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CABLING COMPLIANCE
WHY REGULATORY OVERSIGHT IS BETTER FOR BUSINESS

LIFE ON THE EDGE
THE FUTURE OF MULTI-TENANT DATA CENTRES

ACCESS CONTROL
IN A POST-COVID-19 WORLD

ECD [ELECTRICAL+COMMS+DATA]
MARCH 2021

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FROM THE EDITOR

Welcome to the first issue of ECD for 2021… it's hard to believe Q1 of the calendar year is over already.

More than 12 months on from the first case of COVID-19 in Australia, things appear to be normalising a little, with lockdowns (hopefully) behind us and restrictions easing across the nation. That can only be a good thing for the economy, for business owners and for workers. Naturally, the pandemic introduced a huge amount of change — in our social and personal lives, as well as the way we do business. For many, the events of 2020 meant adapting to a shifting landscape and finding new ways of doing things in order to keep the wheels turning. For society as a whole, it's certainly heightened the need for automation and contactless technologies to help minimise risk.

That's good news for suppliers and installers of technology like access control and home or building automation, as businesses prepare for increased numbers of staff to return to workplaces and homeowners look to streamline their lives.

While opportunity abounds, there's also a renewed focus on the importance of regulation within certain business sectors. The Australian Communications and Media Authority (ACMA) has recently confirmed that telecommunications cabling regulations will remain in place, after a lengthy review and consultation process. Our cover story from BICSI explains why compliance and regulatory obligations are better for business, the industry and for the end user.

I'm looking after ECD for a couple of months while regular editor Amy Steed takes a short break before returning mid-year and I do hope you enjoy this issue of the magazine.

Dannielle Furness – Editor
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COMMITTING TO CABLING COMPLIANCE

WHY COMPLIANCE TO CABLING REGULATIONS IS IN YOUR BEST INTERESTS

Paul Stathis, Chief Executive Officer

In Australia, cabling regulations are mandated under the Telecommunications Act, calling for installers to be registered (licensed), products to be tested and approved, and installation practices to meet stringent criteria.

The penalties for non-compliance are severe, yet very few companies or individuals have been penalised. Is this industry so compliant that we no longer need to be regulated?

This was a question the regulator — Australian Communications and Media Authority (ACMA) — asked recently under federal government guidelines of reviewing existing regulations.

In November 2018, the ACMA issued a consultation paper seeking views from industry on retaining or removing regulations. Outlining the intent, the paper stated: "Given the extent of developments within the telecommunications industry, it is timely to ask whether the risks that regulation was originally intended to mitigate are still present. If the risks remain, do they still require regulation and, if so, of what type and to what extent?"

The 'risks' the ACMA is referring to are safety and network integrity. These are the pillars of telecommunications regulations, designed to protect consumers and telecommunications workers from hazards and to ensure the infrastructure is fit for its intended purpose in providing dependable communications services.

The paper further clarified: "While the policy and legislative basis for customer cabling regulation has not changed since its inception, the technical and commercial environment around it has seen significant changes in recent years."

We believe the answer to the question posed earlier — is this industry so compliant that we no longer need to be regulated? — is a resounding 'no'.

Sub-standard workmanship and practices affect more than network performance

BICSI and the other cabling registrars frequently hear about the shortcomings in our industry. While most members are professionals and do the right thing, sadly there are unscrupulous people who don't adhere to the regulations and standards and cut corners just to make a quick buck.

Substandard workmanship and products often result in poor network performance for unsuspecting customers. Unfortunately, there are also instances where these practices can lead to catastrophic failure including electrocution, fire and failed medical or security services. People suffer severely because of the carelessness of a few dishonest operators.

In the face of such failures, the industry responded overwhelmingly to the ACMA Consultation Paper in favour of retaining regulations, citing these and other reasons for regulation, including increased proximity to hazards, and greater dependency on ICT infrastructure for critical services like health care, security and life-safety. All 32 submissions can be found on the ACMA website.

After deliberation, the ACMA announced in mid-February 2021 that the telecommunications regulations would remain in place, noting "the information provided to us supports the conclusion that risks associated with telecommunications customer cabling work justify continuing cabling regulation" and the full statement is available on the ACMA website.

The law protects you and your customers

As well as protecting the safety of consumers and telecommunications workers and the integrity of the network, the regulations are also in place to legally protect cablers.

It is a legal requirement to comply with the existing cabling regulations: *AS/CA S008:2020 Requirements for customer cabling products* and *AS/CA S009:2020 Installation requirements for customer cabling (wiring rules).*

While massive fines can be applied for non-compliance, the bigger concern for cablers is consequential failure. In the event of an issue like a fire, electrocution or equipment failure, the cabler can be held partially accountable — even if the work you conducted was years earlier and didn't directly cause the failure.

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The law of subrogation allows insurance companies to attribute partial blame to you as a 'contributor' but, if you ensure you've complied with regulations, you're in what is called a 'defensible position'. Put simply, adherence to regulations is your best friend.

Action No 1

Unfortunately, the cabling registrars report that some cablers have no idea that AS/CA S009 exists, or that it is a mandatory requirement. If you are unsure about either standard and your obligations, download a copy from the Communications Alliance website (www.commsalliance.com.au). There's no excuse for not having it — it's free, it's the very basis of all cabling training courses and it is widely publicised by the ACMA and the registrars.

The registrar's role

As registrars, we undertake key tasks with respect to industry awareness, endeavouring to make all industry members aware of the mandatory compliance with the Wiring Rules and encouraging cablers to keep up to date with standards including amendments. We sit on the committee that writes the Wiring Rules, we direct cablers to the Wiring Rules for technical guidance, we reference the rules in our member communications and notify cablers of updates and amendments. We also liaise with the registered training organisations (RTOs) that provide cabler training, advising them of the regulatory materials that need to be included in the training syllabus.

It has been reported to the ACMA that some of the current cabling training courses don't place enough emphasis on the Wiring Rules in either the telecommunications or electrotechnology training packages. As the AS/CA S009 standard explains the mandatory installation and maintenance practices, it must form an essential element of any cabler training. The standard covers the requirements for fixed or concealed cabling or equipment that is intended to be connected to a telecommunications network.

Rules means rules

When something is designated as 'wiring rules', that's exactly what it means — these are rules, not guidelines, and must be adhered to. AS/CA S009 is viewed in the same manner as the AS/NZS 3000 Electrical Wiring Rules is regarded by the electrical sector and that means it is mandatory.

Unfortunately, some RTOