation in Government deals with the historical account of the development of governments throughout history and seeks to align meaningful technological breakthroughs with their impacts of government development. Technology, as a key and integral element of change in government systems, changes the working procedures and the way services were provided to citizens. The journey of government and technology from government applications to government services was discussed. It highlights the disruptive role of technology and the smart paradigm in the transformation from e-government to smart government. It proposes SDG's linking with smart government and the top 10 technologies for smart government.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Policy or Research Paper/Report/Publication
- Advocacy

Actors:	Actors Description:
• Member States • Other UN system organizations	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large	

Scale:
Personnel Support: ....not applicable
　　Explanation: ....One staff member in collaboration with one consultant.

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................complete (no further action to be taken)

UN/ESCWA: Support the Arab Region in the efficient use of Internet of Things (IoT)

Information and communication technologies (ICTs) such as mobile phones, Internet use and Big Data analytics are pervasively utilized in global development projects (in a field often known as ICT for Development, or ICT4D) to improve outcomes and deliver services.

Recently, this field has experienced strong growth on the global level.

In the Arab region, few initiatives have started to scout the benefits of this technology, mainly in Gulf countries. Due to the promising development opportunities offered by IoT, and to its associated threats, especially those related to privacy and personal data protection, huge efforts are required on the national and regional levels to raise awareness, amend or develop the needed legal frameworks, to build capacity, and to prepare a conducive and safe environment for entrepreneurs and innovatros to develop useful IoT applications.

Therefore, technical assistance of ESCWA is needed to maximize IoT technology impact on socio-economic development, and to support Arab countries in deploying IoT applications that contribute to the achievement of 2030 Agenda

URL: https://www.unescwa.org/publications/information-communications-technology-development-21st-issue;

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Internet of things

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States	
• NGOs	
• Private sector entities	
• Academia	

Beneficiaries:	Beneficiaries Description:
• government	Although these activities are aimed to target public policy makers, they are also useful to other target groups from academia, private sector and NGOs.
• Targeted group(s)	
• Other UN system entities	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Explanation: ....The implementation of these activities involves several staff members to provide the latest research topics and best practices on regional and international levels.

Financial Investment: ....medium (expenditure between $10,000 - $49,999)
    Explanation: ....ESCWA is making use of both budgets: RB for publication issues, and RPTC budget for advisory services and capacity building workshops.

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date):

UN/ESCWA: UN-ESCWA -SDPD- Advancing Green Technologies through Science-Policy Interface

The management of natural resources sectors, in particular water, food ,and energy will be reshaped by technological innovations. SDPD is highlighting the important role of science-policy interface in supporting green technologies to enable the successful implementation of the 2030 Agenda for Sustainable Development in the Arab region. It provides a platform for discussion on opportunities to advance green technology and innovation, and share experiences on integrated policies, crucial to enable green technology development and transfer, it also call s for institutionalizing a platform for scientists, policy-makers, civil society, and the Arab technology industry to break down knowledge transfer barriers and foster future cooperation through national frameworks in addition to help identifying effective and institutional communication channels and collaboration mechanisms among science, policy, society, and the market, to address gaps such as low technological readiness, and a lack of local technology development in the Arab countries.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange

Actors:	**Actors Description:**
• Member States • Other UN system organizations • NGOs • Private sector entities • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large	

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....Staff from three section of SDPD are working on this issue, namely staff from Water Resources Section, Energy Section and the Food and Environment Policies Section.

Financial Investment:........large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ESCWA: UN-ESCWA-ETC- Adequate technologies to strengthen the scientific content of critical economic sectors

ESCWA Technology Centre (ETC) was founded in 2009 as a facilitator, advisor and advocate for assisting member countries in strengthening their capabilities: to develop and manage national science, technology and innovation (STI) systems; to determine the suitable technology for the region and to facilitate its development and to enhance the technological and scientific knowledge content of major economic sectors in member States.

Several activities were identified to mainstream sustainable development goals into regional and national policy processes, including appropriate technology transfer.

1- Typology of Green Technology for Sustainable Development with emphasis on climate resilient technologies

2- Local Technology Opportunities in Sustainable Development for local Waste Management

3- Investment Match on Nanotech for Desalination &Renewable Energy

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Advocacy

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Private sector entities • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Targeted group(s)	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN/OCHA: Advocacy for increased access to digital identification

More than 1.5 billion people lack access to recognized proof of identity, making it difficult or impossible to open bank accounts, apply for Government services, or receive cash and other assistance during humanitarian emergencies. Humanitarian organizations have different systems for identifying beneficiaries, but these are rarely of use outside the specific project context.

Efforts are being made by a number of actors to ensure that crisis-affected people have access to identification that can be used to access multiple services and remains relevant and recognized over time. As part of our advocacy to increase the use of digital payments in emergencies, OCHA is working with partners including NGOs, humanitarian organizations, and the private sector to develop advocacy supporting increased access to digital identification that is secure, durable and open-source.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Foundations - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Staff of your organization - Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN/OCHA: Centre for Humanitarian Data, Humanitarian Data Exchange, and Humanitarian Exchange Language

OCHA is establishing a Centre for Humanitarian Data in the Netherlands for an initial three year period, from 2017-2019. The Centre's mission is to increase the use and impact of data in the humanitarian sector. The vision is to create a future where all people involved in a humanitarian situation have access to the data they need, when and how they need it, to make responsible and informed decisions. The Centre is focused on four work areas: 1) data services; 2) data literacy; 3) data policy; and 4) network engagement.

The Centre's data services work includes direct management of the Humanitarian Data Exchange (HDX), OCHA's open platform for sharing data from a range of partners and across multiple crises. HDX was launched in July 2014 with the goal of making humanitarian data easy to find and use for analysis. Since this launch, over 280 organisations from the United Nations, governments, donor technical agencies, the Red Cross and Red Crescent movement, international and local NGOs, academia and the private sector have shared over 4,600 datasets covering multiple locations and sectors on HDX. HDX has been particularly successful at increasing the impact of data during large emergencies such as the West Africa Ebola outbreak in 2014, the Nepal earthquake of 2015 and Hurricane Matthew in 2016. HDX has worked with data contributors in these and other contexts to promote shared situational understanding through data visualisation.

The Centre is also focused on gaining adoption of data standards, including for the Humanitarian Exchange Language (HXL) and the International Aid Transparency Initiative (IATI). The Humanitarian Exchange Language (HXL) is a data standard designed to improve information sharing during a humanitarian crisis without adding extra reporting burdens. The HXL standard is simple enough to fit on a postcard yet powerful enough to enable the inter-operable sharing of spreadsheet based datasets that are ubiquitous in humanitarian information management. The standard makes innovative use of a set of #hashtags to standardise the data contained in spreadsheets.

The Centre offers support for custom data visualizations to partners that share data through HDX.

The data literacy work stream is focused on increasing the capability of people to access and use data in support of humanitarian efforts. The Centre will offer in-person and remote training programmes for technical and non-technical users of data. The Centre will also manage a Data Fellows Programme that will place data experts within partner organizations and OCHA offices to work alongside staff to build capacity.

URL: https://centre.humdata.org/, https://data.humdata.org/, http://hxlstandard.org/
Domain: data-related issues (privacy, openness, access, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN/OCHA: Community Engagement in the Network Age (Humanitarian ICT Forum follow-up)

More than 2.7 billion people – almost 40% of the world's population – are active users of social media. Social media is now the primary mechanism through which millions of people communicate with loved ones, access news and information, and reach out for help. Humanitarian responders must therefore understand how to communicate with affected people through social media, and they must learn how to use insights from social media to shape and improve humanitarian responses. In the coming months, OCHA will support our partners in convening a series of consultations that will result in a "best practices" guide to social media for humanitarian responders.

Machine translation has become increasingly sophisticated. Google Translate can now seamlessly translate between more than 100 language pairs, and Microsoft's Skype can translate live speech in real-time. When disaster strikes, affected people need to be able to obtain life-saving information about emergency services in language they understand. During the Humanitarian ICT Forum, technology partners and translation experts agreed to develop a "common humanitarian translation dataset" to facilitate communications between affected people and humanitarian responders in high-risk countries.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN/OCHA: Connecting Business initiative

The Connecting Business initiative (CBi) engages the private sector strategically and holistically before, during and after emergencies, increasing the scale and effectiveness of the response in a coordinated manner. It is demand-driven, responds to needs on the ground and puts affected individuals and communities at the center.

While governments maintain the overall responsibility for responding to humanitarian emergencies, local communities and private sector networks also play crucial roles in disaster risk reduction, emergency preparedness, response and recovery. The Connecting Business initiative strengthens and supports those private sector networks. The Connecting Business initiative was launched at the World Humanitarian Summit in May 2016 and takes forward the Summit outcomes, as well as the 2030 Development Agenda and the Sendai Framework for Disaster Risk Reduction. The initiative is operated by a secretariat and governed by an

Executive Committee. Operational and technical support is provided by United Nations Development Programme and the United Nations Office for the Coordination of Humanitarian Affairs while the United Nations Office for Disaster Risk Reduction is providing technical advice on disaster risk reduction. Special emphasis is being placed on ensuring that telecommunications networks are made resilient and can recover quickly after an emergency to aid humanitarian response.

URL: www.connectingbusinessinitiative.org
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of
                  programmes / provision of services to beneficiaries)

Outputs:
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)
        Explanation: ....Funded through private sector and others including member states
                          under a UNDP administered project.

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date): Jul-05

UN/OCHA: Coordination of digital cash payments

Cash-based humanitarian assistance is scaling up in line with Grand Bargain commitments and with the Secretary-General's guidance to use cash-based programming as the preferred and default method of support. As part of this scale-up, digital cash transfers are becoming a more widespread mode of providing support to crisis-affected people. To ensure that humanitarian actors have access to the best products, services and technologies for delivering cash through digital channels, scope exists for the public and private sectors to scale their collaboration to effectively deliver payments in humanitarian contexts. To optimize the efficiency and impact of cash transfers, humanitarian actors need – in many cases – to harness the technology and expertise of private sector partners to deliver cash transfers quickly and efficiently, including in challenging environments, linking poor and often remote beneficiaries into a financial system that can deliver assistance over time. As the entity charged with coordinating humanitarian action. OCHA has a key role in facilitating this dialogue between humanitarian actors and the private sector around digital payments. This work is in its early stages but has included to date:

1) Playing a major role in the development of both the USAID-led Barcelona Principles and the World Economic Principles on digital cash

2) Developing guidance for country-based cash focal points on how to facilitate efficient and principled engagement between humanitarian actors and financial service/ mobile money providers

3) Convening humanitarian actors and technology and communications partners at the Humanitarian ICT Forum in May 2017 to explore improved joint working on emergency cash distribution

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Digital payments
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	Actors Description:
• Other UN system organizations • Private sector entities	

Beneficiaries:

- Public-at-large
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:
Crisis-affected people are better served through improved digital cash solutions. Other UN agencies and NGOs benefit from improved choice of partners and services and lower transfer fees.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is...........................ongoing (with no set end date)

UN/OCHA: Global Humanitarian Innovation Lab

Launched on the margins of the World Humanitarian Summit in Istanbul in May 2016, the Global Humanitarian Innovation Lab (GHL) is a partnership dedicated to addressing common humanitarian challenges through accelerating humanitarian innovation. It aims at bringing together the academic and scientific world, the private sector, humanitarian organizations and governments with disaster-affected populations in order to find ways to accelerate the development and launch of promising solutions through a bottom-up approach; foster a process to forecast and chart the coming challenges faced by the humanitarian sector; and ultimately, facilitate coordination between humanitarian agencies and breaking through politics, bureaucracy, and silos. Together with the Swiss and Australian governments, UNHCR, ICRC, WFP, Handicap International, and Terre des Hommes, OCHA is one of the founding partners of the GHL.

Projects currently under development: (1) mobile health diagnostic kit and mobile health electronic system architecture; (2) smartphone application to facilitate the collection of micro-donations; (3) on-site DNA test to help reduce the spread of infectious diseases; (4) machine learning for the design of maps for humanitarians; (5) 3D printing of orthopedic prosthetics; (5) use of technology to improve collection of humanitarian data and financing.

URL: www.globalhumanitarianlab.org
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States • Other UN system organizations • NGOs • Private sector entities • Academia • Scientific community • Other: crisis-affected populations	

Beneficiaries:
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

    Explanation: ....In principle, the annual contribution for GHL founding members was set at USD 100,000 per year. In view of the fact that some of the interdisciplinary pillars of the GHL work plan are not applicable to OCHA, we are in the process of renegotiating our contribution.

Timeline:

Work on activity began:...between 6 months and 1 year ago

Work is...........................ongoing (with no set end date)

UN/OCHA: Humanitarian Programme Cycle (HPC) Tools - HPC.tools

HPC.tools are the information services provided by OCHA which enable the humanitarian community to collect and manage the structured information around the humanitarian programme cycle (HPC): needs indicators, strategic and cluster plan frameworks, response indicators, caseloads, activities and projects, 3Ws, and financial data. They support the cycle at all stages: identification of needs; strategic, cluster-level and project planning; periodic monitoring; presence mapping and financial tracking.

Older versions of some of these tools exist, such as OPS and FTS. However, these were developed as stand-alone utilities some time ago. They have not kept pace with advances in technology and are not sufficiently user-friendly or flexible to be easily adapted to newer ways of planning for, implementing and monitoring humanitarian action. HPC.tools are a wholesale transformation of these systems into a modern, fit-for-purpose suite of interconnected services – modular and adaptable to all contexts and capacities – which don't just facilitate the management and sharing of data, but 'join the dots' through a common data architecture.

These explicit connections from needs to plans to results, from activities to projects to funding, will transform strategic and operational decision-making for all partners. Through them, OCHA can provide accurate, reliable, up-to-date information to global stakeholders including donors, agencies, implementers as well as the affected people. They will improve the way the entire community works together to deliver coordinated action.

URL: http://plan.hpc.tools, http://ir.hpc.tools, http://assessments.hpc.tools, http://fts.unocha.org

Domain: data-related issues (privacy, openness, access, etc.)

Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

    Explanation: ....The HPC.tools project is supported by 3 full time staff working closely with substantive experts within the OCHA PSB Branch.

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago

Work is...........................in-progress (specify expected completion date): End of 2017

UN/OCHA: Humanitarian Standards for the Deployment of Technology (Humanitarian ICT Forum follow-up)

The humanitarian community relies on the Core Humanitarian Standard on Quality and Accountability and similar guidance to ensure that aid is delivered in a principled, ethical, and accountable way. However, though technology has become a core part of humanitarian operations, there is currently no comprehensive guidance on the ethical deployment of technology and use of beneficiary data. Humanitarian organizations urgently require updated principles and guidance to address issues raised by the use of modern technology in humanitarian response. OCHA is committed to working with a wide range of stakeholders to draft updated ethical guidance for humanitarians.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:

- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	

Beneficiaries:	**Beneficiaries Description:**

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN/OCHA: KoBoToolbox

Rapid and reliable assessments are crucial to inform humanitarian action during sudden onset emergencies (e.g. needs assessments) and protracted crises. Humanitarian decision-making, however is hampered by ineffective approaches to data collection – often fragmented and uncoordinated, lacking standards, offering limited metadata or data sharing, and bogged down by slow data entry and limited data analysis capacities.

KoBoToolbox aims to improve the accuracy and timeliness of information on humanitarian needs, to decrease the fragmentation of information by providing a mobile data collection tool to all humanitarian actors to support the implementation of coordinated assessment in emergencies, and to provide a user friendly tool that is adaptable to specific needs, and simple enough for non-technically skilled persons.

The platform promotes common technical standards to replace the fragmentation of tools and associated skills by supporting the creation, distribution and sharing of libraries of reusable questions and indicators, linking assessments to the Humanitarian Programme Cycle (HPC) and promoting data sharing by integrating standards for data exchange among platforms. In doing so, it improves the coordination of needs assessments even in the absence of a formalized joint approaches.

The adaptation of KoBoToolbox for humanitarian use is a joint initiative between OCHA and the Harvard Humanitarian Initiative (HHI).

URL: http://www.kobotoolbox.org, http://kc.humanitarianresponse.info
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:
KoBoToolbox is free and accessible for use to all humanitarians, agencies, researchers and the general public.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
  Explanation: ....KoBoToolbox is supported by one staff who also manages other projects.

Financial Investment: ....not applicable
  Explanation: ....The project is fully funded via external grants from donors primarily OFDA and Germany as well as earmarked contributions from other UN agencies.

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/OCHA: Support to Emergency Connectivity Initiatives (Humanitarian ICT Forum follow-up)

Crisis-affected people, as well as humanitarian responders, now rely on access to voice and data networks to communicate, seek assistance and provide feedback on humanitarian operations. The standard operating procedures for humanitarian planning and response must ensure that crisis-affected communities have access to emergency communications connectivity. OCHA is working with the Emergency Telecommunications Cluster and partners in the satellite and mobile phone industries to support resiliency planning in high-risk countries, and to ensure that access to phone and data networks is restored as quickly as possible following any conflict or natural disaster. Among other activities, OCHA has supported the drafting and adoption of the Humanitarian Connectivity Charter, an agreement signed by OCHA and more than 100 mobile network operators in 75 countries to support access to communication and information for those affected by conflict and natural disaster. We are also supporting a similar agreement within the satellite industry known as the Crisis Connectivity Charter.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities

Actors Description:

Beneficiaries:	**Beneficiaries Description:**

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ODA: Development of an online training course on cybersecurity at the policy level

Five Groups of Governmental Experts on developments in the field of ICTs in the context of international security have been held since 2004. The cumulative assessments and recommendations in these reports will be developed into an online training course to be made available to all UN Member States. This is an XB project.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
• Training/Capacity Building Programme

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation:...............XB funding of USD 186,000. Approval just received from donor.

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): end of 2018

UN/ODA: Developments in the field of science and technology with impacts for international peace and security

ODA maintains a watching brief on emerging technologies with dual use applications, providing advice and analysis to the High Representative and Secretary-General as necessary. Examples of technological advances and areas of active scientific research with likely military applications and implications for peace and security include: additive manufacturing, aerospace technology, artificial intelligence, directed energy, materials science, nanotechnology, robotics and synthetic biology.

In December 2016, the Fifth Review Conference of the Convention on Certain Conventional Weapons decided to hold an informal discussion on how developments in the field of science and technology relevant to the Convention may be addressed under the Convention at the 2017 meeting of High Contracting Parties to be held in November.

In 1988, the General Assembly adopted resolution 43/77 on scientific and technological developments and their impact on international security, tasking the Secretary-General with submitting a report on the topic to the General Assembly (A/45/568). The report was informed by a group of governmental experts. It covered nuclear technology, space technology, materials technology, information technology and biotechnology. The last substantive resolution on the topic (A/RES/61/55) urged Member States to undertake multilateral negotiations to establish guidelines for international transfers of dual-use technologies with military applications. Since then, the First Committee has kept the item on its agenda but not taken any other action on the topic.

The risks posed by emerging technology to the proliferation of weapons of mass destruction to non-state actors, including terrorist groups, has been addressed by the UN Security Council resolution 1540 (2004) Committee, including during the second comprehensive review of the resolution, finalised in December 2016. The Committee's Group of Experts maintains an ad hoc watching brief on these issues.

URL: https://www.un.org/disarmament/topics/scienceandtechnology/
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• NGOs	
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is.............................ongoing (with no set end date)

UN/ODA: Group of Governmental Experts on developments in the field of ICTs in the context of International Security

Group of 25 Experts from Member States studying the following issues on the use of ICTs in accordance with GA mandate: Existing and potential threats; the application of International Law; voluntary norms of responsible State behaviour, confidence building and capacity building measures. Report will be submitted to the GA at forthcoming session (A/RES/70/237).

Supplemental Information:
UNODA's role is to act as the Secretariat of the Group, and to implement any recommendations if mandated. 23 July was the date of submission of the report. This has since been extended to allow for the Chair of the Group to undertake further consultations. The Chair has now concluded his work and there is no consensus report adopted at this time. A further Group may be established via a GA resolution at the 72nd session.

URL: https://www.un.org/disarmament/topics/informationsecurity/
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Intergovernmental Meeting

Actors:	**Actors Description:**
• Member States	

Beneficiaries:	**Beneficiaries Description:**
• government	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Jul-17

UN/ODA: Lethal autonomous weapon systems

The High Contracting Parties to the Convention on Certain Conventional Weapons (CCW) have convened three informal meetings of experts on LAWS, in May 2014, April 2015 and April 2016, to discuss questions related to emerging LAWS technologies in the context of the objectives and purposes of the Convention. The Fifth Review Conference of the CCW in December 2016 decided to establish an open-ended Group of Governmental Experts (GGE) to formalise consideration of LAWS in 2017.

The CCW Implementation Support Unit provides secretariat and substantive support to CCW meetings, with some substantive support from ODA in New York. ODA is also coordinating an occasional paper on LAWS to inform the CCW deliberations.

URL:
> http://www.unog.ch/80256EE600585943/(httpPages)/8FA3C2562A60FF81C1 257CE600393DF6?OpenDocument

Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
- Member States - NGOs - Private sector entities - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/ODA: Secretary-General's report on developments in the field of ICTs in the context of International Security

Per GA resolution 71/28, States are requested to provide annual views on

 (a) General appreciation of the issues of information security;

 (b) Efforts taken at the national level to strengthen information security and promote international cooperation in this field;

 (c) The content of the concepts aimed at strengthening the security of global information and telecommunications systems;

 (d) Possible measures that could be taken by the international community to strengthen information security at the global level;

URL: https://www.un.org/disarmament/topics/informationsecurity/
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Other: Secretary-General's report

Actors:	**Actors Description:**
• Member States	

Beneficiaries:	**Beneficiaries Description:**
• government	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Submission of
report in July 2017

UN/OICT: Analytics Platforms for data-driven decision making

Services comprise of the following elements

- Provide cross-platform data to create better insights for decision making

- Develop innovative dashboard-type data visualizations for faster access to operational indicators

- Provide advanced analytics platforms for new ways to visualize information

- Introduce new technologies to automate data analysis, such as machine learning and natural language processing, targeting the provision of predictive and prescriptive data models

- Aggregate and analyze big data from internal UN sources and external media

- Provide mechanisms for improved access to and sharing of data across the UN

- Develop governance around the provision of analytics services

- Promote and enable self-service analytics

Supplemental Information:
Analytics platforms we provide are already making use of artificial intelligence, in particular machine learning.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Intergovernmental Meeting
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN/OICT: Data Analytics for Socioeconomic Affairs

Data Analytics projects for Socioeconomic Affairs. Examples include am interactive data visualisation for the annual report on Gender Statistics as a new way to engage readers and increase understanding of the issues

OICT undertook a project in collaboration with an academic institution and a pritave sector entity to build a model for electrification for Africa and South America which utilises advanced analytics and artificial intelligence techniques. In addition, a project to support member states in determining the optimal energy configuration for their conuntries directly supported multiple goals of the SDGs.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Other: technical tools

Actors:	Actors Description:
• Other UN system organizations • Private sector entities • Academia • Scientific community	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................complete (no further action to be taken)

UN/OICT: Data Analytics Pipeline / Analytics Workflow Engine

Work on a "data analytics pipeline" that provides generic tools to create data analytics products. It allows ingestion of data from Social Media platforms, News media, web pages, databases, video, images and text files, and allows manipulation of the data to draw analytical conclusions. Early products envisioned include social media monitoring tools (eg "message analysis" for effectiveness of UN campaigns) and news monitoring tools.

Supplemental Information:
Tools include Machine learning (ML), Natural language processing (NLP) techniques such as Sentiment Analysis, Voice recognition.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Support to Programme/Project Implementation
- Informational Website
- Other: technical tools

Actors:	Actors Description:
• NGOs	

Beneficiaries:	Beneficiaries Description:
• Public-at-large	
• Staff of your organization	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN/OICT: Data privacy policy

This activity, led by UN Global Pulse and OICT aims at creating a policy for the treatment of data: its collection, processing, analysis, publication and sharing by UN entities. A working group composed of 20+ offices and departments in the UN secretariat, agencies fund and programs has been established. It is expected that the first draft of the normative policies will be completed in the fall of 2017.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy
- Other: technical tools

Actors:	**Actors Description:**
• Other UN system organizations	

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................N/A Dec-17

UN/OICT: Digital Blue Helmets

As part of its strategy to ensure a modern and responsive ICT environment that supports the core work of the United Nations, the Office of Information and Communications Technology (OICT) is leading efforts to build capacity, strengthen coordination and foster collaboration to enhance cybersecurity preparedness, resilience and response. In partnership with other United Nations entities, the Digital Blue Helmets (DBH) programme amplifies the cyber expertise and perspectives of the United Nations.

The programme serves as a common platform for rapid information exchange and better coordination of protective and defensive measures against cyber threats to the United Nations, and aligns the Organization's cyber operations and cybersecurity policy, frameworks and legal activities. Ultimately the programme will support the United Nations' efforts in the areas of peace and security, sustainable development, international law, human rights and humanitarian though coordinated policy development, monitoring, response and mitigation strategies.

URL: https://unite.un.org/digitalbluehelmets
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Other: Technical expertise related to cyberthreats and its impact on UN mandates.

Actors:	**Actors Description:**
- Other UN system organizations - Private sector entities - Other: Office of Information and Communication Technology	Partnership with private sector and universities is foreseen in areas where the UN may benefit from external expertise.

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Staff of your organization - Other UN system entities	

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....Operations have started in UNHQ with a team of 8 FTEs. The replication of the setup in UNHQ in other duty stations is foreseen to ensure global coverage.

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN/OICT: ID2020

The ID2020 "Platform for Change" Summit will spread awareness of the challenges faced by those living without recognized identification, explore the role of identity as a platform for social and economic opportunity, and move towards development of a coordinated roadmap for action.

The format of the event encouraged multi stakeholder participation, ensuring that technology development is informed by the needs of individuals and organizations, that policies and standards reflect the latest technological innovations, and that solutions can be scaled.

This is an ongoing relationship with Microsoft and Accenture as well as other partners

URL: Id2020.org
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- Other UN system organizations
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:
Microsoft, Accenture, ID2020, Gavi, Price Waterhouse Cooper

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................ongoing (with no set end date)

UN/OICT: Prototyping of Emerging technologies

Software prototypes of tools using data analytics, natural language processing (NLP), artificial intelligence and machine learning

(ML), Conceptual neworks (knowledge graphs) and visual interfaces (data visualisation) to support of substantive work in the areas of peace and security, international law, human rights, humanitarian affairs and sustainable development.

The use of new technologies is essential to leverage the enormous amount of unstructured data in the United Nations.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: internal support function (including application to operations and management)

Outputs:
- Support to Programme/Project Implementation
- Advocacy
- Other: technical tools

Actors:	**Actors Description:**
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Staff of your organization	
• Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN/OICT: Provision of goPortfolio Software Products to Member States entities

The Office of Information and Communication Technology Enterprise Application Center (EAC-Vienna) Software Products for Member States (SPMS) team provides ICT software services under the umbrella of the digital transformation agenda of the Secretary General and in line with Secretary General Bulletin ST/SGB/2016/11.

In close collaboration with UN Secretariat substantive units and user communities, SPMS is the team responsible to develop sustainable and affordable IT solutions and to make these solutions available to key government institutions of Member States including agencies countering corruption, controlling illicit drugs and combating transnational organized crime, for use in their jurisdictions.

The provision of such solutions is aimed at establishing and strengthening national capacity to gather, analyse and disseminate criminal and financial intelligence, conduct investigations including making mutual legal assistance requests and dealing with incoming requests, conduct and manage prosecutions and regulatory actions, identify track, seize, manage and take recovery and forfeiture actions against criminally-derived and stolen assets at the national and international levels.

goPortfolio key software products built and maintained by EAC-VN and currently operational in more then 80 Member States administrations include:

• goAML (Anti-Money Laundering) system: to provide a strategic response in combating financial crimes including money laundering and terrorist financing.

• goCASE (Case Management) system: used by law enforcement, investigative, prosecution and regulatory agencies to conduct and manage investigations, prosecutions and regulatory actions of any kind.

• goPRS (Public Procurement Review Software): a substantive system that strengthens the monitoring and oversight capabilities of public procurement offices within Member States.

• goINTEL (Intelligence): is a crucial component for establishing a centralized platform for streamlining the identification, prevention and investigation of cross-border criminal and terrorist activities.

• goTRACE: a confidential data matching system which allows a structural comparison of intelligence data contained in the databases of different law enforcement agencies.

• NDS (National Drug Control System): assists Member States in preventing the diversion of controlled drugs into illegal channels.

• PEN Online (Pre-Export Notification System): supports timely exchange of shipment and authorization information between Member States on shipments of chemicals, that could be used for the manufacture of illegal substances.

• I2ES (International Import Export System): allows national competent authorities to exchange import and export authorizations data in real-time, between importing and exporting countries in a safe and secure environment.

URL: unite.un.org/goportfolio
Domain: artificial intelligence (automation, robotics, machine learning, etc.) Financial Crime, Drug control and Terrorism
Function: other – please specify: Provision of UN-built and maintained software products to support and facilitate Member States day-to-day operations in their jurisdiction.

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy
- Other: Key software products above are installed and operational in relevant Member State administration

Actors:
- Member States
- Other UN system organizations
- Other: Office of Information and Communication Technology, Financial Intelligence Units, Competent National Authorities

Actors Description:
The International goAML (unite.un.org/goportfolio) user group formed by high level representatives (Directors of financial Intelligence Units) of 37 Member States Financial Intelligence Units (https://unite.un.org/iugm4).

Beneficiaries:
- government
- Targeted group(s)
- Other: Financial Intelligence Units, entities in various Ministries (Health, Interior, Economy, etc.)

Beneficiaries Description:
Azerbaijan Bangladesh Bermuda Botswana Brunei Cyprus Denmark Kosovo Namibia Jamaica Finland Mauritius Morocco Mozambique Nepal Netherlands New Zealand South Africa Egypt Zimbabwe Liechtenstein Luxembourg Palestine Uganda Germany Tanzania Vatican Angola Ghana Jordan Nairobi Ireland The Cayman Islands Niger Tindad and Tobago Romania Austria Sweden Sri Lanka Monaco Namibia Kuwait

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
  Explanation: ....A core number of ICT experts (UN staff) provide development, support and maintenance for the goPortfolio software products. Today 38 FTEs are supporting 8 different products in operation in more then 80 countries worldwide. Member States entities obtain the software at no costs. They financially contribute yearly to the ongoing support cost of the software they use that is calculated based on a cost recovery model.

Financial Investment:.......large (expenditure $50,000 and above)
  Explanation: ....Funds for the further development, maintenance and support of the goPortfolio products is provided yearly by relevant Member States entity who is using relevant product. All funds are extra budgetary

and are earmarked to the provision of goPortfolio software products.

Timeline:
Work on activity began:...more than 1 year ago
Work is.............................ongoing (with no set end date)

UN/OICT: Research on societal implications of emerging technologies (Autonomous vehicles, AI, Blockchain etc.)

Research on societal implications of emerging technologies (Autonomous vehicles, AI, Blockchain etc.) that results in whitepapers, recommendations for prototyping of tools or sspecific projects. Development of partnerships (Academic, Private Sector) on these issues.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN/OICT: Technology Innovation Briefings

Briefings open to Staff and Delegates on emerging technology issues. 5 briefings planned for mid-2017 in New York; further briefings planned (up to 100) in 2017 /18 in New York, Geneva, Chile and other duty stations. See https://unite.un.org/techevents

The following events are planned as a part of the Technovation initiative:

TechNovation Talks: Bitcoin, Ether, cryptocurrencies and more. Blockchain Technology Explained

TechNovation Talks: Predicting Human Behaviour Through Analysis of Online Conversations

TechNovation Talks: Crowdsourcing & Gamification for Humanitarian Mapping

TechNovation Talks: Innovation - Imagining the Future of Organizations, Cities and Societies

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy
- Other: technical tools

Actors:	**Actors Description:**
• Other UN system organizations • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................ongoing (with no set end date)

UN/OICT: Technology Innovation Labs

In accordance with the ICT Strategy (document A69/517) which was approved by the General Assembly, the UN Office of ICT is indeed planning to establish new "UN Technology Innovation Labs" (UNTIL) in several regional locations: It is expected that Technology Innovation Labs will be established in Europe, Africa and Asia by the end of 2017.

The objective of these new labs is to provide the necessary space for practitioners, creative minds, UN personnel, academia, governments, startup companies and established private sector technology companies to come together to enable the development of new and innovative technologies as well as creative ideas on how to implement the UN mandate through modern technological means. They will serve as a platform for networking, creativity and exchange.

The labs will work in the following types of frontier technologies: Block Chain, Artificial Intelligence, Unmanned Aerial Vehicles / Autonomous Vehicles, 3D Printing, Robotics, Big Data in support of Sentiment Analysis and Algorithmic Engines, Machine Learning and Machine Brain, Geo Spatial Mapping, Augmented and VIrtual Reality, Circular Economy, Autonomous Mobility

These technologies will be applied to peace and security, international law, human rights, humanitarian affairs as well as the sustainable development goalsx

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- UN system-sponsored/organized conference
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia	

Beneficiaries:

- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN/OICT: Unite IDEAS

Unite Ideas is a platform for collaboration between academia, civil society, and the United Nations. It is a place to exchange ideas, learn from one another, and help others by taking on data science and visualization challenges. The solutions to these challenges contribute to better understanding more than 60 years of political and socio-economic history of the world in meaningful ways.

At Unite Ideas the general public can access open source code of the solutions to previously completed challenges. This helps disseminate data science and visualization methods worldwide, and cultivates the depth of expertise in this field. This expertise can be reused by governments and civil society to tackle similar problems in their respective countries.

The United Nations produces a vast amount of information, covering a wide range of subjects in at least 6 official languages, and formats e.g. documents, datasets, and multimedia. Increasingly, this information is being made available to the public as "open data". Unite Ideas is an avenue for the public to discover these datasets so they can be used and explored to support international peace and security, sustainable development, human rights, international law, and humanitarian aid.

URL: Unite.UN.org/ideas
Domain: data-related issues (privacy, openness, access, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia • Scientific community	Internal Displacement Monitoring Center, UNDESA, US State Department, KTH University of Sweden

Beneficiaries:

- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Internal Displacement Monitoring Center, UNDESA, US State Department, KTH University of Sweden

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNCTAD: Intergovernmental Consensus-building on Key Emerging Issues in Science and Technology for Development

UNCTAD provides substantive servicing to the United Nations Commission on Science and Technology for Development (CSTD), the highest intergovernmental advisory body in the United Nations system on science, technology and innovation (STI) for development. The Commission also is the focal point in the system-wide follow-up to the outcomes of the World Summit on the Information Society. http://unctad.org/en/Pages/CSTD.aspx

As part of its mandate on STI for development, the CSTD is a forum to examine the questions around STI and their implication for development; it advances the understanding of STI policies, particularly with respect to developing countries, and it formulates recommendations and guidelines on science and technology matters within the UN system. The examination of the development implications of technological advancements have been at the core of the work of the Commission since its establishment.

The current priority themes of Commission are "The role of science, technology and innovation to increase substantially the share of renewable energy by 2030" and "Building digital competencies to benefit from existing and emerging technologies, with special focus on gender and youth dimensions". The analysis of these issues will be focused on the latest technological advances associated to renewable energies and on the digital capabilities needed to take advantage of emerging technologies such as artificial intelligence, the Internet of Things, and big data. Past priority themes selected by the Commission have addressed the opportunities and challenges offered by STI (including ICTs) and the development implications of a wide range of issues including, massive open online courses (MOOCs), three-dimensional printing and digital automation, renewable energies, smart cities, urbanization, inclusive digital society and strategic foresight, just to mention a few.

CSTD Working Group on Enhanced Cooperation

As part of its mandate related to the implementation of WSIS outcomes, the General Assembly (A/RES/70/125) requested the Chair of CSTD, through the Economic and Social Council, to establish a working group to develop recommendations on how to further implement enhanced cooperation as envisioned in the Tunis Agenda, with the full involvement of all relevant stakeholders. The Working Group will submit a report to CSTD at its twenty-first session in 2018.

URL: http://unctad.org/en/Pages/CSTD.aspx
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:

- government
- Public-at-large

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is.............................ongoing (with no set end date)

UNCTAD: Intergovernmental Group of Experts on E-commerce and the Digital Economy

At the 14th UNCTAD Ministerial, member States decided to establish a new Intergovernmental Expert Group on E-Commerce and the Digital Economy. The first meeting of this expert group will be held in October 2017. The policy focus of the Intergovernmental Group of Experts on E-commerce and the Digital Economy will be on maximizing the development gains from e-commerce and the digital economy, and addressing associated challenges, and thus strengthening its development dimension. It will serve to build a community of digital economy policymakers among developing and developed countries. Sharing of experience among policymakers and with other stakeholders will be central in this context. Discussions on the results of national information and communications technology policy reviews may provide valuable inputs.

Opportunities that may arise for developing countries include reduced transaction costs, better access to customers domestically and abroad, participation in global value chains, enhanced productivity, entrepreneurship, innovation and job creation in the digital sector, possibilities to connect rural and urban markets, benefits for consumers, and new ways to overcome barriers to business development.

Challenges. Challenges for developing countries may include inadequate information and communications technology and industrial infrastructure and use; limited access to energy, unreliable and costly power supply; limited access to credit, lack of appropriate payment solutions; limited access to technology, lack of purchasing power and underdeveloped financial systems; concerns about job losses due to crowding out or automation; deteriorating trade balances; risk of market dominance by some firms; revenue losses; widening digital divides as the digital economy evolves; inadequate legal and regulatory frameworks; reliance on cash in society; and low levels of information and communications technology literacy, awareness and knowledge related to e-commerce among consumers, enterprises and Governments. Barriers can be particularly high for microenterprises and small and medium-sized enterprises.

URL: unctad.org/ict4d
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Academia	The Intergovernmental Group of Experts on E-commerce and the Digital Economy will be composed of government representatives with relevant expertise. Specialized expertise from civil society, the private sector and academia will be invited, as appropriate, for consultative purposes, and will vary according to specific topics and themes. Member States may consider designating a focal point for continuous liaison with the Intergovernmental Group of Experts.

Beneficiaries:	**Beneficiaries Description:**
• government • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)
    Explanation: ....The main costs will be related to travel by resource persons and experts.

Timeline:

Work on activity began:...within the last 6 months
Work is.............................in-progress (specify expected completion date): Preparations underway for first meeting that will take place in October 2017.

UNCTAD: Research and report writing on the impact of robotics on developing countries

The activity is centred on the impact of robotics on developing countries. Looking at the 4th industrial revolution, the main hypothesis of the activity is that introduction of robotics tends to jeopardize inclusive growth in developing countries. Robotics basically raises issues of skill-biased technological change and the associated impacts on between- and within-country inequality.

There is a lot of literature on within-country inequality effects in developed countries - departing from the framework of skill-biased technological change, the main issues are polarization of employment and wage opportunities and the risk that productivity growth exceeds demand growth with ensuing deflationary effects.

In contrast, there is no systematic analysis on the impact on between-country inequality (i.e. catching up) even though there is a frequent mentioning of robotics making industrialization in developing countries more difficult. One way of approaching this issue is through some discussion of what trade theory has to say on how robotics may change the international division of labour and through evidence on re-shoring. One important difference between robotics and earlier technological revolutions is that the middle layer of skill intensity suffers compared to the top and the bottom layers (i.e. it fosters polarization which may mean that it could have a significant adverse impact on middle-income but less so on low-income countries as, at current cost structures, deploying robots in low-income countries or in labour-intensive sectors, such as apparel, is not economically feasible). At the moment, this is probably the most important finding of this activity.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Not applicable	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................in-progress (specify expected completion date): Sep-17

UNCTAD: Trade Logistics

Relevant key work areas include:

UNCTAD research and analytical work, technical assistance and capacity building and consensus building activities aimed to promote sustainable freight transportation including in particular sustainable shipping. Sustainability spans many dimensions, including economic, social and environmental and requires integrating technology as a key enabling factors. A first step in this respect, is raising awareness about technological advances affecting freight transport, including shipping (e.g., automation, Big Data, satellite capabilities and sensor driven technologies affecting transport, Intelligent Transport Systems, unmanned ships and vehicles, clean technologies for transport, e-logistics, blockchain technology, Port Community Systems, etc.). A second step is to improve understanding of their impact and implications for the transport and trade of developing countries and build the capacity and readiness of developing countries to leverage these technologies and address related challenges.

In addition, this year, through its research work as part of the Review of Maritime Transport, UNCTAD is aiming to raise the awareness of and provide policy advice to stakeholders and policymakers in developing countries, on emerging technological challenges and oportunities in maritime shipping, particularly on cybersecurity and related international regulatory aspects.

Technology can also be an essential tool and driver for promoting good governance and transparency in relation to public institutions in line with SDG 16 and in relation to ensuring citizen's and private sector compliance with rules, regulations, norms and standards. An example of this, is UNCTAD's technical assistance and capacity building activities vis-a-vis developing and least developed countries, inter alia with regard to the implementation of the WTO Trade Facilitation agreement, which on the one hand contains a number of transparency, accountability, appeal and review mechanisms obliging Governments, for which UNCTAD offers solutions, such as the UNCTAD eregulations tools, and on the other hand provides for mechanisms for Governments to enhance compliance with rules, regulations, norms and standards in international trade, such as for instance concepts as Single Window and Risk Management, for which UNCTAD offers solutions, inter alia through the ASYCUDA Customs automation system.

URL: Transport and Trade logistics website (http://unctad.org/TTL); Trade Logistics website: http://unctad.org/TLB
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Academia
- Scientific community
- Other: Transport industry, users and providers , financiers

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Other: Transport industry stakeholders, trade and shippers in all countries, in particular developing countries

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

    Explanation: ....No dedicated resources. Work carried out as part of existing resources and as part of other related work in the field of transport

Financial Investment: ....large (expenditure $50,000 and above)

Timeline:

Work on activity began: ...more than 1 year ago

Work is............................ongoing (with no set end date)

UNDP: Data Innovation at UNDP to Monitor and Implement the Agenda 2030

Data Innovation is one of the innovative approaches to meet development challenges that UNDP has been exploring through its Innovation Facility. To date, the work focused on:

• Exploring new sources of data to improve the capacities of national partners, especially National Statistics Offices, and UNDP's programming and monitoring portfolio.

• Developing cost-effective real-time measurements of poverty through analysis of satellite images, electricity consumption and mobile phone use in Sudan; measuring multidimensional poverty with big data in China; measuring public opinion on corruption through sentiment analysis of online media in Tunisia; and enhancing emergency response in Kosovo (under SCR 1244).

• Developing guidance and knowledge products in support of development practitioners. Following six country-level big data experiments, we developed a Guide to Data Innovation in partnership with UN Global Pulse, designed to support development practitioners in the UN and other organizations in their work with new data sources.

• Co-leading the second and fourth UN Data Innovation Lab, together with Global Pulse and with UNICEF requested by the CEB. The 2nd Lab 'Building a Data Strategy' brought together more than 20 UN agencies and private sector partners including Google, Microsoft, Facebook, PWC, and E&Y and resulted in the incubation of six data experiments including a UNDP initiative in Maldives. The 4th Lab 'Making the Invisible Visible' brought together 18 agencies and strengthened capacities on data analytics and machine learning.

Looking ahead, in 2017, with support from the Innovation Facility, here are some innovative initiatives that will test new scalable ways of delivering a development dividend:

- 10 Country offices across Africa, the Arab States, Asia Pacific, Eastern Europe and Central Asia will be testing new sources of data for tier III SDG indicators. These are indicators for which internationally established methodology or standards are not yet available, and data gaps persist.

- An innovative initiative that improves spatial literacy for decision makers to plan, implement and report nature-based actions for SDGs, will be tested

- Rwanda will test how the Internet of Things (IoT) will help them to better manage water resources and climate change; Uruguay will test how social media monitoring can enhance disaster risk reduction and alert vulnerable populations; through UNDP Asia Pacific's iData Studio country offices have taken on the challenge of identifying new data approaches and tools that could unlock development solutions.

URL: UNDP Innovation Facility: undp.org/innovation ; Guide: http://www.undp.org/content/undp/en/home/librarypage/development-impact/a-guide-to-data-innovation-for-development---from-idea-to-proof-/; iData Studio: http://www.asia-pacific.undp.org/content/rbap/e

Domain: data-related issues (privacy, openness, access, etc.)

Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Training/Capacity Building Programme
- Support to Programme/Project Implementation

- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Private sector entities - Foundations - Academia	

Beneficiaries:	**Beneficiaries Description:**
- government - Targeted group(s)	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
  Explanation: ....The UNDP Innovation Facility will be supporting the testing of new scalable data innovation projects. The team and the larger organization does not have dedicated data science expertise available in its cadre.

Financial Investment:.......large (expenditure $50,000 and above)
  Explanation: ....Via the UNDP Innovation Facility, over $450,000 is being invested and another $200,000 is being cost-shared by Country Offices for the 2017 portfolio. Teams across UNDP are further investing funds and talent to test, iterate and scale around data innovation.

Timeline:

Work on activity began:...more than 1 year ago
Work is.............................ongoing (with no set end date)

UNDP: Framing Policies for the Digital Economy: Towards Policy Frameworks in Asia-Pacific

The UNDP Global Centre for Public Service Excellence (GCPSE) has commissioned a study on the digital economy, the related regulatory landscape and emerging policy frameworks in the Asia Pacific region. The aim of the study is in line with GCPSE's mission to find and promote evidence that helps governments in developing countries to galvanize technological innovation for inclusive and equitable development results.

Digital innovation, economic integration, ecommerce, and disruptive technologies (such as distributed ledger technology, nanotechnology, artificial intelligence) are all drivers of what some are calling the Digital Revolution. These trends are moving swiftly, posing challenges to many governments in keeping pace with technological development. This study looks at:

1) The emerging digital economy landscape in a selected number of countries (Viet Nam, Malaysia, and Thailand);

2) The institutional 'tools' these governments use to anticipate, plan and adapt, at a strategic level, to the rapid pace of technological change and its opportunities and challenges;

3) The formal institutional processes the public service organizations use to align broad digital economy strategies with regulation and policy development;

4) The institutional ability of the public service organizations to draw in and collaborate with stakeholders (including the poor and marginalized);

5) The resulting regulatory and policy framework, their impact on inclusive and equitable growth of the digital economy and on other sectors (cross-sectoral impact).

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Academia	

Beneficiaries:

- government
- Public-at-large
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Sep-17

UNDP: International Conference on Disruptive Technologies and the Public Service

The International Conference of Disruptive Technologies and the Public Service primarily seeks to inform the Public Service, such as political and administrative leaders, of the ways in which technology can disrupt lives – for better or worse – and the ways in which they can adapt. Technological literacy could also help leaders to seize the most of emerging technologies and use them to their advantage.

The event will focus on how technology can be disruptive to ways of life we may be accustomed to. The disruption may be positive or negative, but it is an interruption that requires us to adapt and change, and could cause entire industries to shift, rise or fall.

Jointly held by the UNDP Global Centre for Public Service Excellence (GCPSE), the Nanyang Technopreneurship Centre (NTC) and the Centre for Economics and Public Administration Ltd. (CEPA), the event is an even mix of various pertinent expertise and is expected to provide an honest and open environment for clear, in-depth and relevant discussion. In particular, it will provide a forum for sharing experiences of early adopters, identifying alternative policy frameworks and scenarios, and developing roadmaps for the deployment of these technologies to achieve societal and development goals.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Other UN system organizations • NGOs • Private sector entities • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Targeted group(s)	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....This is a joint conference in partnership with NTC, CEPA, and GovInsider.

Financial Investment:.......not applicable

    Explanation: ....We will be calling for sponsorships to cover the cost of running the conference.

Timeline:

Work on activity began:...within the last 6 months

Work is............................in-progress (specify expected completion date): 28 and 29 Sep 2017

UNDP: Public Sector Innovation Labs to Create the Next Generation of Services and Experimental Policy Design

Designing and setting up innovation labs within governments as agile interfaces with the citizens for collaborative and open policymaking. UNDP established Labs in Armenia, Bangladesh, Georgia, fYR Macedonia, and Moldova. In 2016, the UNDP Innovation Facility supported the UNDP Sri Lanka Country Office in setting up a Public Sector Innovation Lab within the Prime Minister's Office.

Government Innovation Labs combine expertise in innovation methods and public sector reform to improve policies and delivery of services to the public. They help governments tackle challenges by expanding the policy makers' toolbox with innovative approaches and emerging technologies. Labs also help governments create better solutions based on citizen feedback and inputs.

The UNDP-supported Labs have incorporated additional approaches, especially data science and behavioral insights. This also extended the scope from public service improvement to policy design and institutional reforms. This includes experimental approaches to policy design, often based on randomized control trials, is gaining prominence. For example, in Moldova, MiLab, our Social Innovation Lab jointly run with UN Women within the Prime Minister's Office, is currently running a randomized control trial to find out what works to drive innovation among small and medium-sized enterprises. The results will inform future public policy.

In Georgia UNDP works to gain better insights into the perspectives of users, i.e. affected communities, to prototype solutions. UNDP worked with government partners on the challenge: How can we redesign emergency services to make them accessible for people with hearing and seeing disabilities? To solve this problem, UNDP brought together policymakers, people with disabilities and activists for three days to jointly develop solutions. The exercise resulted in a redesigned emergency service that has won awards for its inclusiveness. The add-on services include, those with auditory and speech disabilities to reach Emergency Services via sms or using sign language over Skype video. This work also paved the way for Georgia's Innovative Service Lab within the Ministry of Justice.

In Armenia the local UNDP office has Matcheli- a map plots accessible spots for the physically challenged. Launched in September 2016, it involved a 'mapathon' with the community to rethink the accessibility of a city. Together with the community we have been quickly able to map downtown Yerevan. With 50% of the Armenian population based in Yerevan, with Matcheli, we created a valuable resource for an underserved community. We are building problem-solving skills of that community at the same time. We have seen positive spillover effects: Parents with prams, the elderly with restricted motion and tourists with luggage have also become active users of the app.

URL: http://www.undp.org/innovation
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: Through the Public Sector Innovation Labs, UNDP provides direct support for programme delivery, capacity development for new skills, research and thought leadership in creating new ways to deliver services, and convenes partners across diverse sectors t

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation

Actors:
- Member States
- Other UN system organizations
- NGOs
- Private sector entities
- Foundations
- Academia

Actors Description:

Beneficiaries:
- government
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

    Explanation:...............In addition to funding from the UNDP Innovation Facility, Country Offices and Government partners have cost-shared the Public Sector Innovation Labs.

Timeline:

Work on activity began:...more than 1 year ago

Work is............................ongoing (with no set end date)

UNDP: Smart City approaches to building inclusive urban societies

Urbanization since 1996 had been rapid; more people now live in cities, and current global urban population at 54 percent is projected to rise to 70 percent by 2050. Much of this growth is projected to be in Africa and Asia, where rapid urbanization poses challenges particularly to lower-middle- income countries already grappling with economic, social and environmental concerns. Exclusion, lack of access to basic services, safety and security are some of the traditional development challenges that entail distinctive dimensions in the context of cities and rapid urbanization in these and other developing countries.

These urbanization trends however have been accompanied by advancements in information and communications technologies (ICTs) that open opportunities and present new ways for addressing development issues and challenges. Various research show that ICTs have significant impact on economies, governments, societies, and lives. Many see their potential to enable "smart" solutions to various challenges of urbanization in the 21st century.

"Smart" initiatives use ICTs in strategic ways to address urban challenges, help shape the cities of the future, and inform the development of models for the urbanizing global South that are focused on the goals of sustainable development. These "smart" efforts help, among others, to enhance access to and quality of public services (health care, transportation, education, safety, etc.); enhance the efficiencies and effective management of government systems and operations; enable citizen engagement and participation in decision-making processes; empower citizens through access to knowledge and opportunities to improve their own lives; as well as address environmental challenges.

This activity will gather key literature and approaches that will help inform the development of policy guidance on the use of ICTs to build inclusive urban societies. It will seek to shape thinking on "smart cities" also as cities with "smart" governance systems that advance inclusion, participation, transparency and social cohesion.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
- Academia	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNDP: Support to digital identity management

UNDP has supported biometric voter registration in approximately 14 countries in recent years following a national request (including design and procurement of combined hardware/software systems capturing digital thumb prints for biometric enrollment and 'de-duplication' processing) and has recently branched out to support larger national identity register/national ID card schemes support also using similar biometric technology (e.g. Malawi, in particular, but also Honduras, Sierra Leone, Tajikistan, etc.). These schemes raise enormous policy challenges and will require adoption, by UNDP, of innovative technological approaches in the coming years in order for UNDP to provide the most technologically and financially sustainable systems to partner countries that request our support. This innovation should see us explore, with the private technology sector, means to provide remote digital registration (including with the provision of biometric data), remote, digital retrieval of lost documents, use of blockchain in database management, and greater use of different biometrics (e.g. iris, face).

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Biometrics
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Scientific community

Actors Description:
UNHCR, WFP, IOM, UNICEF, World Bank's ID4D programme, ID2020 initiative, ID4Africa forum,

Beneficiaries:	**Beneficiaries Description:**

- government
- Public-at-large

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date):

UNDP: Testing Models of Alternative Finance through the UNDP Innovation Facility

Via the Innovation Facility, UNDP is currently testing 17 innovative approaches to development challenges. Among these emerging new service lines is Alternative Finance.

Alternative finance refers to any non-traditional tool used to raise capital from private or public sources. This involves exploring emerging and alternative sources of financing, such as pay-for-success financing, forecast-based finance, impact investment and crowdfunding.

For example, pay-for-success financing was developed to address systemic issues that led to poor and ineffective services for the most vulnerable and marginalized communities. Many governments struggled to support or encourage innovation in the social arena, and contracts between government and delivery organizations often stifled agility and effectiveness. Pay-for-success financing bridges this divide by making payments conditional on the achievement of predetermined socio-economic outcomes rather than specific outputs. This frees government and social sector organizations to experiment with new innovative programmes, so long as they achieve the intended social outcomes. In Serbia, we are working with Government partners and supported by the Finish Innovation Fund Sitra on designing a Youth Unemployment Bond.

Through advisory support from the Innovation facility, UNDP is:

. Designing a proof of concept for remittance transfers over blockchain in Serbia, together with Aid:Tech, that would be cheaper and target the use of remittances towards specific needs like paying energy or phone bills and purchasing food.

. Designing forecast-based financing mechanisms for the Vrbas basin in Bosnia and Herzegovina, together with the Red Cross-Red Crescent Climate Centre. The aim is to minimize risk and secure funds before a disaster has received sufficient media support and to test the feasibility of attracting new sources of funding (including insurance companies) for community resilience.

. Scanning the horizon for innovations and technologies to better monitor project outcomes for the growing financial resources becoming available via pay-for-success instruments.

UNDP also provides advice on crowdfunding to governments and partners globally; unpacks social finance in Indonesia for the development sector; is creating an Islamic Finance Lab with the Islamic Development Bank; and works with social enterprises and impact investor networks in Eastern Europe, Central Asia, Latin America and Asia-Pacific.

There is an upward trend of these newer sources of funding for development. For example, the European alternative finance market grew by 144% in 2015, the global impact investment market is projected to grow more than US$3 trillion in the coming years, and crowdfunding investments reached US$37 billion in 2015. To put it into perspective, this amount was equal to a third of total ODA totalling US$131 billion in the same year.

URL: http://www.undp.org/innovation
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Member States • Other IGOs / development banks • Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• government • Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is.............................ongoing (with no set end date)

UNEP: Connecting countries to climate technology solutions (technical assistance; capacity building; scalling up international collaboration)

The Climate Technology Centre and Network (CTCN) fosters technology transfer and deployment at the request of developing countries through three core services: technical assistance, capacity building and scaling up international collaboration. Over 100 technology transfers are currently underway in more than 75 countries for sectors ranging from agriculture and energy to industry and transportation.

The Centre is the operational arm of the UNFCCC Technology Mechanism, it is hosted and managed by the United Nations Environment and the United Nations Industrial Development Organization (UNIDO), and supported by more than 300 network partners around the world.

Demand for technology transfer in support achieving of countries national commitments is growing rapidly. Approximately 30% of all incoming mitigation-related requests to CTCN focus on energy efficiency. Among adaptation-related requests for technical assistance, an increasing number of countries are focusing on early warning systems. A growing number of requests include appeals for assistance in catalysing project financing, the consideration of gender is essential too.

For example, Bosnia and Herzegovina committed to introduce renewable energy sources into Banja Luca's district heating system. The energy strategy supported by the CTCN attracted interest from the European Bank for Reconstruction and Development in providing a multi-million dollar investment package for new biomas boilers and other efficiency measures.

Mali committed to promote a green economy with emphasis on climate-smart agriculture and renewable energy. The CTCN helped to identify technologies and private investment opportunities for solar-powered fruit and vegetable drying and storage facilities.

Bhutan committed to promote low-carbon transport through the use of intelligent transport system. The CTCN facilitated capacity building in Thailand so that Bhutan could learn from the experience of Thailand's low-carbon mobility planning and intelligent transport system.

The Climate Technology Centre and the Green Climate Fund embark on new collaboration to support green technology deployment in developing countries as well. In the first such collaboration of its kind, the Governments of Ghana and Tonga will receive Readiness and Preparatory Support from the Green Climate Fund (GCF) for green technology assistance delivered by the Climate Technology Centre & Network (CTCN).

How it works: Countries, working through national representatives, convey their technology requests. The CTCN then mobilizes relevant technology experts from a global network of 300 technology institutions to design and deliver a customized solution. CTCN technology transfer spans numerous countries and technology sectors.

URL: www.ctc-n.org
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme

- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Scientific community

Actors Description:
Nationally Designated Entities - These are technology focal point designated by respective countries under the climate convention.

Network Members : There are over 300 institutions which are network members of CTCN. These are from NGOs, private sector, R and D, public sector etc.

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)
   Explanation: ....The technical assistance request from the countries are supported upto 50,000 USD for quick response and 2,50000 USD for larger responses.

Timeline:
Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Almost 20 completed technical assistance projects; more than 80 ongoing

UNEP: Emerging issues identification, analysis and communication

UN Environment keeps under review the state of the environment and alerts the world to emerging issues in order to facilitate timely and actionable policy responses to address the issues. Some issues may emerge as a result of new scientific findings and understanding of interactions between environmental, social and economic systems; others may be persistent issues for which new approaches and technologies have emerged to equip decision-makers and managers with more practical solutions and tools. Emerging issues may be local, but with a potential to become an issue of regional or global concern if not addressed, or trends that contain (unintentionally) potential threats (e.g. sythentic biology/bioengineering, nuclear warfare, artificial intelligence) UN Environment. Since 2003, UN Environment has been publishing annual reports on emerging issues relevant to the environment. For 2018-2021, further work is programmed in the following areas:

1. Development of an environmental foresight and outlooks knowledge platform that leverages the institutional capacities of countries and institutions in environmental foresight, modeling, simulation, horizon-scanning and scenarios-building, and directly contributes to open access to environmental data and information at global, regional, and national levels, and building upon the data, information and indicators made available by the UN Environment Live platform.

2. Continue the (regional and global) identification, analysis and communication of emerging environmental issues on a yearly basis and provide more in-depth environmental foresight and strategy studies in UN Environment priority areas of pollution, cities, peace and security, green finance and biodiversity/wildlife.

3. Building a global network of stakeholders - the environmental foresight and outlook community at global, regional and national levels

Building a global network of stakeholders - the environment foresight and outlook helps to identify and communicate gaps and opportunities to Member States, and promote the wider use of (emerging) environmental data, information and knowledge for further assessment in and beyond the UN system.

URL: unep.org/yearbook
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Policy or Research Paper/Report/Publication
- Informational Website

Actors:	Actors Description:
• Other UN system organizations	
• Other IGOs / development banks	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**

Beneficiaries:
- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago

Work is............................in-progress (specify expected completion date): This is an ongoing programme presenting 2-8 emerging issues every year. The propopsed foresight platform however is yet to be developed.

UNEP: Leveraging Big Data for sustainable development follow-up and review

Big Data, notably earth observation, is looked into to live up to UN Environment's international commitments to develops and implements methodologies for environment-related Sustainable Development Goals indicators that cannot yet be reported on globally. Upon request, countries will be in their efforts to develop national capacity in environment statistics and reporting mechanism on the environmental dimension of the Sustainable Development Goals. This also includes supporting data sharing between institutions and enhancing the interoperability of geospatial and statistical information. Together this will contribute to the strengthening of government capacity in regions for integrating the environmental dimension (for example biodiversity and ecosystem planning and management) into national strategies for achieving the Sustainable Development Goals, to maximize the potential and avoid fragmentation and duplication in reporting. Synergies will be sought with conventions and other international environment-related data initiatives for tracking progress towards the Goals.

In 2018-2021, the focus on Sustainable Development Goal monitoring will be expanded to contribute to the collective effort and to enhance the management and use of geospatial information, and to strengthen national information systems in a way that contributes to multiple international processes. There is an urgent need for a mechanism, such as a global statistical-spatial framework, to facilitate consistent production and integration of geo-statistical information in the follow-up and review of environmental goals. Integrating statistical and geospatial information is critical for (i) local, sub-national, national, regional, and global decision making processes; and (ii) measuring and monitoring the targets and global indicator framework for the Sustainable Development Goals of the 2030 Agenda for Sustainable Development.

The project will also aim at automatizing the transformation of Earth Observation data into information to support monitoring of Sustainable Development Goals implementation efforts, assessing progress towards achieving the Goals and global environmental monitoring.

UN Environment is currently leading the development of a methodology to measure the extent of water-related ecosystems under Goal 6 with UN-Water. Some work has also been done on developing a low-cost air quality monitoring tool and citizen science. A global monitoring of land cover changes tool will be developed by GRID-Geneva in collaboration with others. Through the UNEP-World Conservation Monitoring Center, which acts as the Secretariat to the Biodiversity Indicators Partnership, UN Environment engages with more than 50 global biodiversity indicators.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- Academia
- Scientific community

Actors Description:

Beneficiaries:

- government
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is...........................in-progress (specify expected completion date): This is an ongoing programme presenting 2-8 emerging issues every year.

UNEP: UN Environment Technology Website

In order to strengthen synergies, improve visibility and coordination of technology related activities across UN Environment, this Technology website was set up with inputs from several colleagues across the organisation. The website is updated regularly.

Through this website:

1.Technology related efforts and achievements made across UN Environment are highlighted.

2.Joint workshops under the Technology Dialogue Series are organised to address issues of common interest and to highlight synergies.

3. Technology for Environment policy briefs are planned to provide analysis and/or recommendations on emerging technology areas to hep put in place better policies for managing the environmental risk of technologies.

4.Did you know Technology Series is planned to communicate the latest developments in Environmentally Sound Technologies, and activities/initiatives carried out across UN Environment.

5. Latest Technology relevant news, publications are highlighted in the News section.

URL: www.unep.org/Technology
Domain: the activity cuts across several science / technology / innovation domains
Function: internal support function (including application to operations and management)

Outputs:
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Informational Website
- Advocacy

Actors:	**Actors Description:**
• Other: UN Environment	Several of these above mentioned actors participate in Technology projects/initiatives or Technology Dialogue series workshops.

Beneficiaries:	**Beneficiaries Description:**
• government • Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................in-progress (specify expected completion date): The Technology website is live but requires regular and timely updates.

UNEP: United for Efficiency

Improving energy efficiency is the fastest, cheapest and cleanest way to get reliable power to more people. Well over half of the world's electricity is consumed by just four products: electric motor systems, lighting, room air conditioners, and residential refrigerators. These products, and the transformers that help get power to them, often waste significant amounts of electricity due to poor designs and improper use. As a result, consumers and business face higher electricity bills, utilities struggle to meet excessive demand for power, governments are burdened with additional economic development challenges, and the planet suffers from worse pollution and greenhouse gas (GHG) emissions.

Most developed countries are well underway in the transition to energy-efficient products. However, many developing and emerging economies are just starting to explore such opportunities. A well-designed set of policies can help transform these markets by enabling them to leapfrog past out-dated technologies to superior, cost-effective alternatives. These technologies are rapidly evolving, so these policies need to be revisited on a regular basis to ensure that they keep up with the pace of change.

United for Efficiency (U4E) is a global initiative launched in 2015 to accelerate such a transition by emerging and developing economies. UN Environment leads U4E, with funding from the Global Environment Facility (GEF) and steadfast support from the UN Development Programme, CLASP, the International Copper Association, the Natural Resources Defense Council, and an array of partners. Participating manufacturers include ABB, Arçelik, BSH Hausgeräte GmbH, Electrolux, MABE, MEGAMAN, Osram, Philips Lighting and Whirlpool Corporation. These companies help ensure that policies are informed by the cutting edge of available technologies. United for Efficiency works under the umbrella of the Sustainable Energy for All initiative, leading the ''Energy Efficiency Accelerators'' of Lighting, Appliances and Equipment.

URL: http://united4efficiency.org/
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNESCO: Artificial Intelligence for Good Global Summit

UNESCO partnered with ITU, the XPRIZE Foundation and other partners in organizing the AI for Good Global Summit in Geneva, 7-9 June, 2017. The Summit aimed to accelerate and advance the development and democratization of AI solutions that can address specific global challenges related to poverty, hunger, health, education, the environment, and others. The Summit provided a neutral platform for government officials, UN agencies, NGO's, industry leaders, and AI experts to discuss the ethical, technical, societal and policy issues related to AI, offer recommendations and guidance, and promote international dialogue and cooperation in support of AI innovation. UNESCO particpated in the plenary session and lead or co-lead four breakthrough groups: Ethical development of AI, Humans and Machines, Education and Promoting Healthier Citizens.

Supplemental Information:
UNESCO was a key partner of the AI for Good Global Summit, held in Geneva, 7-9 June, 2017 and hosted by ITU. UNESCO's Assistant Director-General for Communication and Information, Mr Frank La Rue, participated in the plenary session on the "State of Play of AI," which discussed how recent breakthroughs have driven rapid growth in massive data sets, storage capacity, computing power, and open APIs. UNESCO also co-led three breakthrough groups during the Summit on the Ethical development of AI, Humans and Machines and Education, and participated as a key speaker in the session led by WHO on Promoting Healthier Citizens. The report of the conference will be out shortly. More information is available at: http://www.itu.int/en/ITU-T/AI/Pages/201706-default.aspx

URL: http://www.itu.int/en/ITU-T/AI/Pages/201706-default.aspx
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Advocacy

Actors:	**Actors Description:**
• Other UN system organizations • Other IGOs / development banks • Private sector entities • Academia • Scientific community	

Beneficiaries:

- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...within the last 6 months
Work is............................complete (no further action to be taken)

UNESCO: Biotechnology and nanotechnology

UNESCO had been playing a leading role since the late 1970s in giving a comprehensive world view of biotechnology and in trying to reduce the gap between North and South countries, both in terms of scientific research and know how. Numerous high-level policy debates and capacity building activities have shaped global strategies and use of this technology. The International Basic Sciences Programme (IBSP); UNESCO's Biotechnology Education and Training Centres in India, Pakistan and Nigeria; related UNESCO prizes and awards (such as UNESCO-L'Oreal, etc.); the World Library of Science, which is a free online interactive platform providing access to high quality educational resources in biotechnology; science and technology parks and the UNESCO-Merck Africa Research Summit, are just a few examples of what UNESCO has been delivering upon. In fact, UNESCO is the only organization within the UN system that covers within its mandate the issue of "basic science for biotechnology", capacity building and science education. It therefore provides the vital basis for and complements work done by the FAO (agriculture) and WHO (medical applications). UNESCO is also one of the main UN organisation's that debates the multidisciplinary and multicultural dimensions of biotechnology through its Intergovernmental Bioethics Committee.

Biotechnology, nanotechnology, ICTs and cognitive sciences are all convergent technologies, meaning that they overlap considerably. Since 2011, a UNESCO network has been developing linkages between academia and industry, in order to reorient academia towards problem-solving and remove the barriers between disciplines that currently hinder innovation in the Arab world.

A top priority for the Network for the Expansion of Convergent Technologies in the Arab Region (NECTAR) has been to modernize university curricula, in collaboration with renowned Arab scientists based at universities in the USA and in Egypt, where the majority of specialists in convergent technologies can be found in the Arab region. NECTAR also targets technical colleges, as technicians are the group which gives convergent technologies their manufacturing edge. NECTAR has developed a virtual Higher Industrial Diploma Certificate and a master's degree in Applications of Nano-sciences. Initially, both programmes will be used to train university teaching staff (mainly PhD-holders).

UNESCO's Science Report also provides key information on how nanoscience and nanotechnology are a priority field for today's innovation leaders. UNESCO also has a prize to honor contributions to the development of nanoscience and nanotechnologies: http://en.unesco.org/news/fifth-unesco-medals-contributions-development-nanoscience-and-nanotechnologies-ceremony

URL: http://www.unesco.org/new/en/natural-sciences/science-technology/single-view-sc-policy/news/nanotechnology; http://en.unesco.org/news/fifth-unesco-medals-contributions-development-nanoscience-and-nanotechnologies-ceremony; http://en.unesco.org/themes/buil

Domain: the activity cuts across several science / technology / innovation domains

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme

- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - NGOs - Private sector entities - Foundations - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Other UN system entities	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNESCO: Digital Mapping and Documention Initatives for the protection and promotion of cultural and natural heritage

Over the past months, and as a response to the increasing destruction of cultural heritage sites and looting of cultural objects, notably in Iraq and Syria, but also in Libya and Yemen, a number of initiatives using the latest available digital technology for the protection of cultural heritage in conflict-affected countries have been developed. This includes initiatives on satellite imagery - an important tool to remotely monitor cultural heritage sites in areas physically non-accessible for security reasons – and the digital recording of sites and objects in areas affected by conflict. This is considered as a tool for preservation, to speed up inventorying and to provide a solid baseline for eventual reconstruction. UNESCO is working with partners, such as UNITAR/ UNOSAT, for the monitoring of destructions and damage via satellite imagery in Iraq, Syria, Libya and Yemen. The monitoring would be available on-line through a dedicated platform created by UNOSAT (LiveMap).UNESCO also developed an app for the purpose of rapid damage assessment in Yemen. Three types of forms adapted to three different types of heritage – built heritage, archaeological sites, and museums – are available via an Android application for mobile, tablet, or laptop.

Other examples include UNESCO's work with ICONEM, a Paris-based organization working to create 3D reconstruction of cultural heritage sites, through the use of drones and photogrammetry. This includes 3D documentation of cultural heritage sites projects in Afghanistan, Syria and Iraq. Another example is the Organization's work with CyArk, a non-profit organization with the mission of using new technologies to create a free, 3D online library of the world's cultural heritage sites, and ICOMOS. This includes delivering trainings on 3D digital documentation to document Syria's cultural heritage sites. It is also cooperating with The European Space Agency project on Satellite Services for UNESCO-designated Places, a satellite based observation system for monitoring, safeguarding and enabling the effective management of the World Heritage Sites will also be presented at the 41st session of the World Heritage Committee (Krakow, Poland, 2-12 July 2017), in cooperation with both UNITAR/UNOSAT and ICONEM. Further to these specific examples, UNESCO is expanding its reach with a host of other partners to utilize crowd-sourcing, 3D printing, digital museums and digitization of cultural heritage to protect and promote cultural heritage.

UNESCO's Chair on World Heritage and Biosphere Reserve Observation and Education also uses satellite imagery and all modern techniques including drones to promote the protection, management and awareness of UNESCO designated sites (World Heritage sites, Biosphere Reserves and Geoparks). Aspects of modern environmental research are also linked to issues of environmental and sustainability education.

URL: http://whc.unesco.org/fr/activites/890/; http://whc.unesco.org/fr/evenements/1350/
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Satellite imagergy, apps, 3-D printing
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNESCO: Global ocean observing system (GOOS)

UNESCO's Intergovernmental Oceanographic Commission is leading the Global Ocean Observing System (GOOS) which gives scientists a revolutionary, real-time view of the ocean. The Global Ocean Observing System uses an interconnected system of ocean collection data-collection platforms, including tide gauges, reseach and commerical ships, ocean buoys and an array of robotic Argo floats, which beam data to a series of Jason satellites. It collects real time data on the physical state as well as the biogeochemical profile of the world's oceans and is revolutionizing our understanding of how heat is being stored and transferred throughout the world's oceans. New technology is being tested that will enable Argo floats to be sent to depths of up to 6,000 meteres, allowing scientists to develop an event better understanding of the energy imbalance at the deepest levels of the global oceans. GOOS also includes regional alliances, such as Australia's Integrated Marine Observing System, which provides a wide range of satellite and in situ observations to support marine management services for Australia's iconic Great Barrier Reef, which is also a UNESCO World Heritage Site.

GOOS provides vital knowledge of climate and weather forecasts and serves as the ocean component of the GLobal Climate Observing System, whihc suppport the Intergovernmental Panel on Climate Change (IPCC).

URL: http://www.unesco.org/new/en/natural-sciences/ioc-oceans/sections-and-programmes/ocean-observations-services/global-ocean-observing-system/
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Advocacy

Actors:	Actors Description:
• Member States • Academia • Scientific community	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNESCO: Harnessing ICTs for Achieving Education 2030 and Qingdao Declaration

UNESCO is playing a leading role in supporting Member States to formulate and implement Information and Communication Technologies (ICTs) in education. More than 50 countries have directly benefited from UNESCO's support in policy development and programmes to harness ICTs for education development. UNESCO convened an international conference on ICT and Education 2030 in 2015, and adopted the Qingdao Declaration which provides comprehensive guidelines to Member States on leveraging ICT for achieving SDG4. UNESCO is furthering the development and application of the global ICT in education policy platform for MoE officials (http://www.ictedupolicy.org) ICT in Education Policy Toolkit, ICT Competency Framework for Teachers, and Guidelines on Open Educational Resources. Since 2011, the annual Mobile Learning Week (MLW) has become the flagship ICT in education event of UNESCO. It convenes experts from around the world to share how emerging technologies especially mobile technologies can accelerate learning for all. UNESCO continues to convene international conferences on ICT and SDG 4 and organizes regional Ministerial Forums on ICT in Education in Asia and Africa. UNESCO has been mobilizing funds and leading the pilot test of harnessing ICT for achieving SDG4 in selected number of countries in Africa, Asia, Arabic region, and Latin America and Caribbean region.

URL: http://www.unesco.org/new/en/unesco/themes/icts
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	

Beneficiaries:	**Beneficiaries Description:**

Beneficiaries:

- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNESCO: Network for the Expansion of Converging Technologies in the Arab Region (NECTAR)

Launched by UNESCO's Regional Bureau for Science in the Arab States in Cairo (Egypt) in June 2011, the Network for the Expansion of Converging Technologies in the Arab Region (NECTAR) was born of the realization that Arab countries would only be able to embrace the knowledge economy and sustainable development if they strengthened their capacity for innovation.

By developing a partnership between academia and industry in the field of converging technologies, NECTAR aims to reorient academia towards problem-solving and remove the barriers between disciplines that currently hinder innovation in the Arab world. Nanotechnology, for instance, is at the crossroads of a broad range of disciplines that include biology, chemistry and physics, materials science, engineering and computer science. Nanotechnology is one of the fastest-growing fields in science, with applications ranging from health care to microelectronics, renewable energies and water purification, yet nanotechnology research is still in its infancy in the Arab world.

A top priority for the Network for the Expansion of Convergent Technologies in the Arab Region (NECTAR) has been to modernize university curricula, in collaboration with renowned Arab scientists based at universities in the USA and in Egypt, where the majority of specialists in convergent technologies can be found in the Arab region. NECTAR also targets technical colleges, as technicians are the group which gives convergent technologies their manufacturing edge. NECTAR has developed a virtual Higher Industrial Diploma Certificate and a master's degree in Applications of Nano-sciences. Initially, both programmes will be used to train university teaching staff (mainly PhD-holders).

URL: http://www.unesco.org/new/en/cairo/natural-sciences/basic-and-engineering-sciences/unesco-nectar/

Domain: the activity cuts across several science / technology / innovation domains

Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange
- Advocacy

Actors:	Actors Description:
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:

- Targeted group(s)

Beneficiaries Description:
University Teaching Staff

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNESCO: Satellite-based water quality monitoring

Improving water quality monitoring and data at all levels from basin to national and global is essential to support the achievement of the SDGs, in particular Target 6.3 to improve water quality. Furthermore, comprehensive, accurate and reliable water quality data is essential to support sound policy-making to protect, restore and manage the quality of world's freshwater resources. However, water quality data and information are scarce, or not available, at the global, regional and national levels. The available water quality data and information cover only developed countries. Developing countries—both low-and middle-income—do not have a comprehensive national water quality monitoring network and data system due to lack of technical, human and financial capacities. There is a strong need to improve water quality monitoring and data at the global level using innovative approaches and develop effective data sharing mechanisms accessible to all countries.

Certain water quality parameters (such as chlorophyll, temperature, turbidity/suspended solids, etc.) can be monitored using remote sensing and earth observation (EO) data. The use of EO data provides a valuable tool for monitoring and assessing the quality of water resources especially in developing countries, which lack water quality monitoring networks, as well as technical and human capacity.

UNESCO-IHP International Initiative on Water Quality (IIWQ) implements a range of activities aimed at improving water quality data and information both at the national and global levels to support the SDGs achievement (http://en.unesco.org/waterquality-iiwq). Within the framework of these activities, UNESCO's IIWQ has organized several experts' sessions/meetings on the use of EO and satellite-based information and data in water quality monitoring. UNESCO's IIWQ now aims to develop an EO and satellite-based global water quality information and capacity building tool as the next step. For this purpose, a new project to develop a demonstration pilot on satellite-based water quality monitoring has been recently initiated.

URL: http://en.unesco.org/waterquality-IIWQ/activities-projects/monitoring-water-quality-wastewater
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Informational Website

Actors:	Actors Description:
• Member States • Academia • Scientific community • Other: space agencies/satellite data providers	

Beneficiaries:	**Beneficiaries Description:**

- government
- Public-at-large
- Targeted group(s)
- Other UN system entities

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNESCO: UNESCO Bioethics and Ethics of Science and Technology Programme

Since its involvement in promoting international reflection on the ethics of life sciences in the 1970s, UNESCO continues to build and reinforce linkages among ethicists, scientists, policy-makers, judges, journalists, and civil society to assist Member States in enacting sound and reasoned policies on ethical issues in science and technology. The Organization performs the following major functions: Laboratory of ideas – addressing the emerging ethical challenges by providing an intellectual forum for multidisciplinary, pluralistic and multicultural reflection on ethics of science and technology – via the: International Bioethics Committee (IBC); Intergovernmental Bioethics Committee (IGBC); World Commission on the Ethics of Scientific Knowledge and Technology (COMEST). Standard-setter – pioneering normative action: Universal Declaration on the Human Genome and Human Rights (1997); International Declaration on Human Genetic Data (2003); Universal Declaration on Bioethics and Human Rights (2005); Ongoing discussion on the revision of the 1974 Recommendation on the Status of Scientific Researchers. Clearing house – developing the Global Ethics Observatory (GEObs) – a free global repository of updated information on ethics institutions, experts, legislation, codes of conduct and teaching programmes around the world. Capacity-builder – providing Member States with the necessary tools and technical support for the enhancement of their national ethics infrastructure: Assisting Bioethics Committees (ABC) - assisting Member States to establish National Bioethics Committees (NBCs), training NBCs; Ethics Education Programme (EEP) - deployment of the UNESCO Bioethics Core Curriculum, Ethics Teacher Training Courses (ETTCs), development of new training materials and modules. Catalyst for international cooperation – cooperating with key international stakeholders in the field of ethics of science and technology and fostering coordination among the major actors through the United Nations Inter-Agency Committee on Bioethics.

For 2016-2017, COMEST is currently working on: (i) robotics ethics; and (ii) water ethics (a comprehensive approach bringing together ethical principles for freshwater, coastal regions and ocean, taking into account the latest developments in water technologies). IBC is currently working on: (i) big data and health; and (ii) bioethical response to the situation of refugees.

Supplemental Information:
We provide Member States with the necessary tools and technical support for the enhancement of their national ethics infrastructure: Assisting Bioethics Committees (ABC) - assisting Member States to establish National Bioethics Committees (NBCs), training NBCs; Ethics Education Programme (EEP) - deployment of the UNESCO Bioethics Core Curriculum, Ethics Teacher Training Courses (ETTCs), development of new training materials and modules.

URL: http://en.unesco.org/themes/ethics-science-and-technology
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme

- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Other UN system entities	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNESCO: UNESCO Science Report - Trends and developments in science, technology and innovation policy and governance

For two decades now, the UNESCO Science Report series has been mapping science, technology and innovation (STI) around the world on a regular basis. Since STI do not evolve in a vacuum, this latest edition summarizes the evolution since 2010 against the backdrop of socio-economic, geopolitical and environmental trends that have helped to shape contemporary STI policy and governance.

Written by about 60 experts who are each covering the country or region from which they hail, the UNESCO Science Report: towards 2030 provides more country-level information than ever before. The trends and developments in science, technology and innovation policy and governance between 2009 and mid-2015 described here provide essential baseline information on the concerns and priorities of countries that should orient the implementation and drive the assessment of the 2030 Agenda for Sustainable Development in the years to come.

URL: http://en.unesco.org/unesco_science_report
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNESCO: Using Emerging Technologies for Early Warning Systems and Disaster Risk Reducation

UNESCO promotes scientific exchange and collaborative efforts to establish effective early warning systems for different hazards such as landslides, volcanoes, earthquakes and tsunamis with the use of emerging technologies, such as Global Navigation Satellite Systems, Advanced Cyber Technologies and the use of mobile phone apps. It helps Member States to collectively achieve effective early warning and monitoring helps coordination between existing research centers and educates communities at risk about preparedness measures, including setting up warning and emergency response Standard Operating Procedures and community drill exercises. It also promotes community-based approaches in the development of response plans and awareness campaigns which strongly involve educational institutions and end-users.

As an example, UNESCO's Intergovernmental Oceanographic Commission's cooperation bodies for tsunami warning and mitigation systems are working to identify how high rate, real-time Global Navigation Satellite Systems (GNSS) data can be used to improve earthquake and tsunami detection and assessment. A Task Team on GNSS has been established in the Caribbean and Member States have been encouraged to identify their existing GNSS stations in view of contributing data to the system.

UNESCO is also working to improve Resilience to Emergencies through Advanced Cyber Technologies(I-REACT): I-REACT aims to use social media, smartphones and wearables to improve disaster risk management. It will integrate multiple existing systems and European assets to facilitate early planning of disaster risk reduction activities. I-REACT will be the first European-wide platform to integrate emergency management data coming from multiple sources, including that provided by citizens through social media and crowdsourcing. This way, the system will enable to produce information faster and allow citizens, civil protection services and policymakers to effectively prevent and/or react against natural hazards. The project is led by the Istituto Superiore Mario Boella (ISMB) and involves 20 EU scientific partners from nine countries.

The Organization has also developed a number of mobile phone apps, such as Tanah, a fun action packed game that makes learning about disaster risk reduction actions interesting and engaging for people of all ages has been developed with partners (GPDC, Opendream), with funding from USAID. It is available in English, Bahasa Indonesian and Thai, and Spanish, with additional languages to come. Another example is Sai Fah: The Flood Fighter - the first mobile application developed by UNESCO Bangkok and Opendream, challenged players to learn how to protect themselves and those around them from floods. Sai Fah has been downloaded by nearly 100,000 users in 140 countries in 4 languages: Thai, English, French and Bahasa Indonesian.

URL: http://www.unesco.org/new/en/unesco/themes/pcpd/natural-disaster-risk-reduction/

Domain: the activity cuts across several science / technology / innovation domains

Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Informational Website

- Advocacy

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UNESCO: Water Information Network System (IHP-WINS)

IHP-WINS is the very first platform that provides data on the water cycle in its entirety. The platform is building a repository of, and links to, sources of information from other UN organizations, regional organizations, and national institutions, including UNESCO Category 2 Centres and Chairs specialized in water-related issues.

IHP-WINS consists of three main components, to provide:

1- GIS data on the state of water resources at the global, regional, national and local level, allowing users to visualize and generate maps,

2- A platform for inter-disciplinary collaboration and knowledge sharing among water stakeholders (e.g. databases, reports, graphs, tables, videos, webinars, etc.), and

3- A platform to be used by water stakeholders to build networks (i.e. discussion groups).

URL: http://ihp-wins.unesco.org/
Domain: data-related issues (privacy, openness, access, etc.)
Function: other – please specify: Policy advice (to support policymaking (all levels)), data collection and analysis, convening of stakeholders / partnership building, capacity development / technical assistance.

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Staff of your organization - Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNFCCC: A United Nations unified blockchain data system – taking advantage of proven technology to enhance UN-agencies synergy on sustainable development information.

Blockchain, a distributed database that is used to maintain a continuously growing list of records, has become the world's leading software platform for digital assets with the potential to create new foundations for global economic and social systems. Global companies such as Deloitte, PWC, KPMG, IBM and Microsoft have developed commercial applications based on blockchain technology.

The idea consist on taking advantage of this technology to enhance UN-agencies synergy by capturing, monitoring, tracking and reporting sustainable-development data (SD data), such as SDGs or Certified emission reductions into a common system. A blockchain system will enable the UN, including Parties and its agencies, to have an holistic view of global economic, environmental and social UN action and achieved results.

The benefits associated to this proposal are:

• Synergy and enhancement of efficiency by avoiding double efforts and double-counting

• Optimization of cross-cutting activities and reduction of associated costs

• Enhance transparency

• Data security and tracking and chain-of-custody

• Multiplicative increment of value of global actions with multiples objectives and enhance communications.

• Global class performance monitoring and reporting collectively and individually

• Capacity to face new challenges under a single platform.

In sum, it will help the UN network to harmonizing administrate SD data efficiently towards a common UN goal fit for the future. By storing data across the UN network, the blockchain eliminates the risks that come with data being held in isolation by UN Agencies. Blockchain technology has a large potential to transform UN operating models in the long term.

Currently, some UN agencies have already moved towards adopting blockchain. Some blockchain projects by some of the agencies have the objective of identifying, measuring, tracing and in some cases trading with the correspondent assets. However, this has been done in silos without a sense of coordination across projects and agencies.

As an easy example: It is demonstrated that the value of a climate mitigation action is much higher if this action occurs jointly with several SDGs, but this information could not be combined if different the UN agencies use independent blockchain system. For example, if a unified blockchain data system is adopted a UNFCCC clean development mechanism project for climate change mitigation action can also synergistically and transparently report any other economic, environmental and social co-benefits that are of interest for other UN agencies such as FAO and UNEP under open oversight of parties.

A blockchain platform fit for the future has flexibility to grow in accordance with evolving UN demands. It flexibility to store different units modularly inside their own data blocks will help key actors a global control of all global UN action towards a common goal.

URL:
Domain: blockchain
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States • Other UN system organizations • NGOs • Private sector entities • Foundations • Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNFCCC: Generic online platform allowing the capture and provision of experts' know-how to non-technical beneficiaries

The activity consists of developing a platform made of 2 main web-based interfaces:

=> An administrator's interface used by any subject matter expert to record knowledge and know-how in the form of dynamic and fully editable questionnaires, logical rules, mathematical formulas, data sources, templates of forms and email notifications. The questionnaires are designed to collect information and data from non-technical beneficiaries in order to process them in an automated manner.

=> A beneficiary's interface which exposes the expert's questionnaires to non-technical individuals in the form of surveys. Based on the answers provided by beneficiaries, the platform will provide them with the expert advice applicable to their case. As per needs, the beneficiary's interface will generate and complete relevant forms which can be used by the beneficiary as a report or submission to a third party process.

The platform is designed in a way that it's administrator's interface can be operated by individuals who have Microsoft Excel skills and can structure their knowledge using the user-friendly facilities of the software (expert computer programming knowledge is not required). The beneficiary's interface can be used by anyone who has the ability to respond to online surveys.

Although the UNFCCC is experimenting the online platform in the context of climate change, it can benefit any audiences, as there is no limitation to its application domains. The platform has the potential of serving other innovative systems under consideration by the UNFCCC (e.g. Blockchain-based solutions)

URL: URL is not yet available for the public
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Other: Generic online software

Actors:	**Actors Description:**
- Private sector entities	External vendor selected through a procurement process

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Staff of your organization - Other UN system entities	The online platform can benefit any audiences, as there is no limitation to its application domains. The UNFCCC is experimenting it in the context of climate change.

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)
　　Explanation: ....The delivery of the software involved both UN staff members and an external vendor.

The size of the personnel support required to operate the developed software on a yearly basis depends on the application domain. The personnel support is expected to be mainly made of individuals populating the software with expert know-how.

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....The indicated financial investment corresponds to costs related to develop and release the first version of the software

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................in-progress (specify expected completion date): Sep-17

UNFCCC: Investigating the Potential of Blockchain Technology to Enhance Climate Action

The secretariat will be:

1. Convening (together with partners) key stakeholders to highlight their work related to blockchain technology in the margin of COP23 in Bonn, Germany (side event + booth + hackathon);

2. Enhancing the NAZCA = Non-State Actor Zone for Climate Action platform under the Marrakech Partnership for Global Climate Action;

3. Exploring blockchain applications for corporates to enhance climate action.

The UNFCCC secretariat recognizes the potential of blockchain technology in the combat of climate change. The key aspects are: (i) Transparency; (ii) Cost-effectiveness; (iii) Efficiency; (iv) Stakeholder integration; and (v) Enhanced creation of global public goods (commons).

The UNFCCC secretariat supports initiatives that lead to innovation at the intersection of blockchain and climate change.

Potential applications are: (i) Improved carbon emission trading; (ii) Peer-to-peer renewable energy trading; (iii) Enhanced climate finance flows; (iv) Better tracking and reporting of GHG emissions reduction and avoidance of double counting; (v) Supply chain management; (vi) Land titling; etc

URL: unfccc.int
Domain: blockchain
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Side event at an intergovernmental meeting or conference
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States • Other UN system organizations • NGOs • Private sector entities • Foundations • Academia	Gold Standard Foundation; Cleantech21 Foundation; University ETH Zürich; Government of the Principality of Liechtenstein; INFRAS; and International Association for the Advancement of Innovative Approaches to Global Challenge (IAAI)

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNFCCC: System for Intelligent Negotiations (SIN) - Artificial Intelligence for Decision Making

At present, negotiating binding instruments at the UN meetings (eg. COP or other decision making bodies) can take years to achieve, mainly because the intelligence behind the process - the "Who", "When" and "What" are only known to a few staff in the UN working on that specific topic. When a staff from another UN agency (or another unit within the agency) meets an official (of a party) involved in the negotiations of a binding instrument, they sometimes lack the intelligence required to start making the connections in the right direction - the direction towards which the officials are likely to be inclined.

The proposed system shall be able to take this intelligence by enabling a set of metadata to be created and attached to an activity - this metadata includes details such as - date, time, location etc. Along with metadata the system shall enable the selection of a broad variety of topic that the UN handles in a combination of actors and topics. The actors and topics shall come from each agency with the items they deal with and should be approved by a UN wide reviewer. The UN staff involved in negotiation activities shall then enter and choose the combination of actors and topics from the list provided and "enter" the point of view of the actors on a certain topic.

The Artificial Intelligence part of the system then scans through the list of actors and topics and provisions any UN staff/official performing a negotiation, on a smart phone, all relevant points of view of the actors and topics that they can familiarize themselves with in a very short time, and enable taking the lead on the negotiating table - thereby reducing the need for a meeting prior hand with various other UN staff to gather intelligence to understand the points of views of all actors involved.

The AI system parallely runs in the background to analyze social media details (publicly available) to add inputs on what a certain actor (or party or group of parties) are involved in and in which direction they are moving. For eg. a group of countries willing to support climate change may have launched a new initiative to provide subsidy to people buying solar projects - and have subsequently publicized their initiatives on various social media platforms and the internet.

The SIN system, consolidates all the inputs obtained, from various UN staff in different agencies and match them with standard actors, topics and add inputs from social media to provide a further dimension to enable efficient decision making.

Supplemental Information:
At this stage it is still a proposal. We did a pilot system called SIGNAL (System for Intelligence Gathering and Analysis) which was used to collect intelligence entries, which can later be used for analysis. A more improved system is now being considered by our IT unit, which plans to build a similar full-scale system for generating country profiles. SIN is a system that is intended to be a further improved and much more powerful system as it will use Artificial Intelligence to analyze and validate the entries and provide the information at the right time to the right person – on top of the features of being considered for the time being. Hence, this system is only a proposal at this time and no concrete timeline exists at the moment for this system.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Online Forum/Community/Exchange
- Other: An intelligent system to make predictive policy decisions

Actors:	**Actors Description:**
• Other UN system organizations	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UNFCCC: Using artificial intelligence to build climate resilience

In UNFCCC decision 1/CP.21 para 48 the Conference of the Parties requested the Executive Committee of the Warsaw International Mechanism for Loss and Damage to establish a clearing house for risk transfer. The objective of the clearing house is to serve as a repository for information on insurance and risk transfer that facilitates the efforts of Parties to develop and implement comprehensive risk management strategies. In order to catalyze action to address residual climate impacts, this information needs to be demand driven and based on and linked to comprehensive risk management needs, including processes of risk reduction and adaptation strategies at regional and national levels. In line with the functions of the UNFCCC Warsaw International Mechanism, the clearing house has three main objectives to (1.) Enhance understanding, (2.) Improve policy coherence, (3.) Enhance action and support.

The clearing house project consists of a static component – traditional, knowledge and data based websites – and an interactive part that connects the supply and demand side. The systems / program will connect the querist to the relevant expert / organization / etc. that can answer the question and help build solutions. The system will use artificial intelligence to map the expertise network within the user community and creates a dynamic memory to leverage critical know-how. The neural network will be able to predict the right person to solve the problem within the network by observing past interactions, constant learning, multi-dimensional routing and availability patterns.

The interactive part will be implemented in a partnership with the G7/G20 insurance initiatives and will consist of a web-based application where users can ask questions related to climate risk insurance.

The Paris Agreement sets us on the road towards limiting the global warming to +2 degrees. The adverse effects of climate change will exacerbate and persist beyond current generation, long after net zero-emission will have been achieved under the Paris Agreement. Therefore, while de-carbonization efforts are underway, now is the time to shift gears in managing climate risks – including utilizing emerging technologies -- to ensure vulnerable countries remain resilient to changing climate and attain their aspirations towards sustainable development goals because the well-being of people everywhere depends on it.

Supplemental Information:
9a – The preparatory work (to formulate initial design and concept) for the activity began 6 months ago;

9b – The actual implementation work with the vendor chosen for this activity has not yet begun – as the procurement process is still ongoing.

URL: n/a
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Online Forum/Community/Exchange

Actors:

- Member States
- Other: Intergovernmental initiative

Actors Description:
Germany and InsuResilience Secretariat

Beneficiaries:

- government
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......not applicable
    Explanation: ....To be implemented in partnership with the InsuResilience Secretariat

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNFCCC: Virtual Participation to UN Meetings and Conferences

To identify opportunities for an enhanced and more effective use of virtual meeting technology (VMT) within the secretariat that facilitates building relationships, sharing documents, broadcasting to the public and more.

To provide options for additional efficiency measures for the meetings of constituted bodies and conferences through use of virtual meetings / participation in varying degrees:

o Virtual participation to meetings of constituted bodies;

o Virtual presentation at conferences;

o Webcast/broadcasting of conferences;

o Non-interactive virtual participation at conferences;

o Interactive virtual participation at conferences.

To promote culture and use of virtual meeting technology and roll-out progressively within the secretariat

To establish a virtual participation platform for conference/meeting/workshop platform including the required policies and procedures to monitor and to report on progress

To implement and deploy fit for purpose virtual participation technology solutions that offer more than just seeing the person or event on the other side of the screen: The solutions offer the possibility of reproducing the experience at the conferences and building connected relationships irrespective of distance, sharing documents, archiving information securely and more. The fit for purpose virtual participation which goes beyond standard products will allow UN style floor management that is familiar by the parties including requesting the floor, giving/taking the floor, simultaneous interpretation channels, real-time feed from physical conference/meeting sessions, secure access to sessions, ability for a participant to attend more than one session at the same time.

The goals are:

1. Provide a quality experience for virtual participation

2. Enable smaller delegations to participate remotely

3. Enable participants to securely participate in closed sessions

4. Enable participant to join multiple meetings at the same time

5. Reduce the cost of participation

6. Reduce the footprint of conference emissions

7. Provide the technology to other UN agencies

8. Provide fit for purpose UN participation requirements.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Fit for Purpose Virtual Meeting Technology and Services for UN Conferences/Meetings
Function: other – please specify: UN Style Virtual Meeting Platform and Services for UN Meetings and Conferences

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Interagency Group/Multi-Stakeholder Partnership
- Other: UN Style Virtual Meeting Platform for UN Conferences/Meetings

Actors:	**Actors Description:**
• Member States	Sponsoring and Participating Parties
• Other UN system organizations	and expert groups
• Private sector entities	Cloud Service Provider
	UNFCCC

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	
• Other UN system entities	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
    Explanation: ....Provide technical and logistical support to meetings and
                        conferences; Administrative support

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....Upgrade of technology infrastructure and devices

    Proof-of-concept and build of virtual participation system based on standard products

    Upgrade of meeting room and conference equipment

    Capacity Building, Training of users (facilitators and participants)

    Promotion of culture of virtual meetings (change management)

    Roll-out

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................in-progress (specify expected completion date): Technology,
                  systems and infrastructure 2017; Training and Roll-out to
                  UNFCCC, Constituted Bodies 2017-2018; Roll-out to Conferences
                  2018

UNFPA: Ensuring universal access to reproductive health supplies - global visibility and analytics network (VAN)

UNFPA has been partnering with USAID, the Reproductive Health Supplies Coalition and the Bill and Melinda Gates Foundation in a joint initiative, the Global Visibility and Analytics Network (Global VAN), to ensure better joint visibility into the global demand and supply of reproductive health commodities.

At the core of the undertaking is the establishment of a shared data platform that all agencies, partners, countries, supplier and freight forwarders will be able to connect with, to ensure end-to-end visibility of RH supplies. Once established, this will allow for RH commodities to be visible from the moment they leave the manufacturer to the point where they are ultimately distributed to the recipient. Coupled with the information on unconstrained demand provided by the countries, this will give an unprecedented ability to analyze and plan the distribution of RH commodities, avoid shortfalls and stock-outs, and highlight to donors the impact their funds have in saving lives, and illustrate how additional funds will close the gaps.   Because the platform is shared and visible to all agencies, it will also improve planning at the country level, the coordination with and among the agencies procuring RH commodities, as well as better information for those manufacturing, shipping and receiving the items.

While individual agencies have been coordinating on the supply of RH commodities, there is currently no platform that provides a way for suppliers, shippers and in-country logistics and warehouse management systems to use automated interfaces to share and exchange live data. Using a modern cloud-based architecture, the Global VAN project aims to create a central data hub and interfaces based on the GS1 standard. The Global VAN will allow a vendor to use an automated interface to provide all the data about an upcoming shipment such as item code, description, packaging, batch numbers and expiration dates; have the freight forwarder receive the shipping instructions via automated interface and add container and way-point information; have the central medical warehouse in the country feed this data directly to their logistics management systems and confirm receipt of physical goods by using barcode scanners in the warehouse; and finally pass these data down the chain to local distribution point systems.   The distribution of goods could even be tracked down to each individual unit, assuming that barcode scanners are in place when the items are used in health facilities or handed out to individuals. This flow of information will be overseen by agencies that plan and coordinate the supply of RH commodities, working together with governments and partners using real-time data.

The Global VAN is only achievable through the use of ICT. A modern ICT platform will facilitate a global marketplace and community that promotes a cooperative model of supply chain management. ICT will provide rapid analytics, accurate and up-to-date information, accessible

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange

- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UNFPA: Geospatial population mapping / satellite mapping to ensure that no one will be left behind

New data sources and integration techniques can be used to obviate data holes created by instability and political unrest. One example that demonstrates the potential of ICT in reality is an effort lead by UNFPA to map the population of Afghanistan, whose last census took place in 1979. Since then security concerns have prevented a more recent census or nation-wide household surveys. In order to guarantee efficient and responsible political decisions, the Government of Afghanistan requested the help of the United Nations in estimating its current population. Under the leadership of UNFPA, the United Nations team in Afghanistan is currently providing technical support in collaboration with WorldPop-Flowminder, an organization that collects, aggregates, integrates and analyses anonymous mobile Data, satellite and household survey Data. UNFPA and WorldPop-Flowminder collaborate in Afghanistan to generate maps of the population using an ongoing socio-demographic survey, satellite imagery, other remote sensing data, urban data and GIS statistical modeling. The preliminary results already reveal population density maps, providing highly disaggregated information on the location of people, and a population estimation grid adding precise population counts

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UNFPA: ICT for Youth Sexual and Reproductive Health (SRH) and Empowerment

Rapidly increasing access to information and decision-making via mobile technology presents an opportunity to empower young people to make informed choices to protect their health and to engage in policy discussions that affect their lives, as illustrated by the examples below.

In 2015, UNFPA, in partnership with the Massachusetts Institute of Technology and Reach a Hand, brought together more than 80 people from 17 countries around the world, to participate in our first ever hackathon to create innovative solutions that address sexual and seproductive health challenges. Hack for Youth was a collaborative three-day event where young people, innovators, developers, partners and UNFPA staff rapidly developed mHealth prototypes that promote young people's access to sexual and reproductive health and rights. The hackathon concluded with the selection of the winning solution designed and developed during the three-day workshop, for further refinement and piloting in phase two project.

Two mHealth solutions qualified for additional seed funding and were fully designed by young people who participated in the Hack for Youth hackathon.

The GetIn mobile app enables community health workers and midwives in rural areas to more effective outreach and follow-up with socially and geographically isolated, first-time young mothers, in order to "get them in" early enough to access antenatal care, skilled delivery and postpartum family planning through a simple, easy to use mobile app.

SafePal is designed to support girls and young women ages 12-19 in the urban slum areas of Kampala to report sexual violence in and around schools and other public spaces. SafePal puts the power to report anonymously in the hands of young people, and help to reduce the time gap between reporting and intervention through quick referrals, and real-time data analysis to aid decision-making for stakeholders.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Scientific community	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN-Habitat: "Place- making" to promote better air quality in cities.

Air pollution has emerged as the world's largest single environmental health risk; according to the World Health Organization (WHO), about 7 million people died in 2012 as a result of air pollution exposure. The numbers are expected to continue increasing given the rising indoor and outdoor air pollution levels in many parts of the world, especially the low- and middle-income countries, which are witnessing massive increases in outdoor air pollution levels in their rapidly growing cities. According to WHO, 98% of cities in low- and middle-income countries with more than 100,000 inhabitants do not meet WHO air quality guidelines. An important cause of increasing concentrations of air pollutants in the cities of low- and middle- income countries is an unprecedented increase in vehicular emissions on account of increasing travel demand and rising personal mobility. A transition to greater mode share of public transport and clean technologies combined with better facilities for walking and cycling can reduce the reliance on individual motorised vehicles thereby reducing air pollution. In addition to appropriate infrastructure this requires advocacy on sustainable modes of transport and an enabling regulatory framework.

UN-Habitat in partnership with UN environment and in close collaboration with the Nairobi city government, implemented a "Placemaking week" in the Central Business District of Nairobi. Selected busy streets were closed temporarily to vehicular traffic. Students and youth were involved in painting pedestrian crossings, cycling lanes and artistic renderings; various activities to promote cycling and walking were carried out; a number of temporary kiosks selling refreshments and other items were set-up; a street exhibition on public-transport was organised. Simultaneously with these activities, a "fixed-site affordable air quality monitor (node) was set up in one of the busy streets. The node provided continuous measurements of nitric oxide (NO), nitrogen dioxide (NO_2), sulphur dioxide (SO_2), particulate matter (PM1, PM2.5 and PM10) as well as temperature and relative humidity for three months at high temporal resolution (every minute). In addition to the potential of reducing air pollution through sustainable means of transport, findings point to the role of green public spaces in trapping pollutants, thereby improving air-quality. Overall, the initiative demonstrated how a city can advocate the uptake of sustainable transport modes, promote better streets and public spaces and also implement measures to monitor air pollution. Following up on this example from Nairobi, UN-Habitat proposes to implement similar initiatives in other cities.

URL:
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Scientific community

Actors Description:

Beneficiaries:

- government
- Public-at-large

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UN-Habitat: [ENERGY] Grassroots engineering & DIY slum night lighting: Amplifying low cost solar powered LED diodes with bottle lamps

Training slum dwellers to make their own low power solar nighttime street lights. The technology is an open source innovation that uses fundamental science of optics (based on Snell's Law and total internal reflection) to amplify the light from from small LED diodes (solar powered) with nothing more than bleach and throwaway plastic bottles. This provides critical access to lighting for poor slum dwelling communities who do not have access to night time lighting.

URL:
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
• Other IGOs / development banks • NGOs • Other: Slum dwellers	

Beneficiaries:	**Beneficiaries Description:**
• Public-at-large • Targeted group(s)	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...not yet begun
Work is............................not yet begun

UN-Habitat: [ICT] - Using reverse geocoding to provide hybrid (virtual + real) addresses for slum dwellers to access basic services

"GO CODE" is the underlying georeferencing and geocoding technology which translates all geographic coordinates in the world (specific down to 3.5 square metres) into an easily communicated 9-digit code which each urban settler can use to identify and register their homes. An early stage pilot project in Kolkata, India was successful at providing 20,699 addresses to slum dwellers through an NGO called "Addressing the Unaddressed" which uses this GO-CODE. This has allowed the slum dwellers to register for and access to basic services (utilities like water/energy/postal as well as healthcare and financial services like bank accounts.

Utility companies often have difficulties with registering the slum dwelling end-users of their services, as well as operationally locating and identifying the exact infrastructure for asset management due to the lack of maps and updated geographic coordinates. The proposed activity is to extend this addressing system to utilities and infrastructure providers and support them with processes and systems to identify and tag out their existing asset infrastructure points with the GO CODE coding system.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Big data and geographic information systems (GIS)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
* Training/Capacity Building Programme
* Support to Programme/Project Implementation

Actors:
* Member States
* Other UN system organizations
* Other IGOs / development banks
* NGOs
* Other: slum dwellers, local government and municipalities, utilities and infrastructure service providers

Actors Description:
Addressing the Unaddressed, Global Water Operators Partnerships Alliance (GWOPA) utilities and basic urban services providers.

Beneficiaries:	**Beneficiaries Description:**
• government	Utilities and basic services providers
• Public-at-large	
• Targeted group(s)	
• Other UN system entities	
• Other: Slum dwellers	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................in-progress (specify expected completion date): 2019

UN-Habitat: City-wide public space survey tool

The Public Space Programme of UN-Habitat was created in 2012 and works to develop local public space initiatives (site renewal), city-wide surveys of public space and city-wide strategies. It has developed several new technology tools for supporting its work. They include tools for assessment of public space at city level, through mobile application. The data is collected directly into the database by surveyors and potentially also community members and translated in to GIS analysis and maps for policy makers. Applied in Nairobi, Kenya, this tool has resulted in the survey and assessment of 4,000 public spaces. The survey is being replicated in 4 other cities.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Policy or Research Paper/Report/Publication
- Other: technocal advice and support to decision making at city level

Actors:	Actors Description:
• Member States • NGOs • Private sector entities • Academia • Other: Local , local administrators at sub-municipal level, planning professionals	

Beneficiaries:	Beneficiaries Description:
• government • Targeted group(s) • Staff of your organization	5 cities in developing countries

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)
    Explanation: ....In many instances the tool is applied with support in kind and in cash by the local government involved.

Timeline:
Work on activity began:...N/A
Work is............................ongoing (with no set end date)

UN-Habitat: Critical water infrastructure capacity training for global water utilties and infrastructure providers

UN Habitat chairs and administers the Global Water Operators' Partnerships Alliance (GWOPA) that supports water utilities and water infrastructure operators in the promotion, facilitation and coordination of water and sanitation services. The GWOPA initiative is a leading source for water operators' knowledge and guidance. Under GWOPA, UN-Habitat will undertake capacity development of global water utilities and water infrastructure operators in the area of industrial control systems (like water SCADA systems) of various complexity and age. Capacity building will focus on training water infrastructure and utilities operators on risk management including cyberthreats and emergency operations management, including training water operators to prevent, respond to, recover from, and mitigate risks and threats.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - Private sector entities - Academia - Scientific community - Other: water operators, water utilities and infrastructure service providers	GWOPA's membership ; i.e operators of water supply and sanitation services

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s)	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
    Explanation: ....If scaling is up large personnel support could be required

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...not yet begun
Work is...........................not yet begun

UN-Habitat: Developing National Urban Policies and Smart City Strategies in Three Selected Countries

In order to answer the challenges of urbanization and to capitalize on its opportunities, urban policy and planning now embraces a scope that reaches beyond the traditional city-scale. Managing this change in a sustainable and equitable manner means that planning and policy must now address wider ranging questions, which require a broader approach to urban planning and policy and a higher level of vertical and horizontal coordination of urban policies and actions. This intervention can often be in the form of national or sub national level guidance, or National Urban Policy (NUP) and Sub-national Urban Policy (SUP). Also, to meet the challenges and opportunities of the growing urban and digital society, as New Urban Agenda proposes, it is needed to adopt a smart city approach, which makes use of opportunities from digitalization, clean energy and technologies, as well as innovative transport technologies for environmentally sustainable and resilient urban development. The activities will include the development of Smart City Strategies in three selected countries (Myanmar, Nigeria and Iran) to implement NUP and SUP efficiently.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Advocacy
- Other: National (Sub-national) Smart City Strategy Document

Actors:	**Actors Description:**
• Member States	National (Sub-national) Government
• Private sector entities	
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• Public-at-large	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
   Explanation: ....This activity is funded by the Government of Republic of Korea to support development of Smart City Strategies in three selected countries

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...not yet begun
Work is............................not yet begun

UN-Habitat: Public Space Programme

The Public Space Programme of UN-Habitat was created in 2012 and works to develop local public space initiatives (site renewal), city-wide surveys of public space and city-wide strategies. It has developed several new technology tools for supporting its work including a gaming-based participatory process which uses computer games to allow communities to interact with models of the public space and propose specific content for the renewal project. Such tool has enable community members from all walks of life to discuss and contribute to public space projects definition. This work is well documented and is being evaluated to assess the benefits of gaming-based participatory tools.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) gaming and simulation
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Other: design processes with communities

Actors:	Actors Description:
• Member States	Over 50 cities worldwide and their communities
• NGOs	
• Private sector entities	
• Other: communities, local governments	

Beneficiaries:	Beneficiaries Description:
• government	Local communities (from cities)
• Targeted group(s)	Local Governments (over 50 cities worldwide)

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
　　Explanation: ....The Public Space Programme is staffed with 4 full time staff and several part time consultants at HQ and in the regional offices/country project level. All are extra-budgetary.

Financial Investment: ....large (expenditure $50,000 and above)
　　Explanation: ....Local level projecs are in the order of 50-100k USD each and include community mobilization, site analysis and community consultation as well as actual site specific works.

Timeline:
Work on activity began: ...more than 1 year ago
Work is ....ongoing (with no set end date)

UN-Habitat: Rwanda Smart Cities Masterplan

UN_Habitat Planning and Design Branch in collaboration with Urban Basic Services Branch has developed for the Government of Rwanda a National Smart City Masterplan. The Masterplan produced by UN-Habitat in collaboration, with the Rwanda Ministry of Youth and ICT and the Smart Africa Alliance, was presented by Rwanda's Minister for Youth and ICT, Hon Jean Philbert Nsengimana at the Transform Africa Summit, Kigali on 10 May 2017. The Rwanda Smart City Masterplan will help the Rwandan government use digital and smart city technology to achieve sustainable urban development and help Rwandan Mayors develop their own local smart city strategies and masterplans.

Supplemental Information:
Significant research work and also strategic advice has been involved, this is because UN-Habitat has been requested in this case to directly provide inputs to the President of Rwanda, who is directly involved in promoting this initiative in Rwanda and as the basis for Rwanda leading a regional initiative on this topic.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Other: National policy document

Actors:	Actors Description:
• Member States	Rwanda Ministry of Youth and ICT
• NGOs	Smart Africa Alliance
• Private sector entities	

Beneficiaries:	Beneficiaries Description:
• government	Government of Rwanda
• Public-at-large	Local Government of Rwanda

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....This activity if funded by the Government of Rwanda

Financial Investment:.......small (expenditure less than $10,000)
    Explanation: ....As above

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UN-Habitat: Travel Demand Analysis for planning public transport systems.

Public transport in many developing countries is informal with public transport operators often providing inadequate, irregular, unsafe and expensive services while traffic congestion and air pollution in cities continue to increase. Cities often lack a systematic, evidence-based, and consultative approach to improving public transport. In such circumstances, an analysis of existing travel demand is a very important first step in improving and modernising public transport. In Nairobi and Kampala, under the aegis of a GEF supported project (Promoting Sustainable Transport Solutions for East African Cities), UN-Habitat initiated an innovative approach where students, equipped with GPS enabled smart-phones carried out a survey of existing travel patterns. This formed the basis of a service or operational plan for a demonstration "Bus Rapid Transit" corridor in Nairobi. In Kampala, a similar approach reveled the informal transit patterns (e.g preferred stops, transfer stations, passenger volumes) in the city and provided the basis of a "People's Mobility Map", which is being incorporated into Google Maps. In the short term, this will improve way-finding in the city and in the longer term will lead to better planning of public transport services and provide the basis for planning a modern Bus Rapid System for the city.

URL:
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
* Training/Capacity Building Programme
* Support to Programme/Project Implementation
* Advocacy

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • Private sector entities • Academia	University of Nairobi, Kenya, Makerere University, Kampala, Uganda, Institution of Transportation Development and Policy (ITDP), Kenya National Highways Authority (KENHA), Ministry of Works and Transport, Uganda

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Aug-17

UNHCR: AIS vessel tracking

In the context of mixed migration and the Mediterranean crossings of refugees and migrants attempting to reach Europe, UNHCR once again partnered with UNGP, as well as Marine Traffic, in order to make an exploratory study into the use of AIS data. AIS (automatic identification system) are tracking systems that vessels use in order to among other things, avoid collisions at sea. The majority of commercial and public vessels have AIS turned on 24 hours a day - for obvious reasons. UNHCR wanted to learn from AIS, and the data it produces, in order to better understand the crossings made by refugees and migrants attempting to reach Europe, largely from north Africa, but also the rescue attempts. The study is a first step in turning this data into possibly actionable information, that could better inform safe, legal pathways to Europe.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities • Academia	UN Global Pulse; Marine Traffic

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNHCR: Call data records

UNHCR analyses data from past Call Data Records (CDRs) from cellphone towers to determine displacement, and then to compare this data with humanitarian records on refugee and IDP movement, in West Africa. The project involved partnership with UN Global Pulse, through one of UNHCR's Innovation Fellows.

URL: http://www.unhcr.org/innovation/ifellow-profile-daniel-macguire/
Domain: data-related issues (privacy, openness, access, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................complete (no further action to be taken)

UNHCR: Messenger Bot

UNHCR has been testing messenger bot development and use, together with Facebook, in order to ascertain how best to make use of this particular form of AI now, and into the future. It will be field tested, likely in the Middle East.

Supplemental Information:
Messenger bots are to be used primarily to provide simple answers to questions from refugees and others, on assistance modalities, including cash assistance.

The project has multiple implications when it comes to UNHCR's use, including how it could influence policies around data protection, how it includes an element of staff capacity building, as well as how Innovation reports and communicates around new projects, including documentation, and research papers.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities	Facebook

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s) • Staff of your organization	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNHCR: Meteorological data

Using meteorological data to predict at risk areas for refugees arriving in Europe, and to predict movements of people arriving into Europe. UNHCR partnered with the UK Meteorological Office in 2015-2016 at the height of the Europe Crisis, in order to highlight particularly at risk areas along the so-called route to Europe. Meteorological data and analysis enabled UNHCR to move support to those areas in order to save lives. As the partnership grew, meteorological data was also used to predict the movements of people from Turkey, to the Aegean Islands.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Member States • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s) • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................complete (no further action to be taken)

UNHCR: Predictive Analytics

UNHCR Innovation Service's displacement flow simulation for the Somalia situation is an experimental projects that seeks to predict the outflow and intraflows of populations within and outside of Somalia. It involves inter alia conflict data, meteorological data, economic data, satellite/imagery data, and others, training several algorithms in order to try to predict movements ahead of time. This is a multi-stakeholder partnership with the World Meteorological Organisation, UNOSAT, several private sector entities, and regional climate experts, to date. It will attract and generate more partnerships as it evolves.

Supplemental Information:
Stream – R-programming, and Python system dynamics (SD-Python) are the main tools being used in the displacement flow simulation.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Other UN system organizations • Private sector entities • Academia • Scientific community	

Beneficiaries:	Beneficiaries Description:
• government • Targeted group(s) • Staff of your organization • Other UN system entities	The aim will be for this to be a platform that any organisation can contribute to - it will be white branded, and not 'owned' by UNHCR, but for the good of the international community.

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................ongoing (with no set end date)

UNHCR: Shared Threat Intelligence Platform (STIP)

The STIP is a UN created platform to share threat intelligence, and a shared platform to generate threat intelligence on cyber related threats.

The objective of the STIP initiative is share actionable threat intelligence between participating UN organisations in order to increase the awareness and ability of each organisation to detect and defend against cyberattacks and thereby reduce the risk of information security breaches.

The expectations include:

1. Provide an open and automated platform that enables the UN community to consume and share threat intelligence information.

2. Provide near-real-time access to threat intelligence information to its members

3. Help the UN community to strengthen the threat detection and incident response coordination capabilities and benefiting from early warning of cyber threats.

4. Through the collaboration, reduce the risk of being affected by cyber threats that other community members have already experienced

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- UN system-sponsored/organized conference
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)
  Explanation: ....Although some initial estimates for STIP has been put together, in the long term, the cost will be higher and an arrangement will have to made for proper long term governance and funding of the service.

Timeline:
Work on activity began:...not yet begun
Work is...........................not yet begun

UNHCR: Social media monitoring

Using social media - largely Twitter - to monitor sentiments of host communities towards refugees. This is a project run in partnership with Global Pulse, that began within the Europe Crisis of 2015, and continues on a global level to date.

Supplemental Information:
Crimson Hexagon is the primary tool being used to monitor social media, but the tool is only one part of the project – the use of the data, how it can be used (or not), and how decisions can, or cannot, be made on the basis of this monitoring exercise, are very much a part of the project.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	Actors Description:
• Other UN system organizations	

Beneficiaries:	Beneficiaries Description:
• Public-at-large • Targeted group(s) • Staff of your organization	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
   Explanation: ....Machine learning implies fewer staff, rather than more. In this instance, we have one full time staff member working on this project, and UNGP have also dedicated resources, but more does not mean more.

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNICEF: Child Protection in Emergencies

Primero is a solution developed by the Child Protection Section of Programme Division.

Primero is an open source software platform that helps humanitarian and development workers manage   protection related data, with tools that facilitate case management, incident monitoring and family tracing and reunification. Primero provides intuitive digital forms and clear workflows to assist with documenting case management processes, from identification and registration, to assessment, case planning, referrals and transfers, and case closure. Primero allows users to document events and violations, in order to provide programmes with timely information on risk factors and violation patterns. Individual survivors of violence can then be linked to the services they need. Primero uses sophisticated matching technology to pair tracing requests made by caregivers with records of children registered as separated or unaccompanied. These features are backstopped by a complete case management module to ensure that children receive appropriate care.

The current legacy systems have been in place for over 10 years.

Primero is an integrated solution which contains the following components:

-Case management tool

-Gender Based Violence (GBV)

-Monitoring and Reporting and Mechanism (as mandated by UN Security Council Resolution 16.12)

Where has it been Deployed or Piloted?

Lebanon

GBV implementation

Implementation is being done by a group of Partners

All flavors of deployment

Sierra Leone

Case Management implementation, over 2,000 records already registered

Hosted in Amazon Cloud by the Government with support from UNICEF

Field Tests

Kenya, Jordan and Somalia

Next candidates/locations

Nigeria, Mali, CAR (Central African Republic), Somalia, Myanmar and the Philippines

URL: http://www.primero.org/
Domain: data-related issues (privacy, openness, access, etc.)
Function: other – please specify:

Outputs:
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Other UN system organizations
- NGOs

Actors Description:
Save the Children, International Rescue Committee, Terre de Hommes, UNFPA

Beneficiaries:
- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNICEF: Drones_+ UAVs

Setup of drone corridors in Vanuatu for moving vaccines and Malawi for testing multiple applications:

UNICEF conducted a study in Malawi in early 2016 to assess the feasibility of using drones to transport laboratory samples for early infant diagnosis of HIV, in order to reduce the time between sample collection and delivery of samples to labs. The test, which used simulated samples, explored whether waiting times could be cut dramatically, and if drones could be integrated into the health system alongside others mechanisms such as road transport and SMS.

With support from UNICEF Innovation, the Government of Malawi and UNICEF announced an agreement in December 2016 to create a testing corridor for humanitarian use of drones. The UNICEF drone corridor in Malawi is an opportunity for UNICEF to provide global leadership in the emerging technology field of drones for humanitarian and development work, while simultaneously developing particular local experience in Malawi.

The drone corridor allows partners (private sector and academic) to test drones and unmanned vehicles within a 40km radius around Kisungu airport. This corridor will allow for corporate partners to prototype new technology, and for UNICEF and the Government of Malawi to share the needs of children in situations where drones might help. Through the corridor, UNICEF is positioning itself at the intersection of new markets and vital needs and make a case that companies that have not been historic partners can still be partners in a shared future.

Potential use cases include:

. map out damaged infrastructure after emergencies

. provide connectivity in rural areas

. deliver vital supplies (like vaccines) in places with weak infrastructure

This asset overcomes one of the challenges related to testing drone technology: lacking or restrictive regulation. The drone corridor provides UNICEF and its partners with the permission and a dedicated location to fly and test drones and generate open data on the efficacy of different drone technologies and use cases. Financial investment from the Venture Fund can now be accompanied by a legal space and platform to generate open data.

With an upfront investment in the drone corridor, the Venture Fund anticipates a significant value return through the data generated in the corridor.

URL: www.unicefstories.org/drones
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: other – please specify: multiple

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities	Major aviation companies, smaller drone companies, we are part of the WFP working group, and this is being coordinated as well through the UNIN

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Staff of your organization - Other UN system entities	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UNICEF: eTools

eTools is a product to strengthen efficiency and results in UNICEF country office core work processes: work planning, partnership management and implementation monitoring in development and humanitarian contexts. The primary users of eTools are country office staff and their partners. Regional offices and HQ are secondary users as eTools will provide supplemental features to these users to provide data related to their oversight and technical support responsibilities.

The eTools Project was initiated to respond to the needs of country offices as articulated through consultations and demonstrated by proliferation of office specific development of systems. In absence of a corporate solution, offices had created over 20 custom-built point solutions in order to manage core work processes that were not supported by any of UNICEF's corporate solutions.

Moreover, in a typical year, UNICEF responds to over 250 emergencies or "humanitarian situations" in approximately 80 countries. In these situations, strong performance monitoring is required to ensure a high-quality response, effective management of limited resources, and the ability to measure results for children. This complex humanitarian performance monitoring is carried out largely using manual/paper-based solutions – with advanced spreadsheets/electronic forms in some countries.

UNICEF has decided to develop a single uniform solution, eTools, for all offices to meet these and needs. eTools will be modular in design so that offices can pick and choose as needed as per their specific environment and requirements, i.e., based on country income, office size, humanitarian response/action or emergencies. eTools provides the benefit of integrating work processes for better results based management.

A component of eTools project is to build a multi-agency portal for partnership engagement with civil society organizations (UN Parnter Portal).

eTools is an open source Django/Python/Polymer product with complementary mobile applications that is custom built by UNICEF. The eTools Project is sponsored by DED, Field Results who is supported by a Project Board in carrying out project definition and oversight of project performance. The eTools Project is jointly managed by Field Results Group (FRG) and Information and Communication Technology Division (ICTD).

URL: etoolsinfo.unicef.org
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Other UN system organizations	
• NGOs	
• Private sector entities	

Beneficiaries:
- Staff of your organization
- Other UN system entities
- Other: civil society and govt partners

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date): December 31 2018

UNICEF: Global Kids Online

Global Kids Online is our baseline project aiming to generate broad evidence around children's internet use and online practices, focusing on children between 9 and 17 years old and their parents. It draws on a mixed-methods approach combining qualitative and quantitative data; the Global Kids Online toolkit provides a survey that is partly standardized to allow for comparisons across countries, but is also flexible to accommodate requests or interests from partners or government agencies who need specific data for their policy or programming. Data can be compared across countries to provide regional or global estimates and to explore cross-national similarities and differences. Global Kids Online was piloted in four countries (Argentina, Serbia, South Africa, Philippines) and has since been implemented on a national scale in 7 countries (Bulgaria, Brazil, Chile, Montenegro, Ghana, Uruguay and the Philippines) with more to come in 2018. At this point, the project has collected data from nearly 10,000 children and 5,000 parents.

At the national level, UNICEF Country Offices and academic partners work together to generate and analyse nationally representative data, while the UNICEF Office of Research – Innocenti has a co-ordinating, convening and supporting role. The Global Kids Online steering group, our international board of advisors and country partners formally involve members from over 25 different countries from all major regions of the world. Our key partners are the London School of Economics and the EU Kids Online network.

The national studies so far completed have informed policy advocacy, legislation, awareness raising and consensus building between various stakeholders on the development of national strategies and plans to ensure safe and beneficial internet use for children. As policy makers and practitioners are becoming increasingly aware of the importance of evidence-informed policy, demand for the research carried out under the Global Kids Online project is growing. Global Kids Online provides a unique opportunity for countries to benefit from central co-ordination, sharing of resources and data, technical support provided by a pool of experts, as well as comparison of findings on regional or global levels.

Key outputs for each national project:

1) Evidence on the risks and opportunities of children's internet use and how it impacts their safety and well-being is collected, analyzed and disseminated on national and global levels.

2) Strengthened capacity of national stakeholders to plan, carry out and use research as well as to engage in practice and in research to inform policy development processes.

3) Increased engagement and dialogue with key stakeholders to share findings and encourage policy discussion and change at both national and international level.

4) South-South collaboration and sharing of knowledge, skills, expertise and resources between participating countries is strengthened.

URL: https://www.unicef-irc.org/research/270/ ; http://www.globalkidsonline.net
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

- Principles/Standards/Guidelines/other normative products
- Informational Website
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- NGOs
- Foundations
- Academia
- Scientific community

Actors Description:
UNICEF Ghana, UNICEF Philippines, UNICEF South Africa, UNICEF Montenegro, UNICEF Argentina, UNICEF Uruguay, London School of Economics (UK), Cetic.br (Brazil), Universidad Academia de Humanismo Cristiano (Chile)

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
Children, parents, child rights institutions/NGOs, child protection services, policy-makers, industry, academia

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
   Explanation: ....UNICEF Office of Research has 1 full-time consultant and 1 senior staff on 50%, coordinating and providing technical support to the full research network. Each country office involved has a consultant or staff member working part-time on country-level implementation.

Financial Investment:.......large (expenditure $50,000 and above)
   Explanation: ....Seed-funding was provided to countries during the pilot phase of the project. Additional funding went to hosting two global network meetings for partner countries.

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNICEF: Magic Box / Data Science

The Venture Fund has been investing in Magic Box - a platform bringing together partners like Telefonica, Google, IBM and Amadeus to share their data and research and create systems for real-time information and action. Like the drone corridor, the Magic Box creates a provocation to industry, a platform for engagement and a product that can change the way UNICEF works in emergencies like Zika or Ebola. Through the Magic Box, the Venture Fund provided access to an asset of big data – for use within UNICEF and by future portfolio companies that will contribute to the development of the Magic Box and other similar platforms and pilots.

With a growing number of corporate partners providing their data for the Magic Box, we anticipate seeing the first real-time applications of the Magic Box in 2017. These platforms will be transferred into the core of UNICEF's work, and become technologies that are both familiar and accessible to the organization, leading to efficiencies in our program work and opportunities in our partnerships.

UNICEF Innovation's work on using big data to fight disease epidemics has considerably developed since its initial explorations during the Ebola crisis in late 2014. During the Ebola crisis, UNICEF was able to leverage two existing data platforms - U-Report and Edutrac.

The need for Magic Box emerged from this experience and is a prototype in its early stages. With the Magic Box, UNICEF Innovation began to combine data sources from our private sector partners showing where people were moving with UNICEF's epidemiological (case) data. The goal of this open source platform is to identify the risk of transmission for different regions and help UNICEF, governments and NGOs decide how and where to focus their time and resources. While the Magic Box prototype was not ready to be used in real-time during the Ebola epidemic, its application was explored during the Zika outbreak in 2016 giving UNICEF along with private and public sector partners the possibility to take the massive amounts of data from relatively unstructured sources to develop insights. The work around Zika allowed UNICEF to bring new partners into the effort to combat global risks. Amadeus, which provides more than 40 percent of global travel booking joined as an initial data provider, while also generously offering support from their core business and engineering teams. IBM recently entered the collaboration with support from its weather data teams. Google supported the development of the Magic Box platform itself.

The Ventures team is conducting extensive research into the application of the Magic Box beyond epidemics to disaster responses and the mapping of socio-economic indicators.

URL: www.unicefstories.org
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: integrated work on developing open source data science and machine learning for programme activity

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website
- Online Forum/Community/Exchange

- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Foundations - Academia - Scientific community	Major universities, tech companies, data providers, and data scientists

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Staff of your organization - Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UNICEF: Mobile application for automated inventory and warehouse management functions

UNICEF has launched a mobile application in selected pilot countries for automating the goods receipts of supplies in UNICEF warehouses. The primary objective of this App is to have real time recording of goods receipts into UNICEF's enterprise systems with minimal paper work. The App is designed to function in remote locations with limited or no connectivity.

The App works on smart phones by using the camera feature to scan the barcodes. The barcodes have been specifically designed to suit UNICEF's business process. The App also supports situations where the barcode on the supplied packing materials is missing or is damaged. UNICEF has developed a comprehensive guideline for the suppliers for ensuring that the supplies are barcoded as required.

Upon scanning of the barcode, the receiver of the goods is able to verify the scanned information and can also specify additional information such as remarks, damaged, short or over shipped quantities if required. Upon successful registration of the goods receipt, the receiver can print or email the Goods Receipt Note instantaneously.

The launch of this App has been found to be very useful due to its ease of use, accessibility and real time updates to UNICEF's enterprise systems. Future plans include expansion into other warehouse management functions such as physical counting, goods putaway/picking and goods issuance. UNICEF is also planning to deploy another App based on similar principles, geared towards the implementing partners to facilitate the automation of the goods received and distributed by our implementing partners.

URL:
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
• Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Other: UNICEF warehouse staff, Implementing partners.	

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNICEF: Sustainable energy solutions for children

In the scope of our WASH, health, and education programmes, UNICEF has utilized sustainable energy options (solar, biogas, etc) for e.g. solar powered water pumps, biogas latrines in schools, solar electrification of health clinics, and fuel-efficient cookstoves, where possible in several countries. UNICEF is currently in the process of scaling up these activities.

In addition, UNICEF has prepared a publication in 2015 on Why Sustainable Energy Matters for Children which included policy recommendations on how to increase children's access to sustainable energy solutions for improved results to their health and well-being. Several country offices have also supported research and evidence collection on sustainable energy options.

URL: www.unicef.org/environment/index_79764.html,
https://www.unicef.org/environment/files/UNICEF_Sustainable_Energy_for_Children_2015.pdf,
https://www.unicef.org/zimbabwe/UNICEF_Sustainable_Energy_for_Children_2016_FINAL_A4_25-10-16.pdf

Domain: energy technology (solar energy, battery storage, biofuels, etc.)

Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Foundations	

Beneficiaries:	Beneficiaries Description:
• Targeted group(s)	

Scale:

Personnel Support: ....N/A

Financial Investment:.......N/A

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNICEF: UNICEF Frontier Technology / Venture Fund / Strategic Plan

UNICEF is not submitting individual activities around frontier technologies, but is rather submitting the following:

4 Processes by which we engage Frontier Technology Issues:

1) Venture Fund (Investing in external companies)

2) Scaleup of what works: (Strategic plan and cross-divisional collaboration)

3) Cross-UN leadership: (UN Innovation Network Co-Chair, IDIA Member, Data Innovation Lab Co-chair)

4) Private Sector Collaboration: Connections to major private sector / Silicon Valley tech giants to inform 1-3 above.

The organization has established its Office of Innovation (a Division, reporting to the Executive Director) to look at and enable use of frontier technologies. We can identify individual projects on any of the technologies below (we are also sharing examples of such projects in separate forms similar to this one), but this document serves to note the following:

We define frontier technologies as industries that are now, or soon-to-be, valued at more than 100B USD globally, and can positively impact more than 1B people

1) Office of Innovation has a Venture Fund (11.2M USD) which makes directed investments in companies building frontier technology. Portfolio areas include, but are not limited to: drones, AI, blockchain, quantum computing, 3D printing, etc. This fund follows the above definition of frontier technologies for our thesis, and creates pools of companies working on similar technology stacks.

2) Organizational positioning and scaleup: The Office of Innovation has worked to mainstream "innovation" - which is included in the UNICEF 2017 Strategic Plan as a core strategy, as well as included in all Country Office reporting lines. Office of Innovation also works closely with core divisions like ICTD to ensure that formerly frontier technologies are scaled into the core of the organization.

3) UN Leadership: Office of Innovation co-chairs the UN Innovation Network with WFP and UNHCR. This network, a request from the HLCM, allows other agencies to share in the work that is being done by the chairs and by each other. It specifically looks at identifying frontier technology, figuring out integration strategies, and developing the necessary policy for integrating it into organizational strutures.

4) External partnerships: Through its Office of Private Fundraising and Partnerships, the Office of Innovation is able to engage core partners (Google, Facebook, Telefonica, IBM, and others) to ensure that Frontier Technologies being developed by UNICEF are lined up with existing best practices

There are many resources to track specific aspects of this work: www.unicefstories.org, www.unicefinnovationfund.org, www.unicef.org/innovation, and @unicefinnovate on social media. Further, the activities of the UN Innovation Network are documented internally, and the CEB-requested Data Innovation Labs

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify UNICEF's Office of Innovation and Frontier work cuts
across all of these functions. That is why it is a Division.

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:
Partners can be found as the signatories to the Principles of Innovation, members of IDIA, and supporters listed on the UNICEF Ventures and Stories sites.

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....The division is an approximately ~20 person headcount

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....This is a fully resourced entity within UNICEF

Timeline:
Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): This is a Division, dedicated to working on and collaborating around frontier technology.

UNICEF: UNICEF Venture Fund

UNICEF's Office of Innovation helps the organization prepare for the technologies and changes that are on the 3-5 year horizon and experiments with new approaches to solving the most pressing problems facing children.

UNICEF Ventures specifically looks to learn about and scale frontier technologies (like drones and unmanned aerial vehicles – or UAVs, blockchain, data science, or 3D printing) that exist at the intersection of $100 billion business markets and 1 billion person needs. This often means creating provocations to industry to show how certain technologies, if built in the right way, could have tremendous positive impact on the lives of children, while also opening new research, markets, and opportunities to our partners.

The UNICEF Office of Innovation has built systems like RapidPro, a platform with more than 3.5 million active users in 35 countries, which allows any person with a basic phone to send text messages and report on issues that concern them. The applications built from RapidPro have allowed UNICEF and government partners to stop the banana plague in Uganda, identity cases of sexual abuse in schools in Liberia and track the distribution of more than 6 million textbooks in Zimbabwe.

Modeled off the success of RapidPro, the Office of Innovation created the UNICEF Venture Fund – the first financial vehicle of its kind in the UN.

Through seed investments of $50,000 - $100,000 in portfolios of emerging technology being developed by companies in UNICEF program countries, the Fund identifies, assesses and grows open source solutions that have the potential to improve the lives of children. This Fund allows UNICEF to take small risks within a portfolio, and ensure that even if many of the investments fail, the portfolio is a success.

The core motivation of the Fund is to identify "clusters" or portfolios of initiatives around emerging technology – so UNICEF can both shape markets and also learn about and guide these technologies to benefit children.

The Fund made the following achievements since early 2016:

. Building the first model for investments in start-ups at UNICEF

. Sourcing, selecting and making investments in start-ups generating open source IP

. Building assets to increase the value return on investments:

. the drone testing corridor and

. the Magic Box platform to receive and analyze big data

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: This is a new vehicle in the UN - it's the first Venture Capital fund, and has the ability to invest in external tech companies across all frontier areas.

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Other: investments in open source intellectual property

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- Private sector entities
- Foundations
- Scientific community
- Other: startup tech companies, large tech companies

Actors Description:
google x, telefonica alpha, big vc and private equity funds, small startups. please see www.unicefinnovationfund.org for specific partners

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities
- Other: local tech entrepreneurs

Beneficiaries Description:
please see www.unicefinnovationfund.org for specific beneficiaries.

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)

Timeline:

Work on activity began: ...between 6 months and 1 year ago
Work is............................in-progress (specify expected completion date): investments are ongoing

UNIDIR: Armed UAVs: Increasing Transparency, Oversight and Accountability

Unmanned aerial vehicles (UAVs), often referred to as aerial drones, have become a prominent means of delivering lethal force in 21st century warfare. The use of armed UAVs offers numerous advantages compared to manned combat aircraft. The absence of a human operator on board, for example, permits greater aircraft endurance and increased loitering time, which may in turn allow for more precision in attack. Operated at safe distance, UAVs help to reduce both human cost while allowing to access dangerous or isolated areas.

In spite of these advantages, however, armed UAVs have attracted a negative public reputation. Historically, armed UAV use has been associated with secrecy and, according to critics, lacking accountability, especially when deployed by clandestine State forces. There is also a widespread concern that armed UAVs may lower the threshold to use force. This has drawn persistent criticism on human rights grounds. Although this stigma is unlikely to prevent governments from seeking to acquire this technology, it might add to their reluctance to share information about their holdings and practices around armed UAVs, even as improving transparency, accountability and oversight are critical to ensuring compliance with international law. As well as making the application of existing international legal rules more challenging, such a situation is arguably detrimental for strategic stability.

Building upon the 2015 study on Unmanned Aerial Vehicles prepared by the Office of Disarmament Affairs with the assistance of UNIDIR on the recommendation of the Secretary-General's Advisory Board on Disarmament Matters, UNIDIR is undertaking a project to facilitate multilateral dialogue on UAVs on the basis of up-to-date knowledge and expert-level engagement. This project will also build upon the deliberations of the Human Rights Council and the work of its Special Rapporteurs, which have highlighted a need and interest in pursuing arms control-related aspects of armed UAVs in United Nations disarmament bodies. The project is concerned, in particular, with improving the level of knowledge and engagement on UAV transparency, oversight and accountability at the multilateral level, rather than with proposing restrictions or prohibitions.

URL: http://www.unidir.org/programmes/security-and-society/increasing-uav-transparency-oversight-and-accountability
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels)) policy advice, norm development, research, convening stakeholders

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:

- government
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................in-progress (specify expected completion date): end 2017

UNIDIR: Dual-Use Science and Technology Innovations and their implications for International Security

There is an urgent need to understand the ramifications of dual use developments for international security. UNIDIR research have already made significant contributions in this domain, for instance on framing emergent security issues and clarifying the need for basic understandings on IEDs, space security, autonomy, A.I. and cyber at the multilateral level. This project conducts research on current and emergent problems associated with dual-use technologies.

The dual-use dilemma is particularly acute now for a range of reasons. everal technologies have advanced to the point where information generated and transmitted intangibly (i.e. digitally) can form the basis for tangible capabilities that may be misused for hostile purposes. These include developments in synthetic biology, which is permitting the creation of artificial pathogens. 3-D printing, meanwhile, is rapidly improving, and beginning to offer manufacting capabilities for dangerous objects like firearms or components for explosive delivery systems (e.g. modifications for small drones) based on digital instructions downloaded from the Internet.

A second reason is that global digital comms networks are increasingly tightly integrated, creating myriad vulnerabilities to cyber intrusion, exploitation, manipulation and disruption. All major military powers are developing offensive cyber-related capabilities, and the line between State activities and those of individuals or proxies is blurry—not least because some aspects of attribution are challenging. Moreover, the ability of code inserted with malicious intent in order to damage or subvert control over physical objects and systems such as power plants, uranium centrifuges and missile systems has moved beyond proof of concept.

Thirdly, some 'intangible' technologies are developing in sophistication to the point that it is increasingly difficult to distinguish the extent to which they pose threat, or whether they can even be considered as technologies in isolation from one another. One case in point is the autonomization of weapon systems, which depends on a range of different incremental advances and the purposes to which the technology is put to rather than a particular clear-cut capability. Further advances in applications of AI systems making use of machine learning techniques are likely to be highly attractive for military purposes in view of their heterogeneous benefits. This is true not only in the context of autonomy-in-motion systems such as vehicles or munitions, but in terms of autonomy-at-rest systems supporting human decision-making, and in some cases supplanting it. The capabilities such advances offer may be unpredictable in their effects and thus challenge notions of accountability on which the laws of armed conflict are currently built.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNIDIR: Safety, Unintentional Risk and Accidents in the Weaponization of Increasingly Autonomous Technologies

Recent international attention on autonomous weapon systems (AWS) has focused on the implications of what amounts to a 'responsibility gap' in machine targeting and attack in war.

As important as this is, the full scope for accidents created by the development and deployment of such systems is not captured in this debate. It is necessary to reflect on the potential for AWS to fail in ways that are unanticipated and harmful to humans—a broader set of scenarios than simply those in which international humanitarian law applies.

Of course, any complex, hazardous technology carries 'unintentional' risk, and can have harmful results its designers and operators did not intend. AWS may pose novel, unintended forms of hazard to human life that typical approaches to ensuring responsibility do not effectively manage because these systems may behave in unpredictable ways that are difficult to prevent. Among other things, human-machine teams would, on their own, be insufficient in ensuring unintended harm from AWS is prevented, something that should bear on discussions about the acceptability of deploying these systems.

Based on original research and a cross-displinary expert meeting, the findings were launched at CCW last December. A

URL: http://www.unidir.org/files/publications/pdfs/safety-unintentional-risk-and-accidents-en-668.pdf

Domain: artificial intelligence (automation, robotics, machine learning, etc.)

Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:

- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): The report has been launched in December 2016; a follow on is underway.

UNIDIR: Tech-Gaming Table Top Exercise on Increasing Autonomy in Weapon Systems

One of the challenges to focusing the international discussion on autonomy in weapon systems emerges from the fact that there is significant disagreement among governments on whether this is a near-, medium- or long term concern. In addition, much of the discussion lacks nuance: it is not whether an object is autonomous or not, but rather identifying what kind of autonomy, applied to what features of the system, in which contexts, to achieve which objectives should be a top priority for the international community in order to narrow down and become more specific about the areas of concern, be them legal, technical, ethical or operational.

Starting with existing weapons technology, over the course of the table-top exercise the existing weapon system will be "modified" in three or four different ways, increasing the weapon's autonomy in some significant manner. With each of these moves, the participants will discuss in their small groups about the types of operational environments, the military utility or benefits of such a move, and note particular questions or concerns that would arise were such a move to take place. These might be legal, operational, ethical, or other risks. For example, the first "move" might expand the system's ability to operate in time or space, while she second move makes the weapon "smarter" (ie more capable of autonomous decision making).

The scenarios would take into account different domains (air, land, sea), offensive/defensive systems, communication ability and operation in comms denied environment, whether the weapon was designed to fail safe/fail deadly, etc.

The objective of the exercise is not to have a "right answer" or to convince participants to coalesce around a particular constellation of answers, but rather to start mapping friction points where various combinations of factors raise particular concerns.

Pillar II Outputs

A) a 1 day, invitation only workshop for governmental participants

B) a side-event series at CCW November 2017 (over 3 lunchtimes)

C) Non-attributed write up of observations emerging from the exercise for November GGE meeting

D) Side event at November GGE presenting findings and observations

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: policy advice (to support policymaking (all levels))

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication

Actors:
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...within the last 6 months
Work is.............................in-progress (specify expected completion date): end 2017

UNIDIR: The intersection of autonomous weapons, cyber operations and AI

International discussions about autonomous weapons have focused predominantly on robotics, yet robotics is not the only autonomous technology that can be weaponized. Curiously, other key technologies are largely missing from these discussions, such as Artificial Intelligence and cyberoperations, even though they can share the same challenging feature of autonomy, as well as enable robotics in the first place. As this paper explains, these other technologies may give rise to new issues, especially as they converge or interact with each other—multiplying complexity and introducing new vulnerabilities. This is the fifth in a series of UNIDIR papers on the weaponization of increasingly autonomous technologies.

URL: none
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	Beneficiaries Description:
• government	
• Targeted group(s)	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): all consultations and expert workshops completed. Final report and recommendations to be launced at CCW November 2017

UNIDIR: The United Nations, Cyber and International Peace and Security

This report provides an in-depth overview (UN system-wide mapping) of the multilateral processes that have emerged on the agenda of the United Nations (UN) to address concerns relating to cyberspace and ICTs in the context of international peace and security, with the objective of identifying how the UN, under a new Secretary-General, might play a role in supporting, raising awareness of, and strengthening this work.

The report focuses principally on the norm-setting work currently underway within the UN General Assembly, where negotiations on the international security challenges posed by state uses of ICT have been ongoing since the late 1990s. It also highlights linkages with other items on the UN agenda, directly or indirectly linked to ICTs in the context of international peace and security. The report outlines where progress has been made, where challenges and on-going sources of disagreement lie, and puts forward a series of recommendations to the UN that can help move the current processes beyond mere norm articulation to norm implementation.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Foundations	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Targeted group(s)	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................in-progress (specify expected completion date): Report finalized; to be launched on 11 October 2017 on the margins of First Committee

UNIDIR: The Weaponization of Increasingly Autonomous Technologies (Phases I, II and III)

Given that governments have a responsibility to create or affirm sound policies about which uses of autonomy in weapon systems are legitimate—and that advances in relevant technologies are also creating pressure to do so—what is important for states to consider when establishing policy relating to the weaponization of increasingly autonomous technologies?

By convening cross-disciplinary groups of experts and scholars to consider this question, we hope to introduce clarity into the current policy discourse. Such diversity of perspectives is likely to bring relevant information to the conversation, bridge understandings between disciplines and identify areas where different stakeholders—including those in the arms control community, the human rights community, the defence community and the private sector—might work together to reach shared understandings.

URL: http://bit.ly/UNIDIR_autonomy
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:
The objective of the project, started in 2013, is to help policymakers to make better decisions about increasing autonomy in weapon systems. This includes within the UN's CCW framework as well as in the Human Rights Council.

Scale:
Personnel Support: ....not applicable
    Explanation: ....UNIDIR is a small XB body. The personnel supporting this project varies depending on the moment in the activity cycle.

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....Each phase of this work has been voluntary funded (between 200k and 300k per phase)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNIDO: Biotechnology and Food Security; Panel discussion

The Biotechnology and Food Security panel discussion which was jointly organized with UNIDO and held at OFID Headquarters on November 23, drew more than 160 participants including, Government agencies responsible for Industry, Science and Technology, Permanent missions in Vienna, International organizations such as IAEA and WHO, universities, civil society and private sector entities.

The main discussion itself featured speakers from OPEC Fund for International Development (OFID), IPBO-Vlaams Instituut voor Biotechnologie, International Union of Food Science and Technology (IUFoST), International Centre for Genetic Engineering and Biotechnology (ICGEB), World Health Organisation (WHO) and Biocomposite Centre-Bangor University, representing the breath of applications of biotechnology in sectors which impact the socio economic development. The panelists covered topics from - Food security challenges within the context of energy-water-food nexus; Agriculture biotechnology for increased productivity; efficiency in food processing and reduction of post-harvest losses; health security - the need to foster or promote startups in developing countries especially for vaccines and biosimilar, enabling appropriate regulatory systems and training to support the approval of innovations. In addition, concert examples of bio-based startups utilizing renewable resources were illustrated.

The forum provided an opportunity for stakeholders from different sectors to engage in interactive dialogue on the issues raised and discuss opportunities for industrial biotechnology applications in their jurisdictions.

URL:
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop

Actors:	Actors Description:
• Other IGOs / development banks • NGOs • Private sector entities • Academia • Scientific community	

Beneficiaries:

- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is...........................complete (no further action to be taken)

UNIDO: Applying Industry 4.0 technologies in development contexts

Many ongoing projects are making use of Industry 4.0 technologies, such as bio-technology, nano-, and e.g. 3D printing. The synergies that can be leveraged by connecting projects of different kinds, for example, upgrading the automotive component manufacturers in Belarus by projects together with the National Academy of Sciences, helps the convergence of technologies materialise.

Material sciences and research, which benefits from new technologies, particularly 3D printing, but also AI thanks to its ability to analyse patterns and superior forecasting capabilities, is one of the key areas in this regard. They can benefit high-technology sectors like aerospace industries, medicine and the automotive sector. Research on AI itself will reap benefits for those projects and programmes, as the current development of AI would only suit a handful actors, while the vast majority is left behind.

Better understanding the needs of countries, governments, academia and the private sector will help establish guidelines and standards for AI, as well as ensure their interoperability across many sectors. In order to enable countries to use AI more efficiently, they will need to build sound statistical skills, but also acquire the statistics and data necessary to have AI algorithms apply their superior analysis and prediction capabilities. Strengthening countries' capacities is vital to facilitate the adoption and absorption of AI.

Supplemental Information:
The activity reflect adoption of Industry 4.0 technologies, such as internet of things, cloud computing, big data, analytics, digitalization, robotics, automation, and Artificial Intelligence (as a sub set of Industry 4.0 technologies and techniques such as digitalization, deep learning, voice and image recognitions and so on) in industry and industry- related services.

UNIDO convening, advocacy and normative functions are conducive to knowledge management.

The convening function serves as an important and cost-effective tool to share new knowledge and discuss best practices with all stakeholders on Industry 4.0 and AI opportunities and challenges;   available standards; tools and methods on innovation management, assessment, innovation strategy and culture; providing training for innovation management, and cross-industry communities of practice. So far UNIDO has organized four events on the above theme and another two are forthcoming.

Further examples include: the biennial Vienna Energy Forum (VEF); the Green Industry Platform — a global high-level, multi-stakeholder partnership intended to act as a forum to catalyse, mobilize and mainstream action on Green Industry around the world.

Such events can in turn lead to the elaboration of new norms and standards, and can serve as the starting point for new avenues of research, technical cooperation and policy advice. New technical cooperation are in preparation on the issue of using Industry 4.0 technologies for industrial upgrading, provision of training on skill upgrading; and innovation management in developing countries, based on the demand.

UNIDO's convening role brings governments, the private sector, academia, civil society, financial organizations and other partners together in major outcome-oriented events that also facilitate partnerships, and forge common positions and plans of action for pursuing inclusive and sustainable industrial development.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	
• Other UN system entities	

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNIDO: Biosafety Manual

Adopting biotechnology and biotech products for industrial development requires the institution of adequate safety standards to sustain and safeguard public health and the environment, in line with the Cartagena Protocol on Biosafety (CPB) of the Convention on Biological Diversity (CBD). Recognizing the need for compliance of national regulations with the provisions of the CPB for the long-term development and deployment of the biotechnology in industry, UNIDO has established a 'South – South Biosafety Networking Programme' with the mission of providing post graduate training and information on the biosafety regulatory process to developing country researchers, government and industry professionals involved in the assessment and management of risks related to biotechnology-derived products and services. The programme entails several components including: a distant-learning biosafety programme (e-Biosafety), with a network of universities from all over the world providing training, and an information dissemination website - the Biosafety Information Network & Advisory Service (BINAS).

URL:
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	Beneficiaries Description:
• government	
• Public-at-large	
• Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...N/A
Work is...........................complete (no further action to be taken)

UNIDO: Biotechnology and the bioeconomy - Towards inclusive and sustainable industrial development

To transform developing and least developing countries into industrialised ones, biotechnology could be deployed along the value chain, to provide support to the development of the bio-based industries in such a way to ensure sustainability of the sector and to reduce negative environmental impacts that might otherwise occur. In agribusiness development, for instance, interventions could start from inputs and agricultural mechanization, modern processing technologies, packaging of perishable products, the promotion of food safety in the processing and regulatory environment; and interventions to improve competitiveness and productivity. Worth over USD 300 billion in revenue, the role of the biotechnology goes beyond industrial growth, since it provides opportunities for progress towards many of the UN sustainable development goals (SDGs). This paper reviews the status of industrial biotechnology as it relates to inclusive and sustainable industrial development.

URL:
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
* Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• NGOs	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• Public-at-large	
• Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................complete (no further action to be taken)

UNIDO: Climate Policy and Networks

* Private Financing Advisory Network (PFAN)- works as a clean energy investment accelerator that nurtures low-carbon, climate-resilient businesses and projects and matches them to appropriate private financing.

Some functions that PFAN serves:

1. Provides technical assistance to support project development

2. Builds the capacity of project developers and financiers

3. Enters into policy dialogue with governments

*The Climate Technology Centre and Network (CTCN) is the operational arm of the UNFCCC Technology Mechanism, co-hosted by UNEP and UNIDO with the support of a global Network of partners. The CTCN facilitates demand-driven transfer of technologies through technical assistance, knowledge exchange and cross-sectoral networking.

*Coordinated by UNIDO, GN-SEC is multi-stakeholder partnership that promotes inclusive and sustainable industrial development and SE4ALL. GN-SEC comprises various Centres in Africa, Caribbean, Central America, Pacific, as well as in the Arab and Hindukush regions. The Centres foster regional cooperation. They mitigate existing barriers and focus on the areas of policy and capacity development, knowledge management and awareness-raising, as well as investment and business promotion in RE and EE sectors.

*Generating energy capacity from geothermal power generation and its related technologies for sustainable development is a programme with the objective to promote geothermal power generation and its related technologies in African countries.

The scope of the programme will include:

1) Introduction of small geothermal power technology.

2(Enhancement of O&M of existing geothermal power plants by adopting IoT technologies using Japanese technologies.

URL: www.pfan.net ; www.ctc-n.org ; http://www.se4allnetwork.org/; http://www.ecreee.org/; http://www.ccreee.org/; http://www.pcreee.org/

Domain: energy technology (solar energy, battery storage, biofuels, etc.)

Function: other – please specify: The activities cut across all the above mentioned functions.

Outputs:
* Expert Meeting/Workshop
* Training/Capacity Building Programme
* Support to Programme/Project Implementation
* Policy or Research Paper/Report/Publication
* Principles/Standards/Guidelines/other normative products
* Informational Website
* Online Forum/Community/Exchange
* Interagency Group/Multi-Stakeholder Partnership
* Advocacy

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Other: Low carbon SMEs, the private sector and civil society (especially women and children)

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....* PFAN Programme Management Unit comprises staff from UNIDO and Renewable Energy and Energy Efficiency Partnership (REEEP).

    * The CTCN comprises staff from UNIDO and UN Environment.

    *The GN-SEC Programme Management Unit consists of a small UNIDO team that closely coordinates with core staff coming from the respective regions, where the Centres are established.

    * The Geothermal programme comprises of UNIDO staff.

Financial Investment:........large (expenditure $50,000 and above)
    Explanation: ....* PFAN is primarily funded directly through bilateral agreements with donor countries. UNIDO financial contributions amount to US$ 435,000.

    * The CTCN is primarily funded directly through bilateral agreements with donor countries. UNIDO financial contribution amounts to US$ 250,000 annually.

    *GN-SEC is supported by the Austrian Development Cooperation (ADC), Spanish Agency for International Cooperation (AECID), EU, GEF.

    * The Geothermal project is primarily funded by the Government of Japan.

Timeline:

Work on activity began:...N/A
Work is............................ongoing (with no set end date)

UNIDO: Cooperation with ICBEG

UNIDO has in the past implemented global forum activities and projects on biotechnology and biosafety many of which have resulted in longterm sustainable programmes in the Member State. Examples include:

The International Centre for Genetic Engineering and Biotechnology (ICGEB) which started as a special programme of UNIDO in 1987 has since 1994 evolved into a fully autonomous international, non-profit research organization;

Within the thematic areas of : creating shared prosperity for all; advancing economic competitiveness and safeguarding the environment; UNIDO implements technical cooperation projects in developing countries, agribusiness development, production of pharmaceuticals, cleaner production and resources efficiency, which draw on products of and expertise in biotechnology.

UNIDO looks forward to further engaging with ICBEG on future collaboration on biotechnology , especially with the domain of production of vaccines and biosimilars, and capacity building in biosafety and regulatory framework for the application of biotechnology

URL:
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
- NGOs - Private sector entities - Academia	

Beneficiaries:	**Beneficiaries Description:**
- Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNIDO: e-mobility and sustainable transport

UNIDO is a member of the Partnership on Sustainable Low Carbon Transport (SLoCaT) and contributes to the UN Secretary General's call for action in this area. UNIDO works with developing countries and those with economies in transition on developing strategies for promoting low carbon transport and implementing programmes for their deployment. For example, UNIDO is implementing projects in China, Malaysia and South Africa which aim at stimulating the demand for electric vehicles through fostering enabling policy frameworks, strengthening local capacities and enhancing knowledge and innovation on electric vehicles and alternative fuels. In addition, the projects provide technical assistance to local manufacturers of electric vehicles and related components and work with cities/districts/regions in the three countries on setting up the infrastructure required to develop the market for electric vehicles .

In order to enable countries in embarking on projects supporting biofuels, UNIDO prepared a number of publications in cooperation with the Global Environment Facility, UN Environment and FAO including a Biofuels Screening Toolkit to serve as a guideline for decision makers.

URL:
Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
• Member States	
• Private sector entities	
• Foundations	
• Academia	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

    Explanation: ....The financial investment made exceeds US$ 20 million and includes funding from donors such as the Global Environment Facility and partners such as FAO.

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNIDO: Enhancing Human Resources Management and Procurement with Artificial intelligence

The future labour market will be affected by AI and international organizations will not be able to withstand these trends. Contrary to withstanding, IOs could immensely benefit from a well-designed AI strategy in their core programme support activities, such as HRM and Procurement.

The potential of AI in Human Resource Management and Procurement can be leveraged through trials of AI systems in daily operations. Applying AI in HR and procurement can help colleagues with better identification of e.g. suitable candidates, but also improve and streamline procurement procedures.

Introduction of AI systems is vital for enhancing an organization's capabilities not only in delivering services to Member States, but also in improved understanding of AI that would result in better assistance to Member States in adopting AI systems.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: internal support function (including application to operations and management)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

Actors:	**Actors Description:**
• Not applicable	

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization	

Scale:

Personnel Support: ....not applicable

Financial Investment:.......not applicable

Timeline:
Work on activity began:...not yet begun
Work is............................not yet begun

UNIDO: Global Forum activities

Contributed to the G20 work on the 4IR and its impact on developing countries.

50th Anniversary - special panel on 4IR

A panel discussion focused on the concept of Industry 4.0, and the challenges and opportunities it provides for developing countries and economies in transition, discussing the digitalization of economies and highlighting the importance of innovation.

Co-organised three panels at Xprize and ITU's AI For Good Summit (AI and the future of work, AI and sustainable cities, AI and equality)

Artificial intelligence (AI) is growing rapidly - driven by exponential increases in computing power and by the availability of big data. The potential for AI to drive inclusive and sustainable economic development requires a better understanding of how to capitalize on their potential advantages, considering different contexts in developed and developing countries.

 AI can play a major role in achieving the UN Sustainable Development Goals (SDGs) – which requires inter-disciplinary and inter- agency collaboration. This should include a UN-wide joint effort to invest in cutting-edge research and promoting AI-based tools directly addressing the most pressing challenges of the SDGs, and scaling proven solutions, o help define a common agenda for where the highest priority investment should go.

Co-hosted WSIS with ITU

UNIDO and ITU will co-hosted a session on 15 June at the World Summit on the Information Society (WSIS) to discuss how action-oriented partnerships with country-level programming can help make concrete contributions towards achieving SDG9.

The session looked at themes linked to SDG9 to ensure collaborative action in achieving SDG9 (Industry, Innovation and Infrastructure) and included high-level participation from national governments, the private sector, UN agencies, civil society, standard bodies and academia. Issues of standards, interoperability and technology knowledge transfer are key in understanding the impact of AI on manufacturing and other activities.

Co- organizing the "Global Forum on on Convergent technologies" together with Kurchatov Institute

UNIDO, in cooperation with the Kurchatov Institute and the Government of the Russian Federation, will organise a two-day Global Forum on Naturally-Based and Convergent Technologies for Inclusive and Sustainable Industrial Development (ISID), in Moscow, the Russian Federation.

UNIDO and the Kurchatov NBICS centre, in cooperation with the Government of the Russian Federation, jointly co-organize a Global Forum on Naturally-Based and Convergent Technologies for ISID, in Moscow (or St Petersburg also under consideration), the Russian Federation. The objective of the Forum is to bring together various stakeholders, such as experts on naturally-based and convergent technologies, representatives from governments, international development organization, financial development institutions, the private sector and civil society to discuss the key issues and share best practice.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Staff of your organization - Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNIDO: Global Manufacturing and Industrialisation Summit (GMIS)

The inaugural Summit offered a voice and a venue for leaders with a vision to shape the future of manufacturing with a hand-selected audience of over 1,200 delegates expected to attend, including Heads of State, Government Leaders, Ministers, Policy Makers and C-Suite Executives from Global 2000 Companies.

The Global Manufacturing & Industrialisation Summit (GMIS) was a world first and was hosted in Abu Dhabi by the UAE Ministry of Economy and the United Nations Industrial Development Organization (UNIDO). Its vision was to unite key industry experts and stakeholders in identifying fundamental challenges in the manufacturing sector and providing transformational ideas and solutions, along with a vision for the future that supports and benefits the private and public sectors, and civil society.

Prior to the Summit itself, a series of Roadshow events were designed to generate inputs. Visiting key international markets and gathering local leaders from the three pillars of industry: government, private sector and civil society, the Roadshows became a starting point for discussions on trends, challenges and transformational ideas for the manufacturing sector. It also capitalized on opportunities for innovation and creativity, and explore how stakeholders can develop mutually beneficial global partnerships.

The Manufacturing Expo took place in conjunction with the Global Manufacturing & Industrialisation Summit. The Expo, which is dedicated to showcasing UAE and GCC manufacturing capabilities as well as technologies that have been introduced by global organizations that have revolutionized the manufacturing sector, encouraged partnerships and raised awareness of industrial achievements and investment opportunities in different industrial sectors. The Expo also featured the Global Value Chain Market (GVCM), a business matchmaking platform dedicated to increasing regional and international partnerships and securing contracts. The platform provided networking and sourcing opportunities both online and onsite through pre-scheduled meeting programmes matching exhibitors with key regional and international manufacturers looking for partners, subcontractors or suppliers.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy
- Other: An outcome statement has been disseminated to stakeholders and is expected to be finalized in the coming months.

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is............................complete (no further action to be taken)

UNIDO: Industrial Biotechnology Network

In recent years, biotechnology is revolutionizing industrial and agricultural practices by improving quantity and quality of products. In addition, the number of commercial biotechnology products is increasing each year. In the agriculture and agribusiness sector for instance, biotechnology applications play a significant role, from increasing productivity to value addition and product diversification of agriculture produce, while reducing their environmental impact.   In the manufacturing sector, biotechnology is used to produce a wide range of bulk and fine chemicals; and the biotechnology derived "cold water enzymes" allow effective washing at room temperature. Biopharmaceuticals and medical diagnostic systems generated by modern molecular biology are by far the fastest-growing part of the whole pharma industry. For developing countries, biotechnology therefore presents unique opportunities for ensuring food security and sustainable industrial development particularly industrial sectors which derive their raw material and/or key components along the value chain from natural resources and biological processes. The use of appropriate technology in processing and manufacturing will not only improve efficiency of production, quality and safety of products, but also facilitate trade and International Development Cooperation. UNIDO therefore collaborates with providers of commercially available technologies to facilitate the transfer and adoption of appropriate biotechnologies, as well as biosafety practices to developing countries and countries in transition to support sustainable industrial development, food security and the UN sustainable development goals.

UNIDO's International Industrial Biotechnology Network (IIBN) promotes the science-based application of biotechnology as a platform technology for inclusive and sustainable development. This is achieved by:

(i) raising stakeholders' awareness of the potential of industrial biotechnology as an engine of development;

(ii) increasing science and technology cooperation in biotech methods, processes and applications among knowledge institutions, businesses, governments and other stakeholders in developing and developed countries, and facilitating the transfer of such methods, processes and applications; and

(iii) promoting near-pilot projects on specific agro-industrial biotech applications as proof of product development potential.

URL: https://open.unido.org/projects/M0/projects/104079; http://iibn.eu/
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Informational Website

Actors:
- Member States
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Staff of your organization

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNIDO: Smart grid programme and sustainable city planning initative

UNIDO fosters and promotes the use of smart energy systems, kick-starting industrial activity in regions without former energy access. Smart grids, however, play an ever increasing role in city environments. Urbanization will reach peak levels in the middle of the century, making them the key grounds to achieve the 2030 agenda and its sustainable development goals.

Therefore, UNIDO has a smart and sustainable city programme, raising awareness for issues such as energy use in cities, smart city planning and industrial production within and near city boundaries. The programmes is not only aimed at raising awareness, but building capacities of policy makers across the globe to implement the ideas set out in the programme. In the near future, AI can enhance city environments significantly thanks to superior pattern analysis. The use of Big Data, subject to the availability of data and relevant skills, can improve traffic flow, water networks, and energy distribution networks.

URL:
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Advocacy

Actors:	**Actors Description:**
- Member States - Other UN system organizations - NGOs - Private sector entities - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
Targeted group(s)	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................ongoing (with no set end date)

UNIDO: UNIDO/ BRIE.2013. 21st Century Manufacturing. Vienna: UNIDO.

Four issues were analyzed within this research paper, namely:

Who produces what and where?

Manufacturing companies, it is well understood, have broken apart the production of their input components, from research down to final assembly, and source them both internally and externally throughout the world. While the aggregate trade data succeeds in reflecting the basic changes in the structure of global production, such as the emergence of China and Asia as a hub of global production, it fails to illuminate the decomposition of production. The aggregate data does not tell us how supply networks actually operate to produce final goods that go to the final user, whether consumer or industrial, or where the value lies in the supply network.

Where is the value in the value networks?

Detailed case studies show that while many of the jobs are moving away from the richest countries, much of the value in the products remains in the wealthy nations.

Services, ICT-enabled services, now come with everything.

One reason that value stays in the advanced countries rests, increasingly, with the role of information and communication technology (ICT) enabled services embedded in products. Phrased differently, the value of an object is increasingly the digitally enabled services it can provide.

Increasingly, analytic focus must be on phases of production, rather than sectors of production. Where and how goods are produced has been transformed by an array of technological developments.

The face of manufacturing will change with the emergence of additive manufacturing, popularly labeled 3D printing and robotic factories. The ICT revolution is at the core of all these changes.

URL:
https://www.unido.org/fileadmin/user_media/Services/PSD/21_Century_Man ufacturing_UNIDO_2013.pdf

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Manufacturing

Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States • Private sector entities • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**

- government
- Targeted group(s)

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................complete (no further action to be taken)

UNIDO: UNIDO/ University of Cambridge Institute for Manufacturing. 2013. Emerging Trends in Global Manufacturing Industries. Vienna: UNIDO.

This publication is part of a series published by UNIDO to provide insights into current and future global trends that will influence manufacturing production in developing and developed countries in the years to come. It aims to assist policymakers in designing and implementing policies that can help their industries and countries gain a competitive edge in international markets.

This study highlights significant trends and challenges for global manufacturing in the next 10-20 years. It is primarily informed by national exercises identified in major manufacturing economies addressing challenges and opportunities linked to the future of manufacturing. Rather than producing new primary data, the report aims to review and synthesize relevant existing work. Detailed industry-specific studies are outside the scope of this report. However, efforts have been made to provide representative insights into the dominant perceptions on the future of manufacturing systems internationally.

Special attention has been paid to those national exercises that have served as inputs for policymaking, and/or are recognized as influential for manufacturing stakeholders at the national level (i.e. industry associations, academia and individual firms). Such studies were identified in countries and regions including the European Union, Germany, United Kingdom, Denmark, Sweden, China, Republic of Korea, Australia, United States, Canada and Brazil.

In terms of conclusions, the study argues that technological gaps can be found in each of these elements and more detailed industry-specific studies at the regional and country levels are therefore necessary. It's further argued that without conceptual frameworks that can account for the diverse elements of manufacturing systems, it will not be possible to fully understand how economies might enhance manufacturing competitiveness, address technological gaps and devise strategies for capturing value from modern value chains.

This report argues that, as a first step, more detailed studies of the prospects of particular industries at the regional and national levels are needed, addressing the different manufacturing system elements and subsystems (different types of value chains, different types of firms, different types of enterprise functions, industrial commons, technological linkages, etc.). These "deep dives" in specific industries may provide insights into potential threats, opportunities, uncertainties and weaknesses associated with the future of manufacturing. Without such forward-looking analyses, particularly as inputs for industrial policymaking, many countries run the risk of "moving in the dark".

Future challenges will require industries to enhance and develop new qualities and features to remain competitive. Globalized value chains and changing consumer habits as general prosperity and income increases in emerging countries will require more flexible production systems that can minimize the effects of disruptions

URL:
> https://www.unido.org/fileadmin/user_media/Services/PSD/Emerging_Trends _UNIDO_2013.PDF

Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Support to Programme/Project Implementation

- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
- Member States - Private sector entities - Academia - Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government - Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................complete (no further action to be taken)

UNIDO: UNIDO/ University of Cambridge's Institute for Manufacturing. 2016. Research paper- Emerging Trends in Global Advanced Manufacturing : Challenges, Opportunities and Policy Responses.

This report provides an update on the megatrends and technological developments driving change in global advanced manufacturing, paying particular attention to the increasing digitalization of manufacturing.

Case studies illustrating how advanced manufacturing is being supported by government policy programmes are drawn from major manufacturing countries including USA, UK, Japan and Germany. These examples reveal that opportunities and challenges to capturing value in advanced manufacturing can be found not only in the development of more sophisticated products, but also in the engineering of better production technologies and systems, the establishment of more efficient and responsive supply chains, and through a better understanding of customer needs.

The report also identifies a broad international recognition that effective policies require a systemic understanding of innovation. In particular, it is increasingly recognized that R&D funding, while a basic component in an innovation policy portfolio, is in itself not sufficient to achieve industrial competitiveness and economic growth. Policies are also required across complementary innovation functions to support the scale-up of emerging technologies, commercialization of those technologies by business, technology adoption by small and medium-sized enterprises (SMEs) and the development of new advanced manufacturing skills.

The report argues that interpreting manufacturing as a cross-cutting theme can help reveal the linkages between science, technology and innovation (STI) policies, and industrial strategies. As part of policy analyses, asking common manufacturing questions across industries and technologies can provide insights into strategic issues (including cross-sectoral challenges and opportunities), which cannot be fully revealed by analyzing individual technologies or particular industry sectors independently.

Finally, the report discusses the growing importance of policies in supporting the supply of more sophisticated and multidisciplinary manufacturing skills while addressing demographic change. It is emphasized that, contrary to a perception held in some segments of society, advanced manufacturing-based industries provide some of the newest and most exciting career opportunities.

The report also posits a number of recommendations, inter alia:

-New sources of data and analytical approaches are required to better understand challenges and opportunities in advanced manufacturing and the potential role of policies to support it. One promising approach is to redefine sectors as value networks.

-Analyzing manufacturing themes across industries and technologies can provide policy insights that cannot be fully revealed by analyzing individual technologies or sectors, such as the potential to generate productive employment from science and research investments, mechanisms to support technology diffusion among SMEs and sustainability trade-offs.

URL:
> http://www.ifm.eng.cam.ac.uk/uploads/News/UNIDO_FINAL_ONLINE_29 MARCH.pdf

Domain: the activity cuts across several science / technology / innovation domains

Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
• Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................complete (no further action to be taken)

UNIDO: UNIDO/Fraunhofer. 2014. Emerging Green Trends in the Manufacturing Sector. Vienna: UNIDO.

This document is one of a series of UNIDO publications designed to provide insights into current and future global trends that will determine the future of manufacturing in developing countries. Its objective is to help policymakers design and implement economic policies to assure continued and sustainable prosperity and to effectively tackle the social, environmental and economic challenges that the world will face in the years to come. It focuses on how Environmental Green Technologies in the manufacturing sector can contribute solutions to environmental problems while enhancing countries' competitiveness. It also focuses on Middle Income Countries (MICs) because the phase of development they are in has the highest environmental impact while these countries, on the other hand, have already reached an institutional and organizational level at which they can benefit from the competitive advantages the solutions they develop provide.

The analysis shows that the transformation process towards EGTs within the scope of sustainable production and consumption patterns requires changes at four levels:

Technology level: acquisition of technical skills to include EGTs as part of the production processes; this will require actors in MICs to familiarize themselves with successful concepts for the introduction of EGTs as well as with the competitive advantages technologies provide for companies.

• System perspective: integration of heterogeneous areas of knowledge from the different disciplines involved in the introduction of EGTs; this will require a focus on system-related aspects relevant for the introduction of EGTs.

• Paradigm shift: development of processes accompanying the sustainable transformation of MICs; this will require wider societal debates to make a range of actors aware of the substantial benefits of EGTs.

• System knowledge level: promotion of learning processes that are necessary at all levels to induce transformative innovations; this will require strong involvement of actors in the field of education and training.

Major differences in innovation competence exist, which become evident both in general innovation indicators and in green technology indicators. Countries with higher levels of innovation competence face the challenge of linking existing knowledge with implementation in manufacturing. This implies efforts in networking and improvements in the innovation system. Countries with lower levels of innovation competence have to rely on technology cooperation to a greater extent, especially for process-specific, CCS and industrial power management technologies, as well as capital embodied technology transfer for cross-cutting technologies. Both country types must, however, combine industrial with environmental policy to give the right impetus to manufacturing to place greater emphasis on green energy technologies.

URL:
> https://www.unido.org/fileadmin/user_media/Services/PSD/Institute_Emerging_green_trends_Future_of_Manufacturing.pdf

Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
• Policy or Research Paper/Report/Publication

Actors:

- Academia
- Scientific community

Actors Description:

Beneficiaries:

- Targeted group(s)

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................complete (no further action to be taken)

UNITAR: Analysis of satellite imagery

UNITAR's Operational Satellite Applications Programme (UNOSAT) is a UN Centre of excellence in satellite imagery analysis. UNOSAT's work focuses on the use of satellite imagery in support of the Sustainable Development Goals and in that regard we work in various thematic areas, including natural disaster support, disaster risk reduction, protection of refuges and internally displaced, sustainable development, water management, conflict damage assessment, human security, human rights and protection of cultural heritage.

URL: https://unitar.org/unosat/maps
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Satellite imagery
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Other: Maps and reports

Actors:	**Actors Description:**
• Other UN system organizations	
• NGOs	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Other UN system entities	
• Other: NGOs	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNITAR: Training in use and analysis of satellite imagery

UNOSAT transfers its knowledge in satellite imagery analysis to developing countries through capacity development, including training and technical backstopping.

URL: http://www.unitar.org/unosat/portfolio-projects/3260
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Satellite imagery and GIS
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme

Actors:	**Actors Description:**
• Member States • Other UN system organizations	

Beneficiaries:	**Beneficiaries Description:**
• government • Other UN system entities	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNITAR: Use of artificial intelligence in mapping

UNOSAT is currently working with UN Global Pulse, the Ecole Polytechnique fédérale de Lausanne (EPFL) and the European Organization for Nuclear Research (CERN) on the use of artificial intelligence for the analysis of satellite imagery (IDPs mapping, damage assessment). More precisely, UN Global Pulse is developing a convolutional deep belief neural net which can accurately recognize IDP/refugee shelters in a variety of environments and areas; and an EPFL PhD student (S.P. Mohanty) is exploring semantic segmentation machine learning methods for feature extraction from imagery, including satellite imagery, as well as the possibility of image comparison and change analysis to produce for example a damage assessment. A CERN Summer Student is arriving in early July 2017 to work on these projects with UNOSAT and S.P. Mohanty.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
• Other: Maps and reports

Actors:	**Actors Description:**
• Other UN system organizations • Other IGOs / development banks • Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization • Other UN system entities • Other: NGOs	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

UNITAR: Use of augmented and virtual reality to model camps and sites

1) Virtual reality: UNOSAT is working on using its hundreds of analyses on natural disasters, humanitarian crises, security incidents, human rights violations, environmental degradation, and more to develop VR experiences. These experiences will support UN staff training, visualization, and outreach. For instance, this could help prepare persons about to deploy to refugee settlements by offering the ability to completely explore the settlement and perhaps its evolution over time, based on UNOSAT geospatial data describing that settlement.

2) Augmented reality: UNOSAT is working on adding augmented reality versions of cultural sites in some of its reports (including Syria) in order to show damages in a more concrete way.

URL:

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Virtual/augmented reality

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Other: Augmented reality and virtual reality for maps and reports

Actors:	Actors Description:
• Other UN system organizations • Private sector entities	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNODC: Comprehensive Study on Cybercrime project

This project was designed to fulfill the mandate of General Assembly resolution 65/230 to conduct a comprehensive study on the problem of cybercrime and responses to it by Member States. UNODC has supported Member States in preparing and translating the study and convening and servicing three meetings of the expert group on cybercrime (EGM), the most recent one on 10-13 April 2017. At its 26th session, in May 2016, the Commission on Crime Prevention and Criminal Justice adopted resolution 26/4 in which, among other things, it requested the EGM to continue its work. UNODC will continue to support the EGM in its mandate to discuss responses to cybercrime by Member States, the international community and the private sector, including the exchange of information on national legislation, best practices, technical assistance and international cooperation, with a view to examining options to strengthen existing and to propose new national and international legal or other responses to cybercrime.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website

Actors:
- Member States
- Other IGOs / development banks
- Private sector entities
- Academia

Actors Description:

Beneficiaries:
- government
- Public-at-large

Beneficiaries Description:

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....Subject to the availability of extra-budgetary resources, which cover 3-4 days of meetings services with interpretation into all official UN languages and documentation; this is not an annual cost but occurs when Member States so decide.

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNODC: Countering Online Child Sexual Exploitation through technological innovation and public/private partnerships

In 2016, over 57,000 individual webpages, containing almost 123,000 unique child sexual abuse images, were removed from the open internet (clearnet) by the Internet Watch Foundation. For often-small, resource-limited law enforcement and prosecution agencies in developing countries, this action helps to limit offender opportunities to access pre-exisiting child abuse material. Identifying the victims of offenders who do successfully access such material is then prioritisied by pooling the resources of global law enforcement, INTERPOL and UNODC's unique mentoring and diplomacy capabilities. By aiding Member States to implement policy and practice, UNODC enables law enforcers to access INTERPOL's Child Sexual Exploitation imagery database (ICSE). This means that investigators can rapidly identify if a child abuse victim is already known to police (and safeguarded) or is a new, never-previously seen victim (thus managing the risks to new victims). The INTERPOL and IWF hash sets ensure that UNODC's law enforcement partners prioritise the highest risk victims and targets.

As a country-level response, it is possible to block 100% of child sexual abuse images known to INTERPOL's ICSE dataset through using enterprise-based tools as such as NETCLEAN Whitebox. NETCLEAN, a private entity, uses INTERPOL's hash-set to block access to known child abuse images at an Internet Protocol Address level. This means, for example, thast if NETCLEAN Whitebox is deployed within the Internet Service Provider(s) of a Member State, it is impossible for offenders to access known child abuse material on the clearnet using the ISP infrastructure of the said Member State. This, again, reduces the access to material that offenders have and ensure that investigators are focussed upon the highest risk offenders (i.e. those with direct access to children and/or those who order new material to be created, often via darknet cryptomarkets).

UNODC's Global Programme on Cybercrime maintains close working relationships with agencies such as INTERPOL and Europol, entities like the IWF & NETCLEAN and works with key social media and internet providers such as Google, Facebook and Microsoft.

Our work has impact politically, strategically, tactically and operationally. Most importnantly, it saves lives.

URL: https://www.iwf.org.uk/sites/default/files/reports/2017-04/iwf_report_2016.pdf, https://www.netclean.com/solutions/telecom-solutions/, https://www.interpol.int/Crime-areas/Crimes-against-children/Victim-identification, https://www.unodc.org/ropan/en/unodc

Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- Private sector entities
- Academia
- Other: Law Enforcement

Actors Description:

INTERPOL, International Centre for Missing and Exploited Children (ICMEC) and NETCLEAN

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Minimisation and disruption of organised criminals seeking to access open-internet known online child sexual exploitation material

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Explanation: ....Costs are entirely dependent upon which solution is implemented, by which government(s) at which level (e.g. all Internet Service Providers)

Timeline:

Work on activity began:...more than 1 year ago

Work is.............................ongoing (with no set end date)

UNODC: Elaboration of World Drug Report

This report also deals with new areas linked to drugs, such as

a) the use of waste-water analysis in cities to monitor drug consumption;

b) the use of the darknet for drug trafficking purposes

c) the use of laboratories to identify new psychaoctive substances (NPS) on the market

d) the use of remote sensing for determining the extent of the area under drug cultivation in main opium poppy and coca producing countries.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
* Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNRISD: How Can Cryptocurrency and Blockchain Technology Play a Role in Building Social and Solidarity Finance

The decentralized digital currency Bitcoin—and its underlying "blockchain" technology—has created much excitement in the technology community. Can it build a truly empowering, solidarity-based inclusive financial system?

This is the question addressed in this 25-page paper that provides a primer on the basics of Bitcoin and examines the potential of its underlying blockchain technology to facilitate remittances, financial inclusion, cooperative structures and even micro-insurance systems.

To these tech considerations it adds the often neglected social and political dimensions: Technology does not exist in a void, and UNRISD research has regularly assessed the social and political ramifications of technological developments, from the green revolution to ICTs. In the case of Bitcoin, the paper flags concerns around top-down or one-size-fits-all approaches, as well as the assumption of tech-neutrality. It also highlights the fact that proponents across the political spectrum have espoused Bitcoin, but with very different visions of what social and political purposes Bitcoin could further.

The paper concludes by highlighting "blockchain 2.0" applications that have more overtly communitarian ideals, and their potential to scale up beyond current, smaller scale operations.

For UNRISD, the paper on Bitcoin is part of an investigation of Social and Solidarity Finance (in the form of an expert meeting), which itself is located within a larger UNRISD research initiative on the Social and Solidarity Economy (SSE). UNRISD convened global expertise and scholarship on SSE at an international conference, and established the 19-member UN Inter-Agency Task Force on Social and Solidarity Economy.

Supplemental Information:
Domain originally specified as "Other: blockchain, cryptocurrency, social inclusion"

URL: www.unrisd.org/brett-scott
Domain: blockchain
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Other UN system organizations • NGOs • Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Targeted group(s) • Other UN system entities • Other: private sector entities, civil society	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNRISD: Social Policy 2.0: Responding to New Tech Divides

This research project, which UNRISD seeks to develop and fund with partners, will explore social policy responses to technological innovation. It focuses on social policy responses to new technologies related to digitization, robotization and automation, because these have significant impacts on industries, labour markets and jobs, and consequently on poverty and inequality, and on the welfare of people in both developed and developing countries.

The introduction and widespread use of new technologies can be a win-win situation, if the right social policies can be identified and implemented in coordination with labour and technology policies. The research will examine promising integrated policy responses that prevent the creation of new digital divides and reduce inequalities. It aims to generate new empirical evidence that will help stakeholders maximize the benefits of new technologies and meet SDG 10 on inequalities.

The impacts of technologies on inequalities go far beyond the usual discussion of economic consequences. This research will bring to light the hidden impacts on inequalities related to gender, ethnicity and location. Similarly, policy responses to new technologies tend to be restricted to economic ones. Yet the final outcomes of advanced technologies are also shaped by a wider range of social policies, for example those addressing social protection, redistribution and care. The proposed research project's exploration of the policy and institutional arrangements that create synergies between social and other policies will begin to fill this gap.

Cases of new technologies being applied directly to social policy will also be explored in the research, such as the telecommunication-based provision of health care (mobile telemedicine systems) and education services (Massive Open Online Courses), and the distribution of social benefits (mobile payments to those in hard-to-reach areas). It will identify policies necessary to bridge digital divides and seize the full economic and social potential of such technological innovations.

Key stakeholders in academia, civil society, governments, the UN system, and the private sector will be consulted to co-design the research.

Supplemental Information:
The project is broader than just AI, as it intends to cover virtual reality, automation, blockchain etc. We will look at the social policy implications of these new technologies, and particularly whether new social divides are created by their use.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.) digitization, robotization, automation
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:

- Member States
- Other UN system organizations
- NGOs
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:

- government
- Other UN system entities
- Other: private sector entities, civil society

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNRISD: The Gig Economy and Social Security: Towards a (New) Digital Precariat?

This research project, which UNRISD seeks to develop and fund with partners, will explore ways for countries to reap the benefits of the digital economy without falling prey to unintended social consequences. It will examine measures that can be put in place to prepare and protect workers in response to the fast-changing digital landscape of the labour market.

The research will analyse how the digital economy is affecting the welfare and well-being of workers in both standard and non-standard employment, with a focus on the relationship between the gig economy and the emerging global precariat—a class of workers lacking job and income security, representation by unions and the benefits of the traditional welfare state—which is directly tied to rising global inequality. Much of the discussion and research around the gig economy and its potential impacts is based around the traditional employee-employer relationships in the Global North, but the gig economy is not an exclusively Northern phenomenon. In addition to multinational platforms, local startups in developing and middle-income countries have also embraced the gig economy.

The research will respond to the following questions at both national and international levels. Who benefits from the rise of the gig economy, and who risks being left behind? What are the implications for the welfare of workers and their basic right to social security? How can countries develop or reform their institutions to respond to the fast-changing digital landscape of the labour market? Can the gig economy offer workers—particularly those in the Global South—a path towards formal employment, or does it bypass stable formal employment altogether, concretizing the precarity of economic and social life for those already in disadvantaged positions? Is there a way to create a golden "third way" beyond the dichotomy of formal and informal work?

Key stakeholders in academia, civil society, governments, the UN system, and the private sector will be consulted to co-design the research.

URL:
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) digital economy, inequality
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Other UN system entities • Other: private sector entities, civil society	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is............................not yet begun

UNSSC: Geneva Forum

The UN System Staff College, in close cooperation with the Executive Office of the Secretary-General and the United Nations Office in Geneva, is in the process of creating a forum in Geneva where experts and senior UN officials can reflect on emerging strategic, cross-cutting issues that will shape tomorrow's world. The proposed Forum will be convened on a regular basis to consider emerging issues that should be brought to the attention of the Secretary-General. Given the "newness" of some of the issues or lack of existing expertise within the UN system, the Forum will bring together a diverse set of experts, whose expertise is not usually readily accessible by UN staff based in New York, together with relevant senior UN officials. The intended purpose of the Forum is to obtain "non-traditional" view points and expertise that are not currently accessed in the existing mechanisms/think tank discussions that engage with the UN. While most of the meetings are expected to take place in Geneva, some could be held at other locations of UN offices away from headquarters, depending on the topic and the location of relevant participants.

URL: n/a
Domain: the activity cuts across several science / technology / innovation domains
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia • Scientific community	

Beneficiaries:	Beneficiaries Description:
• Targeted group(s) • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): A proposal will be submitted to donors shortly.

UNU: "African Energy Futures" at UNU World Institute for Development Economics Research (UNU-WIDER)

As one of the most likely regions of the world to suffer first and most from climate change, Africa has considerable long run incentives to see effective global mitigation policies enacted. This project acted to directly support the development of renewable energies. The specific objective of the project was to contribute significantly to a knowledge base that provides substantial insight into the economics of renewable power systems on the African continent, the development advantages of a continent-wide grid; and the optimal mix of power sources. This knowledge base also illustrates the development costs and benefits to the continent of shifting from fossil fuel based systems to renewable systems. In so doing, these analyses have the potential to help catalyse the formation of coalitions of countries necessary for undertaking these broad scale investments and inform credible requests for financing of low-carbon energy production.

Through a process of capacity building, normative support, research and data collection, stakeholder convening and partnership building, the project contributed significantly to a knowledge base that provided substantial insight into the economics of renewable power systems on the African continent, the development advantages of a continent-wide grid; and the optimal mix of power sources. Carried out in partnership with the MIT Joint Program on the Science and Policy of Global Change.

URL: https://www.wider.unu.edu/project/africas-energy-futures
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Academia
- Scientific community

Actors Description:
MIT Joint Program on the Science and Policy of Global Change is directly partnered. A regional cooperation conference was held in South Africa in 2015.

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
In the short term, the Zambian Institute for Policy Analysis and Research, the Energy Research Centre and the Department of Economics at the University of Cape Town, the Centre for Economic and Management Studies at the University Eduardo Mondlane in Mozambique, Economic Policy division of the National Treasury of South Africa, African Economic Research Consortium (AERC). he research communities and groups involved, and the public at large, are ultimately beneficiaries.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....2 UNU-WIDER research staff

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....915,500.00 USD

Timeline:

Work on activity began:...more than 1 year ago
Work is............................complete (no further action to be taken)

UNU: "Development Under Climate Change (DUCC)" at UNU World Institute for Development Economics Research (UNU-WIDER)

Climate change will remain an issue for decades to come if not indefinitely. One of the key tasks for assisting policy makers in developing countries address the uncertainties of climate change is translating scientific and biophysical processes into economic outcomes. UNU-WIDER's DUCC – Development Under Climate Change project is particularly aimed at addressing this challenge by using an analytical framework that traces the economic implications of climate change. The framework used in the project accounts for a wide range of factors including production of hydropower, agricultural yield, water supply/demand balance, and the costs of maintaining infrastructure. These impacts then serve as inputs into an economy-wide model of the country in question which aids the assessment of economic impacts and policy options.

Through a process of capacity building, normative support, research and data collection, stakeholder convening and partnership building, the project built capacity to confront climate change in the region. To achieve impact, key government institutions in the region participated in the research/capacity building programme. With respect to analysis of the economic impacts of climate change, associated adaptation strategies, and low-carbon growth paths, the best candidates were the analytical units associated with central ministries. These units articulated overarching plans for coping with climate change. Examples of these units include, the Economic Policy unit in the National Treasury in South Africa; and the National Directorate of Studies and Policy Analysis in the Ministry of Planning and Development in Mozambique, along with similar institutions in Angola, Malawi, Zambia, and Zimbabwe. The UNU-WIDER-AERC initiative sought to engage with these key government institutions in three dimensions:

1. Creation of an informal forum for technical discussions on regional approaches to confronting climate change.

2. Direct engagement with researchers located in academic/research institutions in the region in advancing the research programme for southern Africa outlined above.

3. General capacity building to these institutions with an emphasis on fundamental techniques/skills that both assist with understanding the economic implications of climate change and apply broadly to the work programme of an economic analysis unit within a central ministry.

URL: https://www.wider.unu.edu/project/ducc-development-under-climate-change
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
• Expert Meeting/Workshop
• Training/Capacity Building Programme
• Policy or Research Paper/Report/Publication

Actors:
- Member States
- Academia
- Scientific community

Actors Description:
African Economic Research Consortium (AERC) and key government institutions in Mozambique, Angola, Malawi, Zambia, and Zimbabwe are partners.

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
In the short term: The Economic Policy unit in the National Treasury in South Africa; and the National Directorate of Studies and Policy Analysis in the Ministry of Planning and Development in Mozambique, along with similar institutions in Angola, Malawi, Zambia, and Zimbabwe are beneficiaries. Alternative energy and climate change research communities are secondary beneficiaries.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....3 UNU-WIDER research staff

Financial Investment: ....large (expenditure $50,000 and above)
    Explanation: ....2,709,200.00 USD

Timeline:

Work on activity began: ...more than 1 year ago
Work is ....complete (no further action to be taken)

UNU: "Macro-economic management (M-EM)" project at UNU World Institute for Development Economics Research (UNU-WIDER)

This project includes the components, Understanding the African lions: growth traps and opportunities in six dominant African economies, The international non-monetary system, and Extractives for development. It explores how macroeconomics of development is evolving; what the policy priorities are as the global economy undergoes transformation (with more countries moving from low- to middle- income status); the impact of global economic turbulence (including the aftermath of the 2008-09 financial crisis) and where the direction of future research and policy lies. Macro-economic management has steadily improved in most low- and middle-income countries over recent decades. Thirty years ago, the macro-economics of development focused reducing high inflation and restoring external balance. This was often painful, resulting in prolonged periods of recession. Fiscal management was reformed and central bank independence increased. As policy credibility was restored, countries looked to macro-economic policy to achieve higher, sustained, and more inclusive growth. Today, the key issues are managing private capital flows, expanding the range of financial services, reforming and managing revenue mobilization, and managing boom-bust cycles in commodity prices.

Through a process of capacity building, normative support, research and data collection, stakeholder convening and partnership building, the project, the principal objective of M-EM is to contribute a body of knowledge on effective macro-economic management for low- and middle- income countries, in a global economic environment which is subject to constant change. That global economy is now at a turning point as the US Federal Reserve moves to tighten interests – affecting the global credit market for the debt of developing countries – and as commodity prices have weakened as the Chinese economy slows. Medium and longer-term forces are also at work which will pose new challenges for macro-economic management including demographic change (a youth dividend in Africa, but ageing societies in Asia) and the impact of climate change agreements and associated new technologies in renewable energy on the demand for fossil fuels, the export of which constitutes the main revenue of a significant number of countries. A number of developing countries are undergoing conflict varying from localized conflicts (some of which are focused on the control of natural resources) to large-scale civil war. Such fragile states have macro-economic dimensions to their fragility, and it will be an objective of the project to scope out further possible research work in this area (this was a theme of earlier work on conflict and post-conflict reconstruction in UNU-WIDER's work programmes of the past).

URL: https://www.wider.unu.edu/project/macro-economic-management-m-em
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) future of economic management
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:
- Academia
- Scientific community

Actors Description:
International Centre for Taxation and Development (ICTD), Development Policy Research Unit (DPRU), Brookings Institution are partners.

Beneficiaries:
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
Researchers and practitioners in the natural resource field, in developing and developed countries alike, will benefit from the body of knowledge created including via 'Open Access' publications emerging from the research process. Citizens in developing countries will be the ultimate beneficiaries.

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....2 UNU-WIDER research staff

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....1,023,000.00 USD

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNU: "Regional Growth and Development in Southern Africa" at UNU World Institute for Development Economics Research (UNU-WIDER)

Economies in the Southern Africa region face thorny challenges when it comes to the transformation of their economies and the need for job creation and the sharing of the benefits of growth. This project developed, in conjunction with important research/policy institutions in the region, regional growth and development initiatives to generate economic transformation and widely shared development benefits. The project focused on two principal elements: (i) firm-level analysis with initial focus on South Africa and (ii) regional growth and development with focus on agricultural trade including bioenergy and leveraging natural resource investments for inclusive growth.

Through a process of capacity building, normative support, research and data collection, stakeholder convening and partnership building, the project provided a platform for collaborative research on regional issues across a series of important institutions in Southern Africa, enhanced understanding of regional opportunities, identified and pursued opportunities for leveraging natural resource exploitation in the region towards the enhancement of regional growth and development opportunities, facilitated mutually beneficial agricultural trade, including bioenergy, and developed and institutionalized an enterprise monitoring system in South Africa.

URL: https://www.wider.unu.edu/project/regional-growth-and-development-southern-africa

Domain: the activity cuts across several science / technology / innovation domains

Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Academia
- Scientific community

Actors Description:
National Treasury of South Africa, the Center for Agricultural Policy at the University Eduardo Mondlane, Centre For Competition, Regulation And Economic Development, HSRC South Africa, Southern Africa Labour and Development Research Unit (SALDRU), Zambia Institute for Policy Analysis & Research (ZIPAR), Indaba Agricultural Policy Research Institute (IAPRI Zambia), Trade and Industrial Policy Strategies (TIPS), South African Revenue Service, ODI, University of Cape Town, Zimbabwe ZEPARU.

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
In the short term, the Zambian Institute for Policy Analysis and Research, the Department of Economics at the University of Cape Town, the Centre for Economic and Management Studies at the University Eduardo Mondlane in Mozambique, Economic Policy division of the National Treasury of South Africa, Trade and Industrial Policy Strategies, the Trade and Law Center, the Center for Agricultural Policy at the University Eduardo Mondlane, and the University of Malawi.

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....3 UNU-WIDER research staff

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....2,405,000.00 USD

Timeline:
Work on activity began:...more than 1 year ago
Work is............................complete (no further action to be taken)

UNU: "Structural transformation and inclusive growth in Viet Nam" project at UNU World Institute for Development Economics Research (UNU-WIDER)

This project responds to the SDG's call for a strengthening of data collection and capacity-building in Member States. Timely and better disaggregated, country level data aids the search for an evidence-based course to realizing economic transformation and sustainable development in a post-2015 development context. Specifically, the project builds on – and further develops – two unique firm and rural household panel data sets in Viet Nam, a dynamic East-Asian economy. Viet Nam's contemporary similarities to a large number of developing countries make its experiences highly relevant for many regional and extra-regional stakeholders. This project consists of in-depth and high-quality reports and research studies carried out by leading international experts, with a view to inform policy-formulation for broad-based, inclusive, and sustained growth.

Through a process of capacity building, normative support, research and data collection, stakeholder convening and partnership building, the overall objective of this project is to (i) contribute to further development and use of a set of unique data bases on economic development in Vietnam (SME, rural households and macroeconomic SAM data); and (ii) develop the capacity of international and Vietnamese research institutions to perform relevant, high-quality analysis of panel survey data with a view to supporting evidence-based policymaking, nationally and internationally. Vietnam is an illustrative case study of relevance to other developing countries in transformation; and as such this project will provide a wide variety of case material and research studies that cut across the UNU-WIDER 2014-18 work programme. The project will furthermore help deepening national and international networks of researchers, practitioners, and policy-makers that work on transformation, inclusion and the gender dimension in development.

URL: https://www.wider.unu.edu/project/structural-transformation-and-inclusive-growth-viet-nam

Domain: data-related issues (privacy, openness, access, etc.)

Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Other: database

Actors:
- Member States
- Academia
- Scientific community

Actors Description:
Central Institute for Economic Management (CIEM), Institute of Labour Science and Social Affairs (ILSSA), Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD), General Statistics Office (GSO) of Viet Nm are direct partners.

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
The present project will approach the question of its long-term beneficiaries though the expansion of detailed data bases and understanding of how the living and productive conditions of households and firm are played out, embedded as they are in institutions, market forces, and cultural interactions. Accordingly, the ultimate beneficiaries of this project are (i) rural people, and (ii) SMEs small and medium enterprises.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....2 UNU-WIDER research staff

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....995,000.00 USD

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UNU: "The political economy of clean energy transitions " at UNU World Institute for Development Economics Research (UNU-WIDER)

Sustainable energy transitions involve the shift of resources between competing industrial sectors and political constituencies. Stakeholders in this process have varying degrees of political and economic power, and understanding how political economic factors influence clean energy transitions is crucial to effective policy formulation and facilitating transitions to sustainable energy systems. This project, in partnership with the Joint Institute for Strategic Energy Analysis (JISEA) at the US Department of Energy's National Renewable Energy Laboratory (NREL), sought to contribute to enhanced understanding of these factors.

Through a process of normative support, research and data collection, stakeholder convening and partnership building, the project sought to produce research designed to facilitate an energy transition that will generate very large environmental and economic benefits, particularly over the long run.

URL: https://www.wider.unu.edu/project/political-economy-clean-energy-transitions
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States • Academia • Scientific community	Joint Institute for Strategic Energy Analysis (JISEA) at the US Department of Energy's National Renewable Energy Laboratory (NREL) were direct partners

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s)	In the short term, the African policy and research network of 'Regional Growth and Development in Southern Africa' and 'African Energy Futures'. Research communities and the public at large are ultimate beneficiaries.

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....2 UNU-WIDER research staff

Financial Investment:........large (expenditure $50,000 and above)
    Explanation: ....300,000.00 USD

Timeline:
Work on activity began:...more than 1 year ago
Work is............................complete (no further action to be taken)

UNU: "World Income Inequality Database (WIID)" at UNU World Institute for Development Economics Research (UNU-WIDER)

The purpose of this project is to advance data collection, measurement, and research regarding the development of inequality in the world. A major focus in this research area is the maintenance, updating, and development of the World Income Inequality Database (WIID) which is currently the most comprehensive and complete database on inequality indicators. It gathers information on income inequality in all the countries in the world for which suitable data is available and it is freely downloadable at the UNU-WIDER website. The project also generates new research output based on WIID data. This includes a study on the drivers of within-country inequality, with an emphasis on the impacts of tax and spending policies. The project also contributes to the design of suitable financing of redistributive transfers systems by conducting research on tax policies in developing countries

Through a process of capacity building, normative support, research and data collection, stakeholder convening and partnership building, the project intends:

• To improve the methods of and resources for, analysis of income inequality around the world

• Continue to update, and publish updates of, the dataset

• Clean and simplify the dataset in preparation for the development of a visualization tool

• Develop and make freely available a visualization tool, to further enhance the availability and accessibility of the dataset to those outside the traditional audience.

• Production of research papers using the WIID data by UNU-WIDER staff members

The current revision . WIID3.4 . is an update of the third major revision of the database, WIID3. The current version includes observations for six additional countries, with the latest observations now reaching the year 2015. In total, the data cover 182 countries with 8,817 observations.

URL: https://www.wider.unu.edu/project/wiid-world-income-inequality-database
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) inequality indicators
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
• Policy or Research Paper/Report/Publication
• Other: database

Actors:	Actors Description:
• Academia • Scientific community	The Indian Council for Research on International Economic Relations (ICRIER) is a direct partner.

Beneficiaries:

- Public-at-large
- Targeted group(s)

Beneficiaries Description:
In the short term researchers and practitioners dealing with inequality in developing and developed countries alike are beneficiaries.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....2 UNU-WIDER research staff

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....651,969.00 USD

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNU: "Water and Energy Security in Africa (WESA)"

The Pan African University Institute of Water and Energy Sciences (including Climate Change) (PAUWES) is one of the five hubs of the Pan African University (PAU) hosted at the University of Tlemcen in Algeria. The Pan African University (PAU) was initiated by the African Union Commission (AUC) in 2008 with the objective to promote higher education, science and technology on the African continent at a high academic level. The focus is on the development of post-graduates, PhD-candidates and applied research.

The project – "Water and Energy Security in Africa (WESA)" funded by the German Federal Ministry for Education and Research (BMBF) aims to support the development of PAUWES by enhancing its research activities in water and energy sciences. The project focusses on the development of innovative scientific research methods, which are adapted to local contexts and applicable in the areas of water and energy security in Africa. It is the first step towards the realization of a research agenda at PAUWES and at the same time offers PAUWES graduates the opportunity to conduct PhD studies. Support of young scientists plays a central role in the PAUWES research agenda with the goal to develop and implement scientific results. Beside the institutional and scientific objectives, the integration of PAUWES into scientific networks and the establishment of PAUWES as Pan African (and beyond) hub/platform on the topic of Energy, Water and Climate Change is another important objective of the project.

The United Nations University – Institute for Environment and Human Security (UNU-EHS), the Institute for Technology and Resources Management in the Tropics and Subtropics (ITT) at the TH Köln (University of Applied Sciences), the Center for Development Research (ZEF) at the University of Bonn (UB), University of Tlemcen and PAUWES are partners in a consortium led by UNU for the implementation of the project. UNU-EHS is leading the project consortium and is further responsible for work packages that focus on research in water security in urban contexts in Africa and for reach-out activities.

URL: https://ehs.unu.edu/research/water-and-energy-security-for-africa-wesa.html#outline

Domain: energy technology (solar energy, battery storage, biofuels, etc.)

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme
- Other: postgraduate programme and development of scientific research methods

Actors:
- Member States
- Academia
- Scientific community

Actors Description:
The project was developed with the German Federal Ministry for Education and Research (BMBF). The United Nations University – Institute for Environment and Human Security (UNU-EHS), the Institute for Technology and Resources Management in the Tropics and Subtropics (ITT) at the TH Köln (University of Applied Sciences), the Center for Development Research (ZEF) at the University of Bonn (UB), University of Tlemcen and PAUWES are partners in a consortium led by UNU.

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
African students, a number of African Universities (primarily Panafrican University Institute for Water and Energy Sciences (PAUWES) and University of Tlemcen in Algeria) and scholars in the science and technology fields are direct beneficiaries. The research community, involved governments and public at large are indirect beneficiaries.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....3 full time at UNU, including a postdoctoral researcher. Among the partners there are 2 postdoctoral researchers and 2 PhD students.

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....2.6 million euros funded by BMBF Germany.

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................in-progress (specify expected completion date): 2019•12•31

UNU: Advancing 'smart data' at the UNU Institute for Computing and Society

The United Nations University Institute on Computing and Society (UNU-CS) is a research institute at the intersections of information and communication technologies and international development (ICTD) focusing on the key challenges faced by developing societies through high-impact innovations in computing and communication technologies.

UNU-CS is nurturing three ICTD research Labs which guide and connect experimental research: the Digital Peace Lab: ICTs for peacebuilding and to support human security, respond to crises, and mitigate human displacement; the Gender Tech Lab: ICTs that promote women's empowerment and enable sustainable community led development; and the Small Data Lab: ICTs that create actionable knowledge from local data, empower citizens with data they trust, and improve global datasets with local data.

UNU-CS is working in the area of migrant technology acess and use, digital peacekeeping, crowdsourced data and opensourced data in the aftermath of crises, "small data", gender equality in ICTs access and leadership, and psychosocial wellbeing and ICTs.

Supplemental Information:
UNU's Institute for Computing and Society (UNU-CS) is nurturing three information and communication technologies and international development (ITCD) research Labs: The Digital Peace Lab, the Gender Tech Lab, and the Small Data Lab. Several ongoing projects are developing the sophistication and applications of AI, machine learning, human-computer interaction (HCI), Natural Language Processing (NLP), and related approaches.

For the Digital Peace Lab, for example:

-        UNU-CS will soon launch an initiative, together with partners from leading universities, exploring Artificial Intelligence for Peace. This work is in collaboration with stakeholders from UN peacekeeping.

-        UNU-CS is exploring local/mobile cloud(let) architectures for peacekeeping especially focused on situational awareness. This work entails data acquisition and analysis systems focused on preserving user data security and privacy while working in environments with weak network infrastructures.

The Gender Tech Lab, which seeks to understand how the use of ICTs such as mobile phone technology can be used to tackle gender problems, as well as how women and girls can better access and effectively use ICTs, includes:

-        A Migrant Technologies project, which includes a human-computer interaction (HCI) and usability study for mobile apps that are designed to identify and respond to cases of modern slavery and human trafficking.

Finally, within the work of the Small Data Lab:

-        The Aggie software platform (getaggie.org), is a social media aggregation and analysis platform developed at UNU-CS and leading universities. It has applied Machine Learning approaches for compression and discovery. UNU-CS also plans to explore Natural Language Processing (NLP) methods. This platform has been used extensively for election monitoring in countries around the world.

URL: http://cs.unu.edu/research/
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:
- Member States
- Other UN system organizations
- Academia
- Scientific community
- Other:

Actors Description:
In addition to academic networks, close partnerships have been forged with UN entities including UN Women and DPKO.

Beneficiaries:
- government
- Targeted group(s)

Beneficiaries Description:
ICT professionals and the wider research community are ultimate beneficiaries. Governments also benefit from potential uses of data for humanitarian response (see http://cs.unu.edu/research/aggie/) and building sustainable, peaceful societies in the longer term.

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UNU: Facing the challenges faced by automation/robotics/AI - engagement by UNU World Institute for Development Economics Research (UNU-WIDER)

The challenges of automation, and the rise in robotics, formed the core of principle 7 of the Stockholm Statement. Thirteen economists, including the Chair of the WIDER Board, Professor Ravi Kanbur, member of the WIDER Board, Professor Haroon Bhorat, UNU-WIDER Director Finn Tarp and four former Chief Economists of the World Bank, met over two days at Saltsjöbaden, Sweden, hosted by the Swedish International Development Agency and the World Bank, on 16-17 September 2016. Discussing the challenges faced by today's economic policy makers, the group decided to issue a statement of the consensus reached among them: the 'Stockholm Statement'.

In January 2017, Professor Carol Newman, Dr John Page, and Director Finn Tarp also identified the issues facing the future of production on the African continent for the World Economic Forum, and highlighted this challenge to skills development.

URL: https://www.weforum.org/agenda/2017/01/made-in-africa-the-future-of-production-on-the-continent
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
* Expert Meeting/Workshop

Actors:	**Actors Description:**
• Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s)	Development professionals, financing institutions and the wider research community.

Scale:

Personnel Support: ....not applicable
    Explanation: ....Regular sharing of expertise and engagement by UNU-WIDER Director

Financial Investment: ....not applicable

Timeline:

Work on activity began: ...more than 1 year ago
Work is............................ongoing (with no set end date)

UNU: Open Data efforts by UNU World Institute for Development Economics Research (UNU-WIDER)

UNU-WIDER's open data efforts span a range of projects (including the ongoing 'World Inequality' effort, the details for which are provided above), and are united by a concept of providing open data in a range of public formats, suitable for target audiences across the development and academic spectra. Focusing on getting the right information to the right groups, in the right format, at the right time, the Institute invested in a system that identified the needs of developing country users (for example, low bandwidth, non-standard systems, and mobile friendly), and provides vital data through user friendly visualization tools, as well as with highly documented raw files for more advanced use.

In response to UN Secretary-General's 2014 call for a data revolution, UNU-WIDER's hosting of the WIID – World Income Inequality Database and the GRD – Government Revenue Database continues to break down the barriers of distance between those in need of high quality data, and the reliable, impartial sources that good analysis requires. Using an approach designed for utility and transparency, UNU-WIDER provides researchers, policy makers, and the public with access to both robust, multi-format datasets with thousands of individual data points, and a streamlined, intuitive and responsive data visualization tool for WIID.

UNU-WIDER's approach to the data revolution is illustrated in the following two mini-documentaries:

- https://www.youtube.com/watch?v=LYTrFMb9Dao

- https://drive.google.com/file/d/0BzXUy4xYWvWAR0d2eGJEaWpJSWc/view?usp=sharing

The first one documents the great achievement of UNU-WIDER, the National Treasury of South Africa, and the South African Revenue Service in making available South Africa's tax administrative data to researchers and policy-makers. The second video illustrates the impact of the innovative activities undertaken by UNU-WIDER and its affiliated researchers in Viet Nam where they have been engaged for almost two decades in data collection and policy work.

URL: https://www.wider.unu.edu/data
Domain: data-related issues (privacy, openness, access, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Policy or Research Paper/Report/Publication
- Advocacy
- Other: online databases and visualizations

Actors:	**Actors Description:**
• Member States • Academia • Scientific community	Across UNU-WIDER projects

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
Developing countries and citizens across UNU-WIDER projects, as well as the wider research community.

Scale:

Personnel Support: ....not applicable
    Explanation: ....Wider engagement of UNU-WIDER across staff

Financial Investment:.......not applicable
    Explanation: ....Mainstreamed efforts

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNU: Strategic Outlook for 2050

We were commissioned by the UK government to provide detailed analysis of how technological, demographic, social and physical changes will structure the strategic environment in 2050, with a particular focus on organized crime and corruption. Our work involved extensive literature reviews and analysis of changes in areas including:

- Artificial intelligence, automation and additive manufacturing

- Transportation

- Cybersecurity, cybercrime and data

- The future of work

- Intelligent policing and surveillance

- Energy technology and environmental change

- Resource and food security

The work is now close to completion and will be published in August/September. It informs a UK whole of government review for 2018. We have just presented the work in Whitehall at a meeting attended by 40 experts from across government (defence, foreign office, policing, DfID, intelligence, Cabinet Office), thinktanks and academia.

URL: n/a
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States	
• Private sector entities	
• Foundations	
• Academia	

Beneficiaries:	Beneficiaries Description:
• government	
• Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Aug-17

UNU: The Geothermal Training Programme of the United Nations University (UNU-GTP)

The Geothermal Training Programme of the United Nations University (UNU-GTP) is a postgraduate training programme, aiming at assisting developing countries in capacity building within geothermal exploration and development. The programme consists of six months annual training for practicing professionals from developing and transitional countries with significant geothermal potential. Priority is given to countries where geothermal development is under way, in order to maximize technology transfer. Since 1979, 177 fellows have come from dozens of developing countries around the world: http://www.unugtp.is/en/fellows

The programme has operated in Iceland since 1979. It is a cooperation between the United Nations University and the Government of Iceland and is hosted by the National Energy Authority (Orkustofnun).

URL: http://www.unugtp.is
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Online Forum/Community/Exchange
- Other: postgraduate research and training fellowships

Actors:	Actors Description:
• Member States	The Government of Iceland, the University of Iceland, Reykjavik University, ISOR (Iceland Geosurvey), and the International Geothermal Association are direct stakeholders.
• Academia	
• Scientific community	

Beneficiaries:

- government
- Public-at-large
- Targeted group(s)

Beneficiaries Description:
Students and fellows, the alternative energy industry, the STEM research community, and the countries of origin of students and fellows are direct beneficiaries. The public at large are indirect beneficiaries.

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)

Timeline:

Work on activity began: ...more than 1 year ago
Work is.............................ongoing (with no set end date)

UNU: The UNU Biotechnology Programme for Latin America and the Caribbean (UNU- BIOLAC)

The UNU Biotechnology Programme for Latin America and the Caribbean (UNU-BIOLAC) is an institute of the United Nations University (UNU) based in Caracas, Venezuela. UNU-BIOLAC undertakes training and research at the intersection of science, technology, and society to envision how modern biotechnology can encourage social and economic development.

The programme's aim is to prepare and qualify professionals through higher education. Activities are organized and executed in collaboration with scientific institutions and an international network of highly qualified academics and researchers that are experts in biotechnology. Its main activities include: curating and invigorating a research community, including through for research and training, to students and senior scholars in biotechnology fields across the region and beyond; offering advanced courses for holders of a bachelor degree; harnessing the research and training opportunities within the UNU-BIOLAC network.

was officially established in 1988 by an agreement between the Venezuelan Government and the United Nations University. Its creation was an initial step towards the establishment of an institute dedicated to the development of biotechnology in Latin America and the Caribbean, with headquarters in Venezuela.

URL: https://unu.edu/about/unu-system/biolac/about#overview
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Online Forum/Community/Exchange
- Other: graduate and postgraduate research fellowships

Actors:	**Actors Description:**
• Academia • Scientific community	

Beneficiaries:

- government
- Public-at-large

Beneficiaries Description:
Universities and governments in the LAC region, the STEM research community and the public at large are the ultimate beneficiaries.

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UNU: Tracing of Human mobility by mobile devices

Climate change is likely to drive migration from environmentally stressed areas. However quantifying short and long-term movements across large areas is challenging due to difficulties in the collection of highly spatially and temporally resolved human mobility data. In this study we use two datasets of individual mobility trajectories from six million de-identified mobile phone users in Bangladesh over three months and two years respectively. See more: http://www.sciencedirect.com/science/article/pii/S0959378016300140

The project was started as part of the UNU-EHS project Gibika run together with the International Center for Climate Change and Development (ICCCAD), Dhaka Bangladesh. The aims of the larger Gibika research-to-action project are to advance the scientific understanding of livelihood resilience in Bangladesh, and to apply conclusions towards community-led solutions that improve the living conditions of vulnerable people. When livelihood systems are not resilient, environmental shocks can have long-term impacts on human well-being and development goals. By implementing community-led action, this project can promote livelihood resilience, and sustainable development. Gibika is a five-year research-to-action partnership between International Centre for Climate Change and Development (ICCCAD), United Nations University Institute for Environment and Human Security (UNU-EHS) and Munich Re-Foundation (MRF) with the objective of improving the living conditions of people in our seven sites in Bangladesh.

URL: https://ehs.unu.edu/research/gibika.html#outline
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Other: empirical & methdological development

Actors:	**Actors Description:**
- Private sector entities - Academia - Scientific community	Project partners: 1. UNU-EHS, Bonn (Project Lead) 2. MinichRe Foundation 3. ICCCAD, Bangladesh 4. Grameenphone, Bangladesh 5. Flowminder Company, Sweden

Beneficiaries:

- government
- Public-at-large

Beneficiaries Description:
The people of Bangladesh and local governments are the ultimate beneficiaries, via research that informs the improvement of livelihood vulnerabilities. The research community, involved governments and public at large are indirect beneficiaries.

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)
    Explanation: ....4 at UNU plus 8 among the partners; in total 3 postdoctoral researchers and 8 PhD students.

Financial Investment: ....medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began: ...more than 1 year ago
Work is.............................in-progress (specify expected completion date): 2018•01•01

UNV: UNV Online Volunteering service

The UNV Online Volunteering service connects organizations and volunteers to address sustainable development challenges by teaming up online – anywhere in the world, from any device. Since its launch in 2000, it has enabled thousands of organizations (UN, NGOs, public institutions) worldwide to receive volunteer support over the Internet.

Technological advances play an important role in two ways:

1) The platform connects expert volunteers with organizations looking to increase their capacities in making use of advanced technologies. For example, two online volunteers developed training materials for an NGO helping them to create a Bitcoin wallet to collect donations. As a follow-up they also helped to create a digital currency fundraising program.

2) Funded by Germany, UNV continues to explore innovative methods to ensure the broadest possible participation by all members of society in contributing to the achievement of the SDGs.

Making use of technological advances to increase the breadth and depth of the Online Volunteering service and its community allows it to fulfill several of the functions listed below:

- measuring and reporting on the achievement of the Sustainable Development Goals and Indicators

- research and thought leadership on the impact of digital civic engagement on peace and development

- data collection and analysis for stakeholders and the global community

- convening of stakeholders and partnership building around technological advances as well as volunteerism advocacy

- capacity development and technical assistance for all stakeholders, from the individual volunteer to small CSOs, NGOs and public institutions of all sizes, as well as intergovernmental bodies such as the UN funds and programmes

- direct support to programme delivery through the provision of volunteers

URL: www.onlinevolunteering.org
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) Digital civic engagement and a marketplace to facilitate the use of technological advances for development and peace
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	**Actors Description:**
- Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Foundations - Academia	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Staff of your organization - Other UN system entities - Other:	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

UN-Women: Create platforms with specific focus on women's action in the areas of employment and entrepreneurship

UN-Women is designing a set of mobile enabled enterprise platforms for women-owned enterprises in agriculture, utilities and retail sectors to be used as part of its existing programmes. These platforms combine low-tech hardware with sophisticated open-source supply chain software to connect women to information, finance, suppliers, and market. Data capture is built into the system, facilitating real time monitoring and evidence based evaluation, which in turn allow women to build a financial track record and credit history.

To date, UN Women has developed a minimum viable product for its agricultural business platform and is currently piloting the system with up-to 5,000 farmers in Rwanda. UN Women is also piloting its retail business platform in Haiti.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Member States • Other UN system organizations • NGOs	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s)	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UN-Women: Develop Digital financing platforms

UN Women is exploring digital fundraising, mobile banking and block chain technologies to facilitate access to affordable finance to entrepreneurs to from individuals, social impact investors and commercial financial intermediaries, as part of its existing programmes.

UN Women's platforms are systematically incorporated within its Flagship Programme Initiatives (FPIs) to facilitate and accelerate their implementation and scale up.

URL:
Domain: blockchain
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................ongoing (with no set end date)

UN-Women: Develop Programme Information Management Systems (PIMSs)

UN Women is developing a group of dynamically linked Programme Information Management Systems (PIMSs) that will enhance its planning, pipeline management, financial management, result management; human resources management and donor management functions. UN Women's Programme Management Information architecture comprises four core systems that coupled, lead to seamless data exchange between systems.

The core systems are:

1. ATLAS: Organization's Enterprise Resource Planning (ERP) System.

2. Result Management System (RMS): UN Women's corporate system for planning, monitoring and reporting against status

3. Donor Agreements Management System (DAMS): Comprehensive system for managing donor agreements.

4. LEADS: UN Women's engagement pipeline management system for development of project proposals.

The PIMSs described above will capture an extraordinary amount of development and management data on UN women's work and impact for the advancement of gender equality and women's empowerment.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: internal support function (including application to operations and management)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Not applicable	

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

UN-Women: Develop Virtual Skill School (WeLearn)

Building on the work spearheaded by Commonwealth of Learning, UN Women is piloting the use of innovative technological solutions to create virtual schools and training centers for women and girls as part of its existing programmes. The Virtual Skill School combines online and mobile applications with low cost and low maintenance hardware devices and offers:

1. In partnership with education practitioners, foundational skills for second chance education;

2. Modern delivery system for vocational training and entrepreneurship development

3. 21st century life skills

The Virtual Skills School can also be used in off-line environments at low cost so that areas that do not have mobile phone coverage can benefit from the initiative.

URL: welearn.unwomen.org
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Member States	
• Other UN system organizations	
• Private sector entities	
• Academia	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s)	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

UNWTO: Technology and Innovation in Tourism

Elaboration of a report on use of new information technologies and innovations in tourism by tourism stakeholders, either suppliers or consumers, including a vision on UNWTO's further engagement in these matters.

- Compilation of case studies with identification of good practices

- Promotion and support of interrelations and partnerships among and with stakeholders producing and needing new technological solutions, for example in the areas of big data, open data, internet of things, digital platforms, etc.

- Governance: identification of issues with high priority that ought to be focused on especially, for example changes needed in regulatory frameworks and the role of UNWTO in this follow-up (e.g. accessibility, security of visitor's data, impacts of new technologies on employment, etc.

- Link between current technology-driven changes in the tourism sector and the opportunities, responsibilities and contributions to the SDGs.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

Actors:	Actors Description:
• Member States	
• Private sector entities	

Beneficiaries:	Beneficiaries Description:
• government	
• Public-at-large	
• Targeted group(s)	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is...........................in-progress (specify expected completion date):

UPU: Big Postal Data Platform

Hundreds of millions of physical, electronic and financial transactions are conducted each day via postal networks worldwide, which constitute a vehicle for exchanges and economic development. Postal economics studies economic issues relating to these markets, analyzes supply and demand trends, and compares the sectoral policies implemented in various countries with a view to identifying best practice.

New information and communication technologies, domestic reforms, the global economic and financial crisis and efforts to combat poverty all impact on the postal sector and need to be estimated and evaluated as a result. By studying the economic situation of UPU member countries, be they least developed, emerging or industrialized, postal economics aims to facilitate information and knowledge sharing and to provide a foundation for increased partnerships, associations and network interconnectivity, and the development of a truly global public asset.

Since 1995 the UPU through the Postal Technology Centre (PTC) maintains the POST*Net network for the exchange of electronic postal information between UPU designated operators and their partners. This information comprises of Mail and Postal Payment, and now Customs related information.

UPU specific business drivers for data:

• The data processing capability of the UPU is central to new product development (such as e-commerce services), accounting (inter-operator payments for the delivery of international mail) and operations (customs and security clearance)

• The UPU's quality of service reporting based on complex rules of EDI data validation are increasingly unique to a regional group, product type, mail class.

• The need to predict international postal market trends through Postal Statistics and EDI analytics to further support member countries and their designated operators

• The positioning of the UPU as a Postal knowledge and Research Centre in support of the UN goals on sustainable development

What is the UPU's "Big data" platform?

• Data (now and future)

o Post*Net Mail and Finance EDI, Postal Statistics, UPU ICT Network activity, GIS information, ANY future data

• Technology & cost

o State of the art technology (a Hadoop cluster) to process massive amounts of data with a low unit of cost per computation

• Centrality & Security

o All UPU postal and related data as a single 'source of truth' from which will spring secure, accurate, verifiable and auditable reports & statistics.

• Expertise & Capacity

o International Bureau Statisticians and PTC technical Staff with the ability to analyze and correlate ALL of the data

URL:
Domain: data-related issues (privacy, openness, access, etc.)

Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • Private sector entities • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

UPU: Blockchain postal platform for cross-border e-commerce

With over 650,000 post office outlets around the world, the Postal network represents one of the most widely and reliable public infrastructures to bridge the digital and physical worlds to deliver "ICT for development" and ensure the global reach of digital services to serve the citizens.

The Universal Postal Union (UPU) approved in its Congress the world postal strategy for next work cycle of 2017-2020. Within this strategy the UPU has the mandate of "promote and support cooperation and technology transfer among member countries for the development of common international digital services and open postal platforms for e-commerce".

In order to facilitate the provision of digital postal services across countries, the UPU is exploring blockchain based platforms in order to provide a trust on the digital space. The purpose is to help cross-border e-commerce through the postal network as a inclusive national and international facilitator for citizens, business and governments.

URL:
Domain: blockchain
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange

Actors:	**Actors Description:**
• Private sector entities	Postal operators and other e-commerce stakeholders

Beneficiaries:	**Beneficiaries Description:**
• Public-at-large	

Scale:
Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Jul-05

UPU: Interface to share data across stakeholders in the e-commerce value chain

With over 650,000 post office outlets around the world, the postal network represents one of the most widely accessible and reliable public infrastructure available to bridge the digital and physical worlds to deliver "ICT for development" and to ensure the global reach of digital services to world's citizens.

The Universal Postal Union (UPU) approved in its Congress the world postal strategy for 2017-2020. Within this strategy the UPU has the mandate of "implementing international interoperable postal e-services for exchanging information in the online e-commerce value chain".

In order to facilitate the exchange of information across the e-commerce value chain, the UPU is developing a single interface to share data from the postal sector with other stakeholders such as global e-retailers, e-marketplaces and other logistic partners.

The opening up the postal network through a single interface (APIs) for all postal operators and other relevant stakeholders around the world may help ease the access of under served communities to the global e-commerce value chain either as customers or participants (e.g. small and medium enterprises).

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange

Actors:	Actors Description:
• Private sector entities	Postal operators and other e-commerce stakeholders

Beneficiaries:	Beneficiaries Description:
• Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......small (expenditure less than $10,000)

Timeline:
Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): Jul-05

UPU: Regulated community TLD .POST, and domain names registration as a frontier technology

The Universal Postal Union (UPU) was the first United Nations organization to obtain a Top-Level Domain (TLD) called .POST from ICANN and, to date, it remains the only UN agency to have a TLD.

.POST is a unique internet space managed by the UPU for the benefit of its varied stakeholders including its member countries and other players of the broader postal community. .Post is self-regulated and managed under the auspices of the .Post Group, a user funded group composed of those UPU member countries and other stakeholders actively engaged in the .Post community.

The .POST Group is driving the UPU's efforts to deliver a more secure online experience, with the aim of promoting the UPU's legal framework amongst its stakeholders as well as encouraging the adoption of .POST within the broader UN community.

With the registration of domain names under the umbrella of .POST, the work of .Post is contributing to the activities of the Registration Directory Services - better known as WHOIS – that are aimed at mitigating internet abuse. .POST seeks to provide a secure and safe environment for internet exchanges between its stakeholders thereby promoting trust and confidence in these exchanges on the internet and to implementing policies, including active monitoring and take-down procedures, to protect the public from abuse and illegal activity. In addition, at the UPU level, .Post is also working on the WHOIS accuracy of postal address services in compliance with applicable UPU, and ITU standards. These address verification services are critical not only to the reach of postal services but also other public services.

We are also actively collaborating with the stakeholders of other internet organizations who have a more immediate impact on frontier technologies. .Post's aim is to develop services to support verification and issuing of credentials for interested applicants, and validation of registrants for other players in the domain names market.

We are investigating the subsequent steps needed be taken to improve Domain Names registration Data accuracy, accessibility and privacy. Beyond data accuracy, there is also a role for our member countries in improving the registration of data elements including in respect of the collection, storage and disclosure of data, controlling the accessibility to such data, and the protection of personal information.

This is a sensitive matter and has an impact on customer trust and public safety on the internet. Indeed, analysis of current approaches to registering data and safeguarding such data reveal gaps in current norms and institutions. There is discussion in the scientific community on how to address these gaps, but as yet no consensus on the way forward. The challenge of how to regulate new technologies in a way that is sensitive to domestic and international needs is complex and multifaceted. In this context, the achievements of .Post represent a unique example of norm-setting activities.

URL: http://www.info.post
Domain: data-related issues (privacy, openness, access, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- Side event at an intergovernmental meeting or conference

- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership
- Other: Issuing names and numbers on the Internet

Actors:	**Actors Description:**
• Member States • Private sector entities • Other: Internet organizations	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WBG: Automation and Disruptive Technologies in Health service delivery

Some brief examples of the World Bank Group's (WBG) analytical and programmatic work in the area of automation and disruptive technologies in health service delivery include:

1. A WBG workshop "Disruptive Technologies: Drones, Supply Chains and Service Delivery" in April 2017 with the World Bank Group Human Development Vice President, Zipline International CEO, healthcare supply chain experts, and government representatives.

2. Programmatic support, including by our Health Global Practice, which is working with policymakers in India to explore the use of drones in improving access to medicines, blood products, and for lab sample transportation. Other examples include the eGabon Digital Health initiative which aims to implement a national integrated eHealth system as well as establish an ICT industry in Gabon with health information systems as a comparative advantage, and the East Africa Public Health Laboratory Networking Project which is supporting the rollout of video-conference capacity across five countries to support e-learning, communications, and reporting.

3. Stocktaking exercises, such as the joint project between Georgetown School of Foreign Service and The World Bank, informal "stock-taking" of projects in the Technology and the Human Development sector.

URL: http://www.worldbank.org/en/results/2016/06/07/east-africa-public-health-laboratory-power-of-networking

Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)

Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Online Forum/Community/Exchange

Actors:	Actors Description:
• Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia	

Beneficiaries:

- government
- Public-at-large
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....not applicable

Financial Investment: ....not applicable

Timeline:

Work on activity began: ...between 6 months and 1 year ago
Work is ....ongoing (with no set end date)

WBG: Blockchain

One example of World Bank Group (WBG) engagement on this issue includes the launch by the WBG Information and Technology Solutions (ITS) unit in June 2017 of the "Blockchain Lab," the culmination of a six-month intense effort by the Bank Group to build partnerships and a network around blockchain and Distributed Ledger Technologies (DLT). The objective of the Blockchain Lab is to build internal knowledge, expertise, and capabilities to enable smart technology decisions in WBG business and client needs.

The Blockchain Lab aims to: (i) become an IT Acceleration Hub, boosting ITS Blockchain and DLT technical expertise and capabilities; (ii) support teams through joint pilots and projects to explore blockchain and DLT opportunities; (iii) build understanding of the implications of DLT and Blockchain adoption for the WBG and development countries' operating models; (iv) foster a Blockchain community of knowledge and expertise to respond to business and client country needs and requests; and (v) partner with DLT and Blockchain tech and NGO communities to jointly experiment, learn, and adopt innovation to improve development results.

The WBG ITS teams have been engaging with development and technology practitioners to discuss joint collaboration, including piloting the use of Blockchain technology to address specific development problems. Some investments and initiatives are also being considered, in areas such as fiat digital currencies, real and intangible property registers, trade finance and other smart contract-enabled applications, remittances and integrity due diligence mechanisms. Next steps would be to continue with a series of smaller labs with partners and events planned for late 2017.

URL:
Domain: blockchain
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Advocacy

Actors:	Actors Description:
• Member States • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia	

Beneficiaries:

- government
- Public-at-large

| **Beneficiaries Description:** |

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......not applicable

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

WBG: Cyber Security Internal Program

Cyber security is a critical business issue for the WBG and an evolving challenge as new and more sophisticated threat actors emerge. WBG's approach revolved around building defenses around IT perimeter and managing emerging threats to ensure that operational risks arising from them are mitigated. Over the years, the focus has been on building and developing strong security capabilities from the perspectives of people, process, and technology. The strategy was geared towards protecting WBG's critical assets with layered security focused on protecting the important data at the center through successive layers of defenses. Further, the strategy helped position information security as a business enabler, rather than a bottleneck, taking a proactive approach to addressing information security threats and training staff towards a shared responsibility model. IT Service Continuity was included in the portfolio to ensure availability and support for business continuity.

While the WBG has achieved significant progress in expanding its information security capabilities, the transformation brought about by digitalization creates new dependencies. The provisioning of essential IT services rely on the integrity of the cyberspace and on the infrastructure, systems, and data which underpin it. Therefore, the WBG is refreshing the Information Security Strategy with a vision to deliver security solutions that add business value to the WBG. The foundation established is sound, but the persistence of threat actors, prevalence of vulnerabilities and gaps in capabilities and defenses means the approach must evolve to keep pace with the scale and nature of cyber threats.

While the WBG moves forward to defend against evolving and advanced threats, it is important to remain "brilliant on the basics." The new strategy will focus on achieving the following objectives: safeguarding information based on business value and risk; adapting capabilities to address evolving threats; focusing on risks that matter; equipping people to carry out security responsibilities, and reinforcing IT services for the right level of availability.

The rapid evolution of the cyber landscape will continue to bring in new challenges as technology evolves and the adversaries act to exploit it. The WBG strategy aims at taking a balanced approach in designing and building the WBG IT architecture to be secure, adaptive, and resilient to respond to such threats in a dynamic manner. The information security architecture will enable robust defense mechanisms in a consistent manner, and leverage automation where possible. The security strategy recognizes the growing role of the cloud in the broader IT architecture and provides frameworks and tools to mitigate unique risks while also leveraging the cloud to strengthen and automate system resiliency for continuity, and to enhance security monitoring capabilities.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: internal support function (including application to operations and management)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
- Not applicable	

Beneficiaries:

- Staff of your organization

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

WBG: Cybersecurity

Living in a hyper-connected world brings significant security concerns. The welfare of countries increasingly depends on the use of sophisticated ICT infrastructure and risk management. As the information networks grow more complex, they also become more vulnerable as attacks against one part of the digital infrastructure can cascade in shocks in other parts of the system. Protection of ICT infrastructure and services against cybercrime has become a high priority for the public and private sectors, as well as multilateral organizations.

The WBG has several active programs over several areas, including (a) WBG cloud adoption, including privileges and immunities concerns, and assessment of emerging policy and legal environment for cloud operations, especially for financial services companies, (b) risk management and risk governance, including vendor risk management, personal data management, access controls definition, and development of WBG data breach response protocol, (c) participation in industry working groups for financial services sector, (d) informal advice to other Development Finance Institutions and Inter-Governmental Organizations interested in cloud adoption, and (e) development of a cybersecurity investment program, as well as advisory services programs for member countries and private sector clients.

A couple of examples of our operational and analytical work in this area include: support for workshops and assessments with State Banks in client countries; and a WBG background paper prepared for the World Development Report 2016 on Digital Dividends, entitled "the new cybersecurity agenda: economic and social challenges to secure internet," which highlights policy and practical concerns for cybersecurity.

URL: http://documents.worldbank.org/curated/en/689851467991972707/The-new-cybersecurity-agenda-economic-and-social-challenges-to-a-secure-internet
Domain: data-related issues (privacy, openness, access, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Side event at an intergovernmental meeting or conference
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

Actors:	Actors Description:
• Member States • Other IGOs / development banks • NGOs	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Other: investors/ investee companies	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......not applicable

Timeline:

Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

WBG: Trouble in the Making? The Future of Manufacturing-Led Development report

Manufacturing export-led growth has historically been seen as the dominant development paradigm. However, technology and globalization are threatening manufacturing's traditional ability to deliver both productivity and jobs at a large scale for unskilled workers. Concerns about widening inequality within and across countries have raised questions about whether interventions are needed and how effective they could be. Much of the attention has been on the potential scope of disruptions, with a focus on developed countries. The Future of Jobs needs to balance steps to address the costs with a stronger approach to expand access to more opportunities.

If wages are going to be less important in defining competitiveness, the focus has to shift to enable less-industrialized countries to compete on other grounds, too. While steps need to be taken to address potential disruptions from technology, the overall impact will depend critically on what can be done to expand access to more opportunities. The focus of the Future of Jobs is to understand and support what low- and middle-income countries can do today to make the most of new opportunities that shifting technologies and globalization patterns may bring.

One lesson from the World Development Report 2016 on Digital Dividends (as well as more recent publications) is that providing more access to technology is key. Enabling more people and firms to absorb and use technology allows them to compete and share in its benefits.

The World Bank Group offers a three-pronged policy approach to strengthen the "3Cs" -- Competitiveness, Capabilities, and Connectedness -- for countries seeking to bolster ability to absorb technology, as well as support productivity growth and jobs.

Ensuring Competitiveness will increase the importance of reforms that reduce unit-labor costs. But it will also require each economy: to be better able to consider new business models; to seek new contracting relationships that embrace new technologies, and; to devise new ways for manufactured goods to also deliver services.

Building Capabilities will involve giving workers new sets of skills, strengthening firms' abilities to absorb new technologies, and providing new infrastructure and new rules to support the use of new technologies.

Promoting Connectedness will continue to emphasize openness to trade in goods, including raw materials and components. But it also increases the importance of grasping the synergies with services that are increasingly embodied and embedded within manufactured goods

Countries that enable their people and firms to seize promising new opportunities will see productivity growth and new jobs. Complacency is not an option. Those that cannot adjust and cannot share in absorbing and using new technologies are likely to face not just economic costs, but also social costs associated with increased inequality and more limited access to opportunities.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: policy advice (to support policymaking (all levels))

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop

- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • Private sector entities • Academia	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Staff of your organization	

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WFP: Artificial Intelligence for the Humanitarian Context

WFP is exploring and analysing challenges that could benefit from major efficiency gains and make a tangible impact on the lives of millions of people worldwide through Artificial Intelligence (AI) technology. To date, WFP has gathered use cases from country offices on challenges that call for automatic and smart gathering, analysis or interpretation of data for decision-making which AI could provide.

WFP intends to test and apply Artificial Intelligence technology to the use of Unmanned Aerial Vehicles to analyse footage in disaster areas for the purpose of carrying out asset and vulnerability assessments to inform the responses of decision-makers and humanitarian actors in emergencies. Moreover, with the support of IBM Watson, Artificial Intelligence is being used for the optimization of an Emergency Response Chatbox (a 'Food Bot') that can facilitate remote surveying and assessment of vulnerability and needs. Further plans include the utilization of AI for the automatic analysis of satellite imagery on urban vulnerabilities such as food insecurity. Currently, funding is being secured from private sector and pilots are being set up in country offices with the plan to be tested in conjunction with other already existing and relevant initiatives, such as disaster simulations in Indonesia and Burma. In this phase of planning, work strategies for potential AI projects are being defined and technical partners are being contracted.

Amongst potential collaborations, an MOU has been signed with X Prize, and further conversations with Google, Microsoft and IBM are ongoing.

URL: http://innovation.wfp.org/blog/unlocking-artificial-intelligence-beat-hunger
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:	Actors Description:
• Other UN system organizations	IFAD
• Private sector entities	ITU
• Scientific community	SAP
	IBM Watson
	X Prize

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......not applicable

Timeline:

Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

WFP: Automated transportation for the humanitarian sector

Where feasible, WFP relies on local commercial transporters, but in the most difficult operational environments where no or a lack of commercial alternative is available, WFP deploys its own fleet of more than 800 heavy-duty trucks designed to cope with the toughest road conditions. On other occasions, when access by road is not permitted, WFP carries out extremely expensive airdrops to help people who need urgent relief during emergencies.

As a potential solution to reach beneficiaries in places that are hard to access having high security risks for truck operators, WFP Global Fleet envision to deploy driverless trucks.

Driverless trucks will provide a solution to reduce potential life-threatening risks to truck drivers. However, the current driverless truck solutions that are developed for the commercial transport need to be customized to the needs of the complex settings of WFP's operations in order to constitute a solution that can successfully address WFP's challenge of access.

WFP Global Fleet and the Innovation Accelerator have partnered with research and ran a number of simulations to determine, based on current fundamental operational needs, key features a suitable solution for a driverless truck should have. Specifically, some of these features include: alternative options for connectivity (e.g. limited or no availability of GSM), remote and near-field sensing, navigation, and data communication links, among others.

With the support of the German Aerospace Center (DLR) the next phase of the project is planned to take to the field in Uganda to generate findings from on real operational environments as well as to develop a prototype. Once fully developed, the self-driving technology has the potential to significantly improve the way WFP provides help to people affected by natural disaster and humanitarian crises, allowing for the delivery of food and assistance in challenging and emergency situations.

As part of the effort to improve WFP's operational capacity in food deliveries to difficult locations, as well as improve transparency through enhanced monitoring and evaluation, Remotely Piloted Aircraft Systems (RPAS) – also termed Unmanned Aerial Vehicles (UAVs) or 'drones' – have been identified as potential areas to be explored. WFP is considering a wide range of options to identify lasting solutions into the future. The operational areas where this equipment would be most needed are usually hard-to-reach and/or remote with limited infrastructure and may be considered 'harsh environments'. WFP is looking to utilize RPAS in the areas of: delivery of humanitarian aid; monitoring, observation and data collection; photography for public information and advocacy; Vulnerability Assessments and Mapping (VAM); search and rescue. Currently, WFP has reiterated use cases and is looking for potential partners to build a model suitable to the needs of humanitarian logistics and aid delivery.

URL: http://innovation.wfp.org/blog/self-driving-trucks-zero-hunger
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
- Member States	German Aerospace Agency (DLR)
- Other UN system organizations	Global Humanitarian Lab
- Other IGOs / development banks	Logistics Cluster
- NGOs	Belgian Development Bank
- Private sector entities	
- Academia	
- Scientific community	

Beneficiaries:	**Beneficiaries Description:**
- government	
- Public-at-large	
- Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

    Explanation: ....we currently have 2 - 3 people working on it part time

Financial Investment:.......not applicable

    Explanation: ....INCA: US$40,000

Timeline:

Work on activity began:...between 6 months and 1 year ago

Work is............................in-progress (specify expected completion date): Pilot set up and partnership building

WFP: Blockchain

WFP is deploying cutting-edge blockchain technology to make cash-based transfers faster, cheaper and more secure. As of June 2017, 10,000 refugees in Jordan's Azraq Camp are now able to pay for their food by means of entitlements recorded on a blockchain-based computing platform. This was developed by WFP as part of a pilot known as 'Building Blocks'.

In January 2017, WFP tested a "proof of concept" to confirm basic assumptions around the capabilities of blockchain in authenticating and registering transactions in Sindh province, Pakistan. In May 2017, WFP launched a more robust version of the Pakistan blockchain system in Azraq Refugee camp in Jordan. Currently, more than 10,000 Syrian refugees redeem their WFP provided assistance on the blockchain-based system (a private ethereum fork). As a result of this pilot, WFP will have a full, in-house record of every transaction that occurs at a particular retailer, ensuring greater security and privacy for our beneficiaries as sensitive data does not have to be shared with third parties such as phone companies. This allows for improved accounting and the reduction of third-party costs.

Through blockchain, WFP aims to reduce payment costs, better protect beneficiary data, control financial risks, and set up assistance operations more rapidly in the wake of emergencies. Full implementation of the technology promises significant cost savings to WFP, and donors alike, potentially totaling millions of dollars per annum. By passing on cost savings, integrating retail innovations such as biometric scanning and mitigating the risk of identity fraud or data mismanagement, WFP could also ensure more people receive crucial food assistance.

Depending on the results of the pilot, WFP will look at expanding the use of blockchain technology to other areas such as digital identity management and supply chain operations. Beyond the immediate benefit to itself, WFP recognizes that a blockchain collaboration platform could be beneficial for the entire humanitarian community.

URL: http://innovation.wfp.org/project/building-blocks
Domain: blockchain
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Private sector entities	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s)	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is............................ongoing (with no set end date)

WFP: Data Innovation Lab

In 2015, the CEB identified four initiatives to enable the UN to harness the power of the Data Revolution for Sustainable Development. UNICEF and WFP were jointly tasked to lead one of them, the Data Innovation Lab.

In consultation with other UN agencies, it was agreed to first conduct a series of six thematic Data Innovation Lab workshops to understand existing data innovation capabilities and needs within the UN system before considering how to best serve them long-term. By bringing together representatives from all UN agencies, Data Innovation Lab workshops provide participants with an opportunity to identify and discuss cross-cutting challenges, share experiences and learn from each other. Data Innovation Lab workshops aim to develop, test and pilot joint data projects and support them from project design to analysis and visualisation; workshops also explore issues around data privacy and how to build effective partnerships.

Each Data Innovation Lab workshop is led by different UN Agencies, which further strengthens the inter-agency cooperation in the field of data innovation and beyond and contribute to advancing the data revolution system-wide (see section 8).

To bring in the vast expertise that already exists outside of the UN, each Data Innovation Lab workshop is co-hosted by a partner institution from academia, Centres of Excellence, think-tanks or the private sector. This also contributes to creating new partnerships from which agencies can benefit after the Data Innovation Lab workshop.

Data Innovation Lab workshops to date

Workshop 1 (UNICEF & WFP): "Using data to inform decision making". Attended by 30+ leaders from 16 UN agencies and departments and hosted by Singularity University.

Workshop 2 (UNDP & Global Pulse): "Designing a data project". Attended by 45+ participants from 22 UN agencies and departments (as well as 12 partners from the private sector) and hosted by Microsoft in New York.

Workshop 3 (Global Pulse & WFP): "Exploring data partnerships" Attended by 35 participants from 15 UN Agencies and departments (as well as ~25 partners from the private sector and academia) and hosted by Dimension Data in Cape Town.

Workshop 4 (UNDP, UNICEF and UNFPA): "Making data meaningful" Attended by 42 participants from 18 UN Agencies and departments (as well as ~10+ partners from the private sector and academia) and hosted by the University of Nairobi in Nairobi.

Workshop 5 (UNICEF, UNHCR and WFP): "Leveraging data visualisation" Attended by 50 participants from 21 UN Agencies and departments (as well as ~15 partners from the private sector and academia) and hosted by CERN in Geneva.

A final workshop will discuss the future of the Data Innovation Lab initiative (tentatively scheduled for September 2017)

URL: https://data-innovation.unsystem.org/
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: The Data Innovation Lab aims to strengthen capacities of participants to design and implement data-driven, evidence-based programmes. It convenes stakeholders, facilitates building partnerships and fosters interagency collaboration.

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities • Academia	External partners, who have supported the Data Innovation Lab in the past include: Private sector: Microsoft, Google, Facebook, IBM, PwC, BBVA, ESRI, Tableau, UPS Academia / Think-Tanks: Singularity University, Colombia University (US), Queens University (CAN), Leiden University (NL), University of Nairobi (KEN), Gov Lab (University of New York, US) Other: DataKind, WorldPop, Flowminder, OPAL, HOT, Global Partnership for Sustainable Development Data, Local Development Research Institute

Beneficiaries:	**Beneficiaries Description:**
• Staff of your organization • Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....Overall, the Data Innovation Lab workshop series has been led by WFP and UNICEF; each individual workshop was organised by representatives from different "Lead Agencies", including UNDP, UN Global Pulse, UNFPA, UNHCR, UNICEF and WFP. This has significantly strengthened collaboration between these agencies.

Financial Investment:.......medium (expenditure between $10,000 - $49,999)
    Explanation: ....The Data Innovation Lab has to date been entirely funded by WFP, UNICEF and the Lead Agencies for individual workshops. We have been generously supported by many partner organisations offering us the use of their venues and catering free of charge as well as speakers, who joint workshops pro bono. Costs for each workshop (e.g. catering) for around 50 - 60 participants amounted to USD5,000 - 10,000 per workshop.

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

WFP: Energy Efficiency Programme (EEP)

In order to run its operations, which include reaching vulnerable, often isolated populations with food assistance and responding to complex emergencies, the World Food Programme (WFP) uses a great deal of power. Due to the scope and nature of its work and the size of the organization, WFP has one of the highest rates of energy consumption in the UN system.

Recognizing that energy-efficient and renewable technologies have significant environmental and financial benefits, WFP created the Energy Efficiency Programme (EEP) in 2010. By re-investing funds generated from an internal carbon tax, WFP is able to provide "seed funding" to projects within the organization that use energy-efficient or renewable technology to generate a significant reduction in greenhouse gases (GHG) and cost savings.

Applications to the EEP are screened to make sure that the proposed project can achieve a significant reduction in GHG emissions and provide a strong return on investment for the organization. The programme provides up to 50% of the project cost for a diverse group of energy-saving proposals over a large geographic range. The remaining cost is borne by the office that implements the project.

The first EEP projects received funding in 2012, and since then, 27 projects have been undertaken in 10 countries where WFP operates. With an initial investment of just over USD 1 million, the programme is projected to generate USD 3 million in energy-saving projects. These range from simple lighting upgrades, to energy-efficient air conditioning units in remote locations, to hybrid power solutions. Thus far, current energy efficiency projects from the EEP are expected to help WFP achieve annual savings of USD 810,000; combined cost savings of USD 7.9 million over the projects' lifetime; projected energy savings of 1,663 tonnes CO_2 annually; and a reduction of emissions by 13,665 tonnes CO_2 over the projects' lifetime.

The Energy Efficiency Programme has not only helped WFP operations to save money and to reduce carbon emissions, but has had a positive impact on staff as well. Many of the energy-saving technologies funded by the program help to provide staff with a more pleasant work environment, and attitude changes are noticeable too: staff at sites where projects have been implemented report that they now pay more attention to the ways in which they use energy and strive to take steps to reduce their own energy consumption.

In order to respond to an ever-increasing volume and magnitude of humanitarian needs, WFP continues to look for smarter ways to power its operations across the world. In 2015, WFP Engineering developed an Energy Efficiency Survey that will allow all WFP premises, even those in the most remote locations, to accurately assess their energy use and requirements. The findings of the survey will help to identify energy-saving measures that are appropriate for each site.

URL:
Domain: energy technology (solar energy, battery storage, biofuels, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Other UN system organizations	
• Other: WFP Country Offices	

Beneficiaries:	**Beneficiaries Description:**
• Targeted group(s)	Indirect increase in the provision of food aid thanks to energy cost savings.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WFP: Retail Engagement Strategy

With purchasing power at hand (albeit limited), poor people access their basic food and non-food needs through the closest retail sector available to them. WFP cash-based transfers (CBT) of US$880M in 2016 provided purchasing power to 14.3 million people in 60 Countries for them to fulfill their basic needs through the retail sector. Inefficient retail sectors erode the limited purchasing power of vulnerable populations in that the inefficiencies are for the most part reflected in higher sales price.

WFP supports retail supply chain improvements by sharing expertise, trainings and assets with a view to enable to retail sector to continue to deliver a value equation to all customers (including "humanitarian customers") through sustained availability of good quality, affordable price for essential commodities, and with good service.

Humanitarian work starts with the people we serve and retail is no different as it starts with the customer. Understanding their needs, most commonly bought items, and keeping a close eye on how the sector operates are but some of the benefits of the recently developed APP "Beneficiary's Voice" designed with the beneficiary (customer) as the most important actor in the value chain. Through the APP, people receive valuable information in terms of where to secure best value while the feedback loop is on their experience when accessing the retail sector. Never again will the needs of the people we serve come second because their voice will be heard and factored into programmatic decisions.

This APP will enable hundreds of millions of people to share crucial information related to retail supply chains, which allow us to identify, prioritize and address inefficiencies. The feedback loop mechanism works as an independent monitoring tool where consumers themselves confirm improvements have been made. This APP provides overall benefits for retailers that can access higher profits (by selling more), customers that buy more at lower prices (increased purchasing power that addresses poverty reduction), and a mature retail sector that can sustain the gains.

Engaging with the retail sector also allows collecting itemized sales data from retailer's electronic check-out system. Once captured, cleansed, categorized and analysed it provides incredibly powerful insight that allows WFP to enhance accountability, transparency, internal controls and the overall effectiveness of interventions through itemized sales data.

The combination of WFPs retail engagement strategy, itemized sales data and "Beneficiary's Voice" are innovative and cutting-edge both from the business and technological perspectives, and combination that provides sustainability to all efforts. A customer centric and efficient retail sector – supported by cutting-edge technological advances – is the commercially sustainable exist strategy.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- UN system-sponsored/organized conference
- Training/Capacity Building Programme
- Support to Programme/Project Implementation

Actors:

- Private sector entities

Actors Description:

Retail supply chain industry experts
APP developers

Beneficiaries:

- Staff of your organization
- Other: Retail stores receiving training

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....WFP staff based in Headquarters, Regional and Country Offices are fully dedicated to the projects (retail engagement, itemized sales data and "Beneficiary's Voice".

Financial Investment: ....large (expenditure $50,000 and above)
    Explanation: ....Consulting firms to support implementation, APP developers, retail market data.

Timeline:

Work on activity began: ...more than 1 year ago
Work is............................ongoing (with no set end date)

WFP: SCOPE {Digital Assistance Platform}

SCOPE, a cloud-based solution, is WFP's corporate DIGITAL beneficiary identity and entitlement management system which supports the programme intervention cycle from beginning to end. The purpose of SCOPE is to establish one corporate standard system to serve as a global repository of information on the people served, and consolidate all the data held separately at country level. It enables us to have a standard procedure across programmes, from registering beneficiaries, tracking the effectiveness of assistance through to post-delivery monitoring, and gives the added flexibility of being able to correct the course of action during intervention. SCOPE currently holds 20+ million identities in its digital identity database and plans to expand it to all of the identities we currently serve.

SCOPE has been designed to support all transfer modalities, such as e-vouchers, in-kind food and cash. SCOPE offers the possibility of multiple interventions through its electronic multi-wallet SCOPECARD feature, enabling partner agencies to share the platform and beneficiary data. The multi-wallet feature facilitates coordination on multi-stakeholder targeting and impact analysis, and tracking of cash assistance. Use of biometric signatures to redeem entitlements provide beneficiaries, donors, Partners and Government partners with the assurance that humanitarian communities assistance reaches the people it is intended for. The multi-stakeholder approach has addressed the humanitarian challenges on ground, and on improving operational efficiency through mutual sharing of scarce but critical resources.

SCOPE offers offline capabilities for challenging environments with poor connectivity and is currently operational

In urban settings WFP has put in place a multipurpose electronic card to allow people to buy food and basic necessities. The card enables WFP to channel funds from other agencies to the same beneficiaries as part of the UN wider effort to deliver as one.

URL: www.tiny.cc/wfpscope
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• NGOs	
• Private sector entities	
• Academia	

Beneficiaries:

- government
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Continuos
development to meet the technology trends

WFP: Unmanned Aerial Vehicles & Drones

WFP is testing Unmanned Aerial Vehicles (UAVs) to provide fast data collection solutions that can complement large scale imagery provided by satellite. Additionally, by promoting local deployments of UAV users and provided with the corresponding regulatory clearances, they accelerate the data collection phase in post-disaster damage assessment, mapping and real-time monitoring. WFP is developing a coordination model with the aim to provide reliable and vital information to humanitarian response teams. To improve information dissemination in humanitarian contexts, data must be gathered safely and quickly as these allow humanitarian response teams to determine and assess the location and severity of damages both to infrastructure and to civilians. Therefore, fast dissemination of information is essential for the provision of efficient and affective humanitarian response.

As global lead of the Emergency Telecommunications Cluster (ETC), WFP has been approached by different Unmanned Aerial Vehicles (UAV) actors to lead the coordination of this service. With the support of the Government of Belgium, WFP is designing UAV coordination solutions for implementation within the broader humanitarian emergency preparedness and response community.

In late June 2017, WFP and the National Institute for Civil Defence (INDECI) will hold a workshop on the "Coordination and Simulation of Humanitarian Unmanned Aerial Vehicles". It will consist of presentations, discussions, group exercises, and simulations regarding possible modalities of coordination and collaboration. The objective is to create an interactive forum with national operators, including humanitarian organizations, government officials and technical experts who will exchange information, experiences and suggestions for future cooperation and coordination in the usage of unmanned aerial vehicles (UAV) in emergencies.

Finally, WFP is seeking to integrate AI / machine learning to automate and accelerate analysis of UAV imagery during humanitarian response. Machine learning provides automatic imagery analysis and creation of visual information. The machine learning software will be integrated with the data collection and analysis work flows, and be implemented at first instance in the four high-risk countries in which the UAV coordination model is being developed.

URL: https://www.etcluster.org/discussions/humanitarian-unmanned-aerial-vehicles-uav-coordination-model

Domain: transportation and mobility systems (electric mobility, driverless vehicles, private and commercial use of drones, etc.)

Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:

- Member States
- Other UN system organizations
- Other IGOs / development banks
- NGOs
- Private sector entities
- Academia
- Scientific community

Actors Description:
Government of Belgium

Beneficiaries:

- Public-at-large
- Targeted group(s)
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)
   Explanation: ....More details available here: https://www.wfp.org/news/news-release/wfp-and-belgium-start-efforts-deploy-drones-humanitarian-emergencies

Timeline:

Work on activity began: ...between 6 months and 1 year ago
Work is ....ongoing (with no set end date)

WFP: Virtual / Augmented Reality

WFP is exploring and testing the feasibility of AR/VR as a means of enhancing fundraising and advocacy in support of SDG2. Current efforts are focused on leveraging - and integrating with - WFP's award winning fundraising mobile application, ShareTheMeal. With just a tap on your smartphone you can "share the meal" with a child in need. It costs only US $ 0.50 to feed one child for a day.

Combined with STM, VR/AR could allow potential donors to experience a situation through the eyes of those involved. It tells the story as it unfolds around the camera, and brings the potential donor closer to the situation. Utilizing an extensive field presence, WFP is working to capture and stitch together multimedia experiences to be targeted at key audience demographics through the STM app.

WFP aims to couple an enhanced donor / audience experience with peer-to-peer donation functionality, allowing greater transparency and engagement. This can be supported through integration with WFP's corporate beneficiary management platform, SCOPE.

URL: sharethemeal.org; https://www.wfp.org/content/2017-cash-based-transfers-fact-sheet

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) virtual / augmented reality

Function: other – please specify: fundraising

Outputs:
- Online Forum/Community/Exchange
- Advocacy

Actors:	Actors Description:
• Private sector entities	

Beneficiaries:	Beneficiaries Description:
• Public-at-large	
• Targeted group(s)	

Scale:
Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...within the last 6 months
Work is............................ongoing (with no set end date)

WHO: Adolescents/Youth Mobile Access and Delivery Initiative for Love and Life Outcomes (ARMADILLO) Study

The World Health Organization's Department of Reproductive Health and Research partnered with research partners in Peru and Kenya to initiate the ARMADILLO Study. The goal of ARMADILLO is to develop and evaluate an on-demand system for youth to access and receive sexual and reproductive health (SRH) information through short message service (SMS, also known as 'text message'). Over three stages, this study will test a digital health strategy that - in the eyes of implementers - is a natural fit for a young population who may otherwise struggle to access SRH information in the health system. The ARMADILLO Study, by the completion of its third stage, will have answered the questions: 1) if young people can access SRH information through their mobile phones, what is the effect?; and 2) if this kind of service is available to young people, will they use it?

The ARMADILLO system itself consists of an automated, interactive, and on-demand SMS platform that will provide essential facts and address common misconceptions about a full range of SRH issues pertinent to youth, including puberty, relationships, sex, pregnancy, HIV and STIs, and contraception. The ARMADILLO system will be available to users at no charge. ARMADILLO architecture is constructed for each country using the RapidPro platform (developed by UNICEF and Nyaruka). Research implementers collaborate with local mobile network operator (MNO) aggregators and the ARMADILLO technology partner Ona in architecture development. The messages were drafted by joint groups of adult and youth stakeholders, based on domains and sub-domains identified by youth themselves. After being checked for accuracy (and agreement with WHO guidelines), the message content was tested by young people for comprehension and relate-ability. Messages were adapted accordingly.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Policy or Research Paper/Report/Publication
- Online Forum/Community/Exchange

Actors:	**Actors Description:**
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government	adolescents/youth (ages 13-24)
• Targeted group(s)	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date): Jul-05

WHO: Artificial intelligence for health

Some of the ways that we expect AI to improve healthcare and medicine are:

• Mining multiple data bases: to generate complete and well-organized medical records, an essential resource for doctors.

• Accurate, early diagnosis: artificial "cognitive assistants" can do the repetitive work of analysing photographs of superficial lesions and radiology images.

• Online medical consultations: a mobile phone "app" can record symptoms of illness, as an aid to rapid diagnosis, cutting waiting and consultation times with physicians

• Medication management: patients with chronic illness can monitor their conditions and manage treatment between doctor's visits.

• Making new drugs: supercomputers can spot potential new therapies from databases of molecular structures; one application is the screening of safe, existing medicines that could be redesigned to treat Ebola virus.

• "Precision medicine" to manage each patient individually: AI can identify patterns in genetic information and medical records to spot mutations and show how they are linked to disease.

• Revealing the performance of healthcare systems: most European (and other high-income) countries have digital healthcare invoices, containing data on treatments, doctors and hospitals.

AI carries potential risks too, including ethical dilemmas:

• Increasing inequities: given the digital divide that already exists between developed and developing countries, AI has the risk of further widening the gap unless steps are taken to enhance digitalisation and bring the power of the internet equally to all countries.

• Accuracy, reliability and safety: AI systems may have been trained on comprehensive datasets, but in the clinic they may encounter data and scenarios for which they have not been "trained".

 • Data security and privacy: AI systems are collecting and using of masses of sensitive personal data, which must be secure.

• Life-saving (or life-threatening) decisions: AI carries the prospect that life-or-death decisions will be made by machines.

• Jobs at risk: AI is likely to replace some human jobs in the health care sector, even at a high level of expertise.

• Regulation: AI systems include devices, appliances, robots, 'para' humans. Currently AI is under a scientific regulatory environment, but once it is deployed in the medical field, will it be regulated by drug and device regulators or by the medical academies?

• Preparing human beings for AI: we must explicitly devote time working with people to prepare them for a technologically assisted life – especially in the resource poor countries.

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products

Actors:
- Member States
- Other UN system organizations
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:
- government
- Public-at-large

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment: ....small (expenditure less than $10,000)

Timeline:

Work on activity began: ...within the last 6 months
Work is............................ongoing (with no set end date)

WHO: Digital Health Atlas

The Digital Health Atlas is a global technology registry platform aiming to strengthen the value and impact of digital health investments, improve coordination, and facilitate institutionalization and scale.

This web platform (digitalhealthatlas.org) supports issuing unique IDs for curating the range of digital health products and projects globally. Governments and communities of technologists, implementers, and donors will be equipped to better coordinate and plan, monitor the growth of implementations, and reduce redundancy of investments. The Digital Health Atlas (DHA) offers governments, technologists, implementers, and donors a platform of tools and guidance to improve the use of, and planning coordination for digital information systems for health. The DHA facilitates implementers to assess the maturity of their digital health implementations, gain personalized guidance, benefit from other's implementation experiences, and gain access to global resources from leading technical institutions. The Digital Health Atlas has three key functionalities: unique identification of digital innovations registered in the system; consistent terminology used to define what the digital innovation does and how it relates to health system challenges; and visualization and monitoring of these digital innovations according to their geographic scope, implementation scale, and partners. The DHA is positioned for global use to equip member states in planning and monitoring investments into digital innovations for health.

URL: www.digitalhealthatlas.org
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Foundations • Academia • Scientific community	

Beneficiaries:

- government
- Targeted group(s)
- Staff of your organization
- Other UN system entities

Beneficiaries Description:

Health workers
target beneficiary populations for
health services

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....There are 2 people (1/3 x2 FTE) within WHO supporting the DHA

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): ongoing (no
                             expected end date)

WHO: Digital Health for Noncommunicable Diseases

In 2012, the Be He@lthy, Be Mobile initiative (BHBM) was founded as a joint partnership between the World Health Organization (WHO) and the International Telecommunications Union (ITU), the UN agencies for health and ICTs. It works to design, deploy and scale-up prevention and management services for noncommunicable diseases (NCDs) using mobile technology. As a joint venture, it unites the health expertise of WHO with the ICT /technology expertise of ITU.

The program's approach fits within the role for 'incremental norm-setting' identified by the UN discussions on 'Emerging Technology and the UN Normative Agenda' (26-27 April 2017), by using country-level experiences to set norms for working with technology. Clinical evidence for mHealth exists but the Initiative uses country experiences to understand the more practical aspects of working with innovation at scale. It creates global blueprints ('handbooks') for mHealth programs which are a blend of clinical and country-level experience. It also supports countries directly by helping them launch national programs and integrate them into the existing health system, avoiding new services being isolated from the broader health system they were meant to improve. This is a direct response to the need for a more holistic approach to health, outlined by the 2030 Agenda for Sustainable Development, and the need to provide countries with practical support to meeting the SDG targets for health.

The initiative is officially working with governments in 9 countries across a range of income groups and disease areas. As of June 2017, programs have been fully launched in India, Senegal, Zambia, Egypt and the Philippines, and are also under preparation in Tunisia. Over 2 million people are already registered in the India mTobaccoCessation service and over 100,000 in the mDiabetes service. Senegal has also seen over 100,000 users in their mRamadan program for people with diabetes. Meanwhile Zambia has sent SMS messages to over 500,000 men and women on the importance of cervical cancer screening, and is developing a follow-up model to support women identified with cervical cancer. The initiative is also collaborating with developed economies such as Norway, the United Kingdom and the European Union to look at how to use digital health technologies and innovations to strengthen health systems. This includes establishing a regional mHealth Hub with the European Union.

By building a system instead of a service, the infrastructure and processes behind the new services can be re-used to address other social determinants, risk factors and diseases, advancing the global goal of Universal Health Coverage. Senegal demonstrated this in 2014 by using their mDiabetes network to send out 4 million SMS on Ebola prevention.

In focusing on embedding and scaling solutions, the programs are reducing fragmentation and making innovations both effective and sustainable.

URL:
Domain: the activity cuts across several science / technology / innovation domains
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products

- Interagency Group/Multi-Stakeholder Partnership

Actors:	**Actors Description:**
- Member States - Other UN system organizations - Other IGOs / development banks - NGOs - Private sector entities - Foundations - Academia	

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WHO: Digitalization of Quality Assessment Guidebook

Starting in May 2014, the Department of Reproductive Health and Research supported the Brazil Ministry of Health's adaptation of a prototype online version of the WHO's Quality Assessment Guidebook that would allow for digital collection of data to assess the quality and friendliness of health services for adolescents. In 2015, the Department organized training for implementers of the tool, and a small-scale, phased rollout commenced in five states of Brazil. The rollout was timed to coincide with the launch of the Agenda for the Protection and Care of Adolescents, a strategy to expand access and quality of comprehensive care for adolescents nationwide. The tool was implemented at the municipality level, though data was viewable at the facility level, to allow managers to see their progress. Data was also aggregated, passed up, and viewable through the municipality level, to state and federal levels. Interaction with the tool consisted of a clinic undergoing an evaluation with the tool, then receiving tailored strategies for improvement based on the Agenda.

From 2015-2016, 45 health facilities undertook an integrated year-long research component to identify the optimal frequency (tri-annually, bi-annually, or annually) with which the quality assessment tool/feedback cycle should be implemented. The implementation process was iterative, with the Ministry of Health team rapidly adapting to shifting political interests and a need to build support for the tool's implementation local levels. Implementation once a year was deemed the most realistic option for implementing the cycle of assessment and feedback.

In 2017, we, in collaboration with WHO/PAHO colleagues at the regional and country levels will support the Ministry of Health to broaden the annual cyclic implementation of this tool to 135 clinics in 22 municipalities. This implementation is to be included as part of a broader plan to address the Zika epidemic in Brazil, specifically as a component to promote greater knowledge of sexual and reproductive health among men and women of all ages. Additionally, a manuscript on the implementation experience of this project is planned with colleagues in the Ministry of Health.

The website and data collection runs off the Ona platform (ona.io)

URL:
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Support to Programme/Project Implementation
- Informational Website
- Online Forum/Community/Exchange
- Advocacy

Actors:	Actors Description:
• Member States	

Beneficiaries:

- government
- Targeted group(s)

Beneficiaries Description:

adolescents, who have the opportunity to directly provide feedback on the quality of services in their area, with data being passed from health clinic to national level.

Scale:

Personnel Support: ....not applicable

    Explanation: ....Running of the website is being passed off to the Ministry of Health in 2017 (will have a team of about 3-4 working on this)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago

Work is............................in-progress (specify expected completion date): 2017/2018 (handoff to Ministry of Health)

WHO: Genome Editing technology and impact on food safety

Genome editing is a new technology which allows very targeted genetic modifications in living organisms. Specific nucleases act as "molecular scissors" and allow very specific and targeted deletion or insertion of genes in the genome. Several food products have already been developed on an experimental basis. The application of this modern biotechnology in micro-organisms, plants and food animals may impact on food safety and regulatory processes. A "white paper" will be developed, describing the technology with its possible application in food production, implications for food safety and possible impact on human health, as well as the analysis on the need for risk assessment and regulatory approvals of modified foods. Based on this white paper clearly identifying issues, an international expert consultation will be convened to develop independent guidance to national regulatory authorities. This work may feed into international food safety standard setting by the Codex Alimentarius Commission.

URL:
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication

Actors:	Actors Description:
• Member States • Other UN system organizations • Private sector entities	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...not yet begun
Work is............................not yet begun

WHO: Maternal mortality on-line calulation tool

The Monitoring and Evaluation Unit at the Department of Reproductive Health and Research leads the Maternal Mortality Estimation Inter-Agency Group (MMEIG - which comprises of WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division) work related to the development of global maternal mortality estimates and official reporting to the SDG's. The SGD 3.1.1. target; "reduce global maternal mortality to less than 70 per 100 000 live births by 2030" has been endorsed by countries and the global community.

As part of the Ending Preventable Maternal Mortality Strategy (EPMM), this target is expanded to require that no country has a MMR above 140 (twice the global average) by 2030.

This progress calculator allows users to pick a baseline year and baseline MMR value, and then use that to calculate intermediate and final country-specific MMR target values between 2016 and 2030, and the annual rate of reduction a country is capable to achieve.

URL: Still under deveolpment
Domain: data-related issues (privacy, openness, access, etc.)
Function: normative support (implementation, monitoring and reporting on global
              agreements, norms and standards, etc.)

Outputs:
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication

Actors:	**Actors Description:**
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Foundations • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Staff of your organization • Other UN system entities	

Scale:
Personnel Support: ....N/A
      Explanation: ....When the tool is developed limited support will be needed.

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...between 6 months and 1 year ago
Work is...........................ongoing (with no set end date)

WHO: Open Smart Register Platform (OpenSRP)

WHO's Open Smart Register Platform (OpenSRP) is an open-source standards-based mobile health software platform that allows frontline health workers to uniquely ID and track the health of their entire client population. OpenSRP was designed for MOH for national deployment, as a digital equivalent of client-level paper records, to complement other mature IT solutions, including OpenMRS, RapidPro and DHIS2. At the heart of OpenSRP is the smart register, where frontline workers manage all digitized client records. One client is listed per row, and medical history and health service information is listed across pre-specified columns. Standardizing client information captured, storage and display, allows decision-support, searching for and extract information at the point of service delivery. Sophisticated AI-based decision-support and work-planning algorithms aim to ensure that health workers are able to target those beneficiaries who are in greatest need. Unique identification of clients using facial recognition and integration of geo-spatially tagged service events and outcomes, supports AI-based planning.

URL: www.smartregister.org
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Informational Website

Actors:	Actors Description:
• Member States • Other UN system organizations • Other IGOs / development banks • NGOs • Private sector entities • Academia	

Beneficiaries:	Beneficiaries Description:
• government • Public-at-large • Targeted group(s)	Health workers target beneficiary populations for health services

Scale:
Personnel Support: ....large (supported by 7 or more full-time equivalents)
    Explanation: ....There are 2 people (1/3 x2 FTE) within WHO supporting innovation
    There are ~15 people (1/3FTE x 15) outside of WHO across 5 companies who are developing and supporting the technology.

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WHO: Postpartum Family Planning Compendium

The postpartum period offers multiple points of contact for family planning decision-making, but there are also multiple changing factors during the year postpartum that can affect family planning choices. Given the disparate resources for WHO guidance on postpartum family planning, the WHO is introducing an electronic resource, the WHO Postpartum Family Planning Compendium (available at http://srhr.org/postpartumfp). This resources integrates essential guidance on postpartum family planning for clinicians, program managers, and policy makers. The initiation of the Postpartum Family Planning Compendium included consultations with family planning experts, key international stakeholders, and web developers. Once launched, user testing by family planning experts allowed for improvements to the website. Future directions involve adaptation of the website into a mobile application that can be more easily integrated to low-resource settings and translating the content into French and Spanish.

URL: http://srhr.org/postpartumfp
Domain: the activity cuts across several science / technology / innovation domains
Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products
- Informational Website

Actors:	**Actors Description:**
• Member States • Other UN system organizations • NGOs • Private sector entities • Foundations • Academia • Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• government • Public-at-large • Targeted group(s) • Staff of your organization • Other UN system entities	Health care providers of contraceptive services

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WHO: Psychological interventions for people affected by adversity

The Department is also working on a number of e-delivered mental health interventions which will be used to provide evidence based psychological interventions to beneficiaries by member states. Interventions under development are aimed at beneficiaries experiencing depression, improving the wellbeing of carers of people with dementia and to reducing harmful alcohol use. The interventions are delivered through smartphone apps or websites and generally comprise of information and instruction in skills or activities delivered in an interactive and engaging format which may help people experiencing problems and are based on evidence based approaches. Interventions are either under development or are undergoing piloting or testing in randomized controlled trials. The Department plans to use the platforms developed through this work for the delivery of other similar interventions.

URL: interventions for carers of people with dementia:
https://www.isupportfordementia.org/en

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) e-mental health: delivery of information and skills training

Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Principles/Standards/Guidelines/other normative products
- Other: Normative interventions (content and software systems) which can be adapted and implemented by member states and other actors

Actors:
- Member States
- Other UN system organizations
- NGOs
- Academia
- Scientific community

Actors Description:
The Department is working with a number of academic institutions (e.g. University of Zurich, Vu University, Freie Universität Berlin, NIMHANS India, Stanford university) and member states (e.g. Lebanon) to develop and test the various interventions

Beneficiaries:
- Public-at-large

Beneficiaries Description:
Once developed and implemented by member states and other actors the interventions will be available for the public

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Work will be completed on various projects over the next 2-4 years

WHO: QualityRights e-training

QualityRights is WHO's global initiative to improve the quality of care provided by mental health services and promote the human rights of people with psychosocial, intellectual and cognitive disabilities. It is lead by the Mental Health Policy and Service Development team, and offers a new approach to mental health care which is rights based and recovery-oriented.

As part of the QualityRights initiative, WHO has developed an e-training that provides an interactive and dynamic environment to build capacity of all stakeholders in the area of mental health and human rights. The e-training consists of six core modules which provide a foundation in human rights in mental health, including an introduction to the recovery approach. The e-training provides an online learning community that, through moderated discussion forums and online coaching, convenes stakeholders from across disciplines and backgrounds in mental health, fostering understanding and knowledge-sharing. Currently in it's pilot phase, the e-training is scheduled to launch in September 2017.

URL: More information on QualityRights can be found at http://www.who.int/mental_health/policy/quality_rights/en/.

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) E-training

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange
- Advocacy

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• NGOs	

Beneficiaries:	Beneficiaries Description:
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...between 6 months and 1 year ago

Work is...........................in-progress (specify expected completion date): E-training is scheduled to launch in September 2017.

WHO: Supporting the health workforce - mhGAP Intervention Guide 2.0 (e-mhGAP) and e-learning

WHO Department of Mental Health and Substance Abuse are in the process of e-mhGAP, an electronic version of the Department's evidence based guide to support non-specialist healthcare workers to identify and provide management of priority mental, neurological and substance use disorders. e-mhGAP is a decision support tool which contains assessment algorithms (a series of yes/no questions) which a user can follow to identify if an individual may be experiencing one of the priority mental health conditions (e.g. depression, psychosis), with guidance on interventions to manage the condition. emhGAP also contains information on essential care practices and other key information for providing evidence base support for mental health.

This work is in its developmental phase with a first release due in October 2017.

The Department is also starting initial work exploring the use of e-learning platforms to support training and capacity building of health workers in low and middle income country settings.

URL: the paper version of mhGAP 2.0 can be found here: http://www.who.int/mental_health/mhgap/mhGAP_intervention_guide_02/en/

Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) decision support systems

Function: capacity development / technical assistance (strengthening capabilities of individuals, organizations or societies through, e.g., education / training)

Outputs:
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Principles/Standards/Guidelines/other normative products
- Other: A decision support and capacity building tool

Actors:
- Member States
- Other UN system organizations
- NGOs
- Academia
- Scientific community

Actors Description:
Once developed and released e-mhGAP will be used by a range of actors working in the health field

Beneficiaries:
- government
- Staff of your organization
- Other UN system entities

Beneficiaries Description:
Healthcare workers at various levels of health systems.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....Funding has been allocated for the development and initial field testing of e-mhGAP

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date): October 2017
(release of first version)

WHO: The global roadmap for development of vaccines against sexually transmitted infections (STIs)

Sexually transmitted infections (STIs) result in a large global burden of sexual, reproductive, and maternal-child health consequences, and new STI prevention interventions are urgently needed. Following development of a safe and effective vaccine against the STI human papillomavirus (HPV), vaccine development for other STIs can now be envisioned as an achievable goal and presents the most promising path toward sustainable STI prevention. Following a technical consultation on developing vaccines against the STIs herpes simplex virus (HSV), chlamydia, gonorrhoea, syphilis, and trichomoniasis infections, WHO and partners generated a global roadmap to accelerate STI vaccine development for these pathogens. The roadmap outlines critical next steps for STI vaccine development and introduction, such as obtaining better epidemiological data to establish the rationale for STI vaccines, modelling potential vaccine impact, advancing basic science research, and encouraging investment in STI vaccine development. WHO is playing a key role in advancing the STI vaccine roadmap through defining preferred product characteristics and developing investment cases for STI vaccines, and supporting research to fill in data gaps to coordinate and complete these activities.

URL:
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- NGOs
- Private sector entities
- Foundations
- Academia
- Scientific community

Actors Description:

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WHO: Whole Genome Sequencing as a tool to strenghten the capacity of the countries to detect, monitor and improve the Foodborne Diseases Surveillance and Integrated Surveillance of Antimicrobial Resistance

Globally, there is increasing recognition that foodborne diseases are a priority. Almost 1 in 10 people in the world become ill every year after eating contaminated food; diarrheal diseases are the most common resulting illness, with 550 million cases and 230,000 deaths every year. From a public health perspective, foodborne diseases are preventable and the emergence of antimicrobial resistance has focused attention on the need for systems that can detect resistant bacteria as and monitor trends across the food chain for targeting effective interventions. Whole Genome Sequencing (WGS) has the potential to change the way we detect, assess, investigate, manage, and monitor microbiological food safety hazards and to improve the treatment of people suffering from foodborne diseases. It allows for the identification and characterization of microorganisms with a level of sensitivity and specificity not previously possible. The technology provides significant cross-sector potential, enabling uniform typing systems across animal, food and human sectors, and the potential to trace back to the microbial sources of foodborne contamination.

The near-term benefits of WGS are many, most of which derive from the potential of this technology to limit the need for conventional microbiological confirmatory methods that are both time consuming and resource intensive. It is also likely to be a successor to current microbial identification and typing technologies.

The implementation of WGS in developing countries to support their public health systems is not straightforward, and many challenges exist. It is likely that unnecessary effort and waste of limited resources will occur without international leadership and advice.

Given the resource limitations, and the potential of this technology to link different parts of the food chain, the potential for collaboration with other relevant sectors is also critical to ensure that a country is not duplicating its efforts to apply WGS in different sectors (e.g. public health, microbiological hazards contaminating food and animal health).

The World Health Organization (WHO) has undertaken to develop a guidance to help countries, where appropriate, implement WGS for foodborne disease surveillance, outbreaks detection and response.

URL:
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: normative support (implementation, monitoring and reporting on global agreements, norms and standards, etc.)

Outputs:
- Intergovernmental Meeting
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Online Forum/Community/Exchange

- Interagency Group/Multi-Stakeholder Partnership
- Advocacy
- Other: Global Data Sharing Initiatives as INFOSAN, PULSENET international, GENOMTRAKR, GLASS

Actors:	**Actors Description:**
- Member States - Other UN system organizations - NGOs - Academia - Scientific community - Other: Actors under Framework of Engagement with Non-State Actors (FENSA)	Tripartite collaboration among FAO and OIE

Beneficiaries:	**Beneficiaries Description:**
- government - Public-at-large - Targeted group(s) - Other UN system entities	Member States at Ministries of Health, Agriculture and Environment level will be benefit to implement WGS as a new tool to improve the National Surveillance System The Civil Society in all the countries especially people with high risk of foodborne diseases, elderly people and children under 5, pregnant women and people with weak immune system. The Tripartite collaboration among FAO and OIE

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...within the last 6 months
Work is............................in-progress (specify expected completion date): End of 2017

WHO: World Health Organization Point-Of-Care Diagnostics Evaluation Scheme for Sexually Transmitted Infections

In 2012 World Health Organization (WHO) estimated that approximately 357 million people aged 15 to 49 are infected each year with four curable sexually transmitted infections (STIs), chlamydia (Ct), gonorrhoea (Ng), syphilis, and trichomoniasis (Tv). A major barrier to STI control and prevention is the unavailability of reliable, low-cost, point-of-care tests (POCTs) which allow diagnosis and treatment in a single visit. POCTs can be used by professional and lay health workers and offer the potential for improved STI surveillance.

Recently, POCTs that can be used at point-of-care for simultaneously detecting antibodies to HIV and syphilis for use with finger-pricked capillary whole blood and simple rapid POCTs for the diagnosis and screening of Ng, Ct and Tv have been developed.

The WHO POCT Evaluation Scheme for STIs aims to accelerate access to affordable and reliable STI POCTS by supporting development, independent validation, setting up norms and standards for further implementation in the national STI control and prevention programmes.

The current focus is independent validation of promising POCTs, which comprises of three types of evaluations. Firstly, laboratory-based evaluations aim at providing data on the analytical performance of POCTs compared to the gold standard tests. The results are used to guide the project on whether to conduct further evaluation in clinical settings. Thereafter, the clinic-based evaluation seeks to determine test performance when the test is performed by clinic personnel who are not trained laboratory technicians. This evaluation also includes the assessment of the operational characteristics of the POCTs, such as the ease of use and acceptability of the tests to patients and clinic personnel. Lastly, the third type of POCT evaluation pursues the assessment of the utility of POCTs in non-clinical settings.

Apart from independent laboratory evaluations of new POCTs, 5 priority clinical evaluations have been prioritized for (not yet) commercially available POCTs through expert technical consultations:

- Validation of dual HIV/syphilis POCTs in antenatal clinic patients (screening)

- Validation of dual HIV/syphilis POCTs in men who have sex with men (MSM) and/or sex workers (SW) (screening)

- validation of NG/CT/TV POCTs in women presenting with vaginal discharge syndrome (case management)

- validation of NG/CT/TV POCTs in women at risk for these infections, those can be SW, adolescents, migrant women, or other vulnerable groups depending on the local context (screening)

- validation of NG/CT POCTs in MSM, using genital, anorectal and pharyngeal samples

Core protocols have been approved and a multi-country study is being prepared. These validations are an essential step to advance our understanding of performance, feasibility, acceptability and utility of STI POCTs, as well as to develop an investment case for further implementation of STI POCT within national STI control and prevention programmes.

URL: http://www.who.int/reproductivehealth/topics/rtis/pocts/en/
Domain: biotechnology (genetic engineering, bioremediation, etc.)
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- UN system-sponsored/organized conference
- Side event at an intergovernmental meeting or conference
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Support to Programme/Project Implementation
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Informational Website
- Online Forum/Community/Exchange
- Interagency Group/Multi-Stakeholder Partnership
- Advocacy

Actors:
- Member States
- NGOs
- Private sector entities
- Academia
- Scientific community

Actors Description:
We are currently engaging with 3 health ministries, 14 scientific institutions, 5 NGOs and 3 manufacturers. More details available upon request.

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)
- Other: Collaborating institutions

Beneficiaries Description:
Governments: Policy advice on reducing STIs cost- effectively, healthy populations
Public at large: When the study results are known and the POCTs are acceptable in terms of accuracy, everyone can benefit from having these POCTs available to diagnose these infections and receive the right treatment the same day.
Targeted groups: vulnerable populations will see their access to to sexual health services increased.
Collaborating institutions: capacity building and improvement of services.

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)
    Explanation: ....WHO Scientist, consultant and in house statistical support

Financial Investment:.......large (expenditure $50,000 and above)
    Explanation: ....Sites in developing countries will be funded, capacity building will be provided, data-management and analysis will be partly outsourced.

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WIPO: Cybersecurity

WIPO recognizes the importance of providing safe and secure online products and experience to its membership and clients. To systematically address the inherent and increasingly escalating information security risks to its online services, WIPO hired a Chief Security Officer in 2015 to further progress the development and implementation of a next generation Information Assurance (IA) Strategy [2016-2020].

To this end, WIPO continues to invest in strengthening its information security posture to combat known and sophisticated threats, ensure resilience of its ICT systems to cyber threats, and demonstrate reasonable assurance of internal control to its membership and Intellectual Property (IP) customers. These investments are guided by the fit-to-purpose IA Strategy focusing on changing user's behavior to growing information security threats, continuous compliance and management of information risks, protection of sensitive customer information and ICT systems, and improvements in our capability to detect and respond to cyber threats. The Information Assurance Strategy comprises of 18 initiatives including the following-

1. Recognizing the convergence of physical and cyber threats, WIPO combined information security and physical security/safety under a single division and leadership to facilitate information sharing and ensure resilience of safety and physical security systems.

2. A strong Security and Information Assurance governance structure with senior management participation was established to direct and oversee the implementation of the IA Strategy.

3. WIPO has maintained for the fourth year its international certification to ISO/IEC 27001 covering its Global IP Systems.

4. WIPO has increased the knowledge and awareness of staff to information security threats and acceptable behaviors through the implementation of an Information Security Education and Awareness Plan (ISEAP) including mandatory computer based security training, simulated phishing campaigns, awareness campaigns, and targeted technical training for ICT staff.

5. By end of 2017, WIPO will implement a 24/7 Information Security Operations Center (iSOC) to monitor, detect, and respond to information security threats and incidents, and continually manage vulnerabilities to an acceptable risk level.

6. WIPO is in the process of further improving the security and resilience of its critical Global IP System through the implementation of several technical security controls, and alternate business continuity centers.

7. The IA Strategy will implement an Information Security Governance, Risk and Compliance (GRC) solution to streamline information risk management processes and allow for accurate and periodic reporting of enterprise information risks to senior management.

8. WIPO continues to actively participate in inter-agency initiatives such as the ICT Network, and the UN Information Security Special Interest Group (UNISSIG) to share threat intelligence and best practices.

URL:
Domain: cyberthreats (electronic attacks on networks/infrastructure/systems, malware etc.)
Function: internal support function (including application to operations and management)

Outputs:
- Interagency Group/Multi-Stakeholder Partnership
- Other: Support of WIPO's Results Based Management Performance Indicators

Actors:	**Actors Description:**
• Other UN system organizations • Private sector entities • Other: Internal WIPO staff	

Beneficiaries:	**Beneficiaries Description:**
• Public-at-large • Staff of your organization • Other UN system entities • Other: WIPO's IP customers	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date): Jul-05

WIPO: Global digital content market conference (GDCM)

The creative industries contribute heavily to learning, scientific advancement and cultural heritage. Yet the advent of the global digital market has severely disrupted their business models, reducing income for many creators and producers.

WIPO uses its convening power for the benefit of consumers, students, creators and producers to examine the opportunities provided to the creative industries by new digital technologies. New business models and the sustainability of the economic value chain are key issues for sectors such as music, film, broadcasting and publishing.

In 2016 the first Global Digital Content Market Conference (GDCM) was held in Geneva and took a global perspective. 1000 delegates participated from around the world and 92% of those surveyed agreed strongly or very strongly to the statement 'the conference was interesting for me'. In 2018 it is anticipated that the GDCM will take place in Asia-Pacific to examine the issues specific to that region. Subsequent GDCMs will rotate between Geneva for a global view and other regions for the regional view.

Digital Identifiers were a key issue identified at GDCM2016. Verification, identity and ownership of metadata is currently a key issue underpinning potential sustainable access and payment models and blockchain is potentially a solution to explore. WIPO intends to further support the creative industries by facilitating a better understanding of digital identifiers, bringing together key players in a series of collaborative activities, separate from, but related to the GDCM initiative.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- UN system-sponsored/organized conference

Actors:	Actors Description:
• Member States	
• Other UN system organizations	
• Other IGOs / development banks	
• NGOs	
• Private sector entities	
• Academia	

Beneficiaries:	**Beneficiaries Description:**

Beneficiaries:
- government
- Public-at-large
- Targeted group(s)

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)

Timeline:

Work on activity began: ...more than 1 year ago
Work is............................ongoing (with no set end date)

WIPO: Global Innovation Index - Innovation Feeding the World

Innovation is now widely recognized as a central driver of economic growth and development. The Global Innovation Index 2017 (GII), in its 10th edition this year, is co-published by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO). It is a ranking of innovation performance of 130 countries. Through its work, the publishers seek to identify policies that foster environments conducive to innovation. One of the GII's core objectives and impacts also relates to the better collection of innovation data at the level of member states and of national and international statistical agencies.

Recognizing the key role of innovation as a driver of economic growth and prosperity, and the need for a broad horizontal vision of innovation applicable to developed and emerging economies, the GII includes indicators that go beyond the traditional measures of innovation such as the level of research and development.

The GII features:

• 127 country/economy profiles, including data, ranks, and strengths and weaknesses

• 81 data tables for indicators from over 30 international public and private sources, of which 57 are hard data, 19 composite indicators, and 5 survey questions

• A transparent and replicable computation methodology for each index ranking (GII, output and input sub-indices).

This year's edition of the GII is dedicated to the theme Innovation Feeding the World, exploring the role of innovation in the agricultural and food sector. The combination of various factors – scientific advances in biotechnology, the joint application of new technologies, such as green energy and big data, together with process innovations in finance and logistics – make for innovative and much-needed advances in the agricultural sector.

Through its involvement in the GII, WIPO seeks to contribute to improving our understanding of innovation policies, with a view to facilitating evidence-based policymaking. Over the last ten years, and as countries increasingly use its results, the GII has established itself as an important reference on innovation and a tool for action for decision makers.

URL: https://www.globalinnovationindex.org/
Domain: the activity cuts across several science / technology / innovation domains
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership
- Other: Capacity building at the level of member states in areas such as innovatin data collection and innovation policies

Actors:
- Member States
- Other UN system organizations
- Other IGOs / development banks
- Private sector entities
- Academia
- Scientific community

Actors Description:
GII Knowledge Partners:
Confederation of Indian Industry (CII), PricewaterhouseCoopers (PwC) and Strategy&, and the National Confederation of Industry (CNI) and Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (Sebrae).

Other key data collaborators: within UN-system: ILO, ITU, UNESCO UIS, UNIDO, UN COMTRADE, UNIDO, WTO

other IGOs: CERN,European Commission Joint Research Center, IEA

Private sector: and non-profit entities: Bureau van Dijck, Clarivate, IHS, Google, WIKIMEDIA

Beneficiaries:
- government
- Public-at-large
- Staff of your organization
- Other UN system entities
- Other: researchers

Beneficiaries Description:
The GII is concerned primarily with improving the journey towards a better way to measure and understand innovation and with identifying targeted policies and good practices that foster innovation. Written in a nontechnical language, the GII addresses diverse groups including policy makers, business leaders, academics, and organizations of civil society.

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................in-progress (specify expected completion date): Annual publication published in June/July each year. Next due in July 2018.

WIPO: Patent Cooperation Treaty (PCT)

The Patent Cooperation Treaty (PCT), with 152 States Parties, is a multilateral agreement for international cooperation in the field of patents. It assists applicants in seeking patent protection multi-nationally for their inventions, helps patent Offices with their patent granting decisions, and facilitates public access to a wealth of technical information relating to those inventions. This encourages innovation by providing incentives to fund research, means to capitalize on the investment to bring products to market and information on which to build further rounds of development. WIPO plays the role of overall coordination of this networked service, in addition to receiving, processing, publishing and disseminating all PCT applications (233,000 in 2016) reflecting the latest state-of-the-art technology. The PCT is used by all major technology enterprises, organizations, universities and research institutions in the world. It is often described as one of the best examples of a functioning multilateral cooperation of UN Member States.

The "networked" PCT system must be understood as a treaty largely for rationalization and cooperation with regard to the filing, searching and examination of patent applications by national and regional patent Offices, the dissemination of the technical information contained therein between such Offices and, eventually, to the general public. With the PCT, the traditional process of application for patents in several countries is greatly simplified, serving the interests both of the millions of users of the patent system worldwide, and of the national and regional Offices that have responsibility for its administration.

To achieve its objective, the PCT: (i) establishes an international system which enables the filing, at a single patent Office, of a single "international application" in one language having legal effect in any or all of the up-to 152 States Parties to the PCT; (ii) provides for the formal examination of the international application by a single patent Office; (iii) subjects each international application to an international search that results in a report citing the relevant prior art (mainly published patent documents relating to previous inventions) which may have to be taken into account in deciding whether the invention is patentable; (iv) provides for centralized international publication of international applications with the related international search reports, as well as their communication to the patent Offices of the Contracting Parties; and (v) provides an option for an international preliminary examination of the international application, which gives the applicant and, subsequently, the Offices that have to decide whether to grant a patent, a report containing an opinion as to whether the claimed invention meets the international criteria for patentability.

URL: http://www.wipo.int/pct/en/
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: Member State driven, treaty based fee-funded service for private sector entities, universities, public research institutes and individual inventors

Outputs:
- Other: Tool for patent applicants and for the multilateral cooperation of patent Offices of UN member States

Actors:

- Member States
- Other IGOs / development banks
- NGOs
- Private sector entities
- Academia
- Scientific community

Actors Description:

Beneficiaries:

- government
- Public-at-large
- Other: PCT applicants (private sector entities, universities, public research institutes and individual inventors)

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WIPO: PATENTSCOPE

PATENTSCOPE is a public patent search system on the internet. It includes 40 national and regional collections in addition to the Patent Cooperation Treaty (PCT) collection, representing more than 60 million documents, with more collections planned to be made searchable in the future. It is as such a worldwide repository of mankind's technological knowledge.

URL: patentscope.wipo.int
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: data search

Outputs:
- Informational Website

Actors:	**Actors Description:**
• Member States	

Beneficiaries:	**Beneficiaries Description:**
• government	
• Public-at-large	
• Targeted group(s)	
• Staff of your organization	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................in-progress (specify expected completion date):

WIPO: WIPO*Translate

WIPO*Translate is a Neural Machine Translation engine trained on patent texts developed by WIPO and available within WIPO's public patent search system PATENTSCOPE. It allows PATENTSCOPE's end users to obtain a state-of-the-art machine translation of any patent text available in PATENTSCOPE for the available language pairs (From and to English for the following languages: French, German, Spanish, Portuguese, Russian, Chinese, Korean and Japanese) and assists in the dissemination of the technical knowledge disclosed in patent documents worldwide.

URL: https://patentscope.wipo.int/translate
Domain: artificial intelligence (automation, robotics, machine learning, etc.)
Function: direct support / programme delivery (supporting the implementation of programmes / provision of services to beneficiaries)

Outputs:
- Support to Programme/Project Implementation

Actors:	**Actors Description:**
• Academia	
• Scientific community	

Beneficiaries:	**Beneficiaries Description:**
• Public-at-large	WIPO*Translate can be trained with non-patent text to produce in-domain high quality machine translation engines. WIPO has been offering technical assistance to other UN organizations in the past 5 years on machine translation.
• Staff of your organization	
• Other UN system entities	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:
Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

WMO: Climate engineering

At the 17th World Meteorological Congress (2015), WMO members considered the issues related to climate engineering and agreed with a conclusion of the Commission for Atmospheric Sciences (CAS) that further research is needed to adequately understand the potential feasibility, the effectiveness and risks associated with various climate engineering techniques. WMO is of the opinion that the future could require a UN-wide framework to govern these activities as consequences could be global and irreversible, involving the atmosphere, land and oceans. The Congress requested CAS to assess the gaps in scientific understanding on climate engineering and appropriate research to address such gaps, and to do so in close cooperation with IMO, IOC/UNESCO, IPCC, WCRP and other relevant international, academic and science bodies.

WMO is a long-term sponsoring agency of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP). the At its 42nd session (2015), GESAMP agreed to establish a new working group (WG 41) on marine geoengineering under the lead of IMO with support from IOC/UNESCO and WMO and co-chaired by independent experts. The goal of the WG is to carry out an assessment of a wide range of marine geoengineering approaches for their potential environmental and socio/economic impacts on the marine environment (and the atmosphere where appropriate) as well as their potential scientific practicality and efficacy for climate mitigation purposes.

For the last three years, the President of CAS has taken part in informal dialogues with the International Law Commission (ILC) on the protection of the atmosphere including on the topic of climate geoengineering. These dialogues provide information for the ILC to consider as they draft guidelines regarding the obligation of States to protect the atmosphere including environmental impact assessment, sustainable utilization of the atmosphere, equitable utilization of the atmosphere and geoengineering.

The World Climate Research Programme is leading a Coupled Model Intercomparison Project (CMIP) to better understand past, present and future climate change and variability in a multi-model framework. Phase 6 of CMIP includes modelling experiments on the effects of geoengineering technologies (namely solar dimming, stratospheric sulfate aerosols, cirrus cloud thinning) for inclusion in multi-model comparisons.

Most recently, WMO has had informal discussions with the Carnegie Climate Geoengineering Governance Initiative (C2G2). Given the potential risk of climate geoengineering technologies, this initiative aims to catalyse the creation of effective governance of these technologies including research, testing and possible use.

URL: http://www.wmo.ch/pages/prog/arep/cas/index_en.html
Domain: other (e.g., geoengineering, nanotechnology, virtual / augmented reality, 3D printing, etc.) geoengineering
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Other UN system organizations

Actors Description:
IMO, IOC/UNESCO, Intergovernmental Panel on Climate Change (IPCC), World Climate Research Programme (WCRP)

Beneficiaries:
- government
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......medium (expenditure between $10,000 - $49,999)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WMO: Exchange of meteorological and climate data

WMO facilitates the free and unrestricted exchange of data and information, products and services on matters relating to safety and security of society, economic welfare and the protection of the environment. The policy, as adopted by Congress in Resolution 40 (Cg-XII), explicitly affirms the WMO commitment to the principle of free and unrestricted exchange of meteorological and related data and products. Observational data, information and derived products are freely exchanged in real-time or near real-time between WMO centres and national meteorological and hydrological services of Members around the world. Powerful computers in WMO centres worldwide process the data collected from tens of thousands of land and sea observation instruments and Earth-observing satellites. These data are used in numerical models based on physical laws to produce weather, climate and water-related forecasts, predictions and information products for use in daily lives and long-term decision-making. Built on the Global Telecommunication System of the WMO World Weather Watch, the WMO Information System (WIS) provides routine collection and automated dissemination of observed weather, climate and water-related data and products, as well as data discovery, access and retrieval services. The prospect of private-sector operators of basic satellite systems has triggered renewed attention to the issue of data access for global WMO applications, in particular for near-real-time applications. There is potential value in exploiting data from private operators of satellite-based meteorological observing systems, however, potential risks need to be recognized, such as loss of transparency of the observation and processing chain and thus of data quality and integrity, limitations to data access, and more difficult international coordination of satellite missions. While the value of WMO Resolution 40 for increasing the availability of meteorological data for WMO applications, the satellite-specific provisions in the Resolution reflect the technical reality of the mid-1990 when the main use of satellite data was imagery for nowcasting.

Resolution 60 (Cg-15) established a WMO Policy for the International Exchange of Climate

Data and Products to Support the Implementation of the Global Framework for Climate Services (GFCS). The policy applies only to meteorological, hydrological and climatological data and products, including related environmental data and products, developed or acquired under WMO auspices and required to support the implementation of GFCS relevant data and products.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: convening of stakeholders / partnership building (facilitating knowledge-sharing, consensus-building, fostering partnership and other cooperation, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Training/Capacity Building Programme
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:	Actors Description:
• Member States • Other UN system organizations	

Beneficiaries:
- government
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....large (supported by 7 or more full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WMO: Marine observation technology

WMO is collaborating with partner organizations such as the Intergovernmental Oceanographic Commission (IOC) of UNESCO to further develop, optimize and maintain in complement to satellite observations and remote sensing technology, in situ marine meteorological and oceanographic (metocean) observing networks in support of applications such as weather forecasting and operational meteorology, the monitoring, understanding and prediction of climate variability and climate change at various time scales, ocean forecasting and marine services activities, the protection and sustainable development of the ocean and marine environment, and the efficient management of marine resources, including disaster risk reduction in coastal regions. In face of evolving requirements and advances in observing technology (autonomous platforms, new sensors, communication technology), and in response to GCOS requirements in particular, the WMO and the IOC of UNESCO through the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM) are revising observing network implementation targets and addressing the means to reach those targets in the most cost-effective way.

Today's global ocean observing system relies on composite observing networks comprising meteorological and oceanographic satellites, coastal high frequency radars, and thousands of observing platforms in the global ocean and coastal regions, including drifting and moored data buoys, ice buoys, profiling floats, sub-surface ocean gliders, surface wave gliders, tide gauges, tsunameters, and voluntary observing ships. Assuring sustainability of metocean observing systems and the required exchange of the collected data on free and unrestricted basis is also critical for addressing the user requirements, and particularly those for disaster risk reduction.

The 17th World Meteorological Congress (2015) reiterated the importance to address ship security and piracy, and prevention of vandalism to data buoys, requesting the Secretary-General to organize a second WMO-IMO high level meeting in 2016/2017 to safeguard the buoys at sea, and further urged Members to follow recommendations of the Data Buoy Cooperation Panel (DBCP) Technical Document No. 41, Ocean Data Buoy Vandalism – Incidence, Impact and Responses.

WMO is also partner with the International Telecommunication Union (ITU) and the IOC of UNESCO in the Joint Task Force to investigate the use of submarine telecommunications cables for ocean and climate monitoring and disaster warning.

WCRP and the Prince Albert II of Monaco Foundation have launched a Polar Challenge with a Prize money award to the first team able to complete a 2000 km continuous mission under the sea-ice with an autonomous underwater vehicle in the Arctic or Antarctic to promote innovation towards a cost-effective, scalable and sustainable monitoring system for the polar oceans.

URL:
Domain: data-related issues (privacy, openness, access, etc.)
Function: data collection and analysis (measurement, monitoring and evaluation, etc.)

Outputs:
- Intergovernmental Meeting
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Principles/Standards/Guidelines/other normative products
- Interagency Group/Multi-Stakeholder Partnership

Actors:

- Other UN system organizations

Actors Description:

IOC/UNESCO, ITU

Beneficiaries:

- government
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is...........................ongoing (with no set end date)

WMO: Weather & Climate Prediction

A continuing and important area of research focuses on the sources of predictability in the Earth system. Detail weather conditions to neighbourhood level, predicting extreme events for the following seasons, and global climate projections at kilometer scale are like a battleground, with the forces of predictability pitched against those of unpredictability. The evolution of weather and climate science as well as of high-performance computing and observing systems in the future is crucial for continuing the progress in weather and climate predictions. Critical scientific and technological cross-roads have been reached or are very likely to be reached in the near future. Consequently, the present period is of fundamental importance for how weather forecasting and also climate science will evolve. Building on anticipated advances in the understanding of physical processes, in numerical model development, in observation technology and high- performance computing, the vision for global weather and climate modelling a decade or more in the future is as follows: in terms of resolution to be able to perform global simulations at a horizontal resolution of the order of 1 km; in terms of complexity to be able to run fully coupled atmosphere–land–ocean–sea-ice models. Ensembles at this resolution and complexity will predict probabilities of dynamics, physics, chemistry and probably selected bio-chemical processes into the multi-seasonal range for weather, and into the multi-decadal range for climate.

In this context, today's highest-performance computers employed in Numerical Weather Prediction rank in the top 20 of the 500 most powerful systems. However, the expected future high-performance computing technology development will impose new constraints on how to address the science challenges of weather and climate predictions.

A change of paradigm is therefore needed regarding hardware, design of codes, and numerical methods. New technologies will combine and integrate low-power processors with the successors of today's processors to give the best of both worlds—namely, highly parallel compute performance with little data. Code design and algorithm choice must be adapted to this technology by optimizing computing load and memory usage, which is a fundamental challenge given that we are dealing with vast heritage codes from the past 50 years.

This computing challenge is enhanced by the requirements for data distribution and archiving. Data growth is dramatically increasing, exabyte data production may be reached soon, just to provide an example of what exabyte means five exabytes would likely encompass all the words ever spoken by mankind, in any language. As for future processor technology, hardware will limit data transfer capacity. Advanced data compression methods need to be implemented, and standardized and supported by the weather and climate community.

URL: http://www.wmo.ch/pages/prog/arep/wwrp/new/wwrp_new_en.html
Domain: the activity cuts across several science / technology / innovation domains
Function: research and thought leadership (provision of expertise, strategic advice, etc.)

Outputs:
- Expert Meeting/Workshop
- Policy or Research Paper/Report/Publication
- Interagency Group/Multi-Stakeholder Partnership

Actors:
- Other UN system organizations
- Private sector entities
- Academia
- Scientific community

Actors Description:
European Commission (Horizon2020), Intergovernmental Panel on Climate Change (IPCC), World Climate Research Programme (WCRP),

Beneficiaries:
- government
- Public-at-large
- Other UN system entities

Beneficiaries Description:

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment: ....large (expenditure $50,000 and above)

Timeline:

Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WTO: Work Programme on Electronic Commerce

At the Second WTO Ministerial Conference in May 1998, ministers, recognizing that global electronic commerce was growing and creating new opportunities for trade, adopted the Declaration on Global Electronic Commerce. This called for the establishment of a work programme on e-commerce, which was adopted in September 1998. Periodic reviews of the programme are conducted by the General Council of the WTO based on reports from the WTO bodies responsible for implementing the programme. Ministers also regularly consider the programme at the WTO's ministerial conferences.

URL: https://www.wto.org/english/tratop_e/ecom_e/ecom_e.htm
Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: examine and report on trade related aspects of E-commerce

Outputs:
- Intergovernmental Meeting

Actors:	**Actors Description:**
• Member States	

Beneficiaries:	**Beneficiaries Description:**
• government	

Scale:

Personnel Support: ....medium (supported by 4 to 7 full-time equivalents)

Financial Investment:.......not applicable

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

WTO: Working Group on Trade and Transfer of Technology

"The Working Group on Trade and Transfer of Technology, established under paragraph 37 of the Doha Declaration, is mandated to (i) examine the relationship between trade and transfer of technology, and (ii) to make recommendations, if any, on steps that increase flows of technology to developing countries.

Since its inception in 2001, the Working Group has proceeded to work on the basis of Members' submissions and contributions made by other IGOs, academia and the WTO Secretariat. The themes that have been discussed include: (i) definition of technology transfer; (ii) role of home and host country measures; (iii) enabling environment and the absorptive capacity; (iv) role of IPRs; (v) role of FDIs; (vi) transfer of technology and WTO Agreements; and (vii) transfer of technology and technical assistance.

The discussions have highlighted the importance of technology and technical know-how in improving productivity and competitiveness, promoting export growth and attaining the development aspirations of the developing countries and least developed countries. In addition, it has also underscored the crucial role of supportive governmental policies, home and host country measures, absorptive capacity FDIs, IPRs availability of finance, investment flows, research and development, educational institutes, human resource and infrastructure development in technology generation, innovation, its dissemination and transfer.

This has contributed to a better understanding of the complex and multifaceted nature of technology transfer process and the crucial role played by various elements and actors in it.

It is an ongoing work with the aim of fulfilling the Ministerial mandate on technology transfer."

URL:
https://www.wto.org/english/tratop_e/devel_e/dev_wkgp_trade_transfer_techn ology_e.htm

Domain: the activity cuts across several science / technology / innovation domains
Function: other – please specify: examine the issue of transfer of technology

Outputs:
* Intergovernmental Meeting

Actors:	**Actors Description:**
• Member States	

Beneficiaries:	**Beneficiaries Description:**
• government	

Scale:

Personnel Support: ....small (supported by up to 3 full-time equivalents)

Financial Investment:.......not applicable

Timeline:
Work on activity began:...more than 1 year ago
Work is............................ongoing (with no set end date)

Index to Survey Submissions by Domain

Activity cuts across several science/technology/innovation domains

Artificial Intelligence

Biotechnology

Blockchain

Cyberthreats

Data-related issues

Energy Technology

Other

Transportation and Mobility Systems

Index to Survey Submissions by Function

Capacity development / technical assistance

Convening of stakeholders / partnership building

Data collection and analysis

Direct support / programme delivery

Internal support function

Normative support

Other

Policy advice

Research and thought leadership

Index to Relevant Survey Submissions: Artificial Intelligence

Index to Relevant Survey Submissions: Biotechnology

Index to Relevant Survey Submissions: Cyberthreats

Index to Relevant Survey Submissions: Autonomous weapons and dual-use technologies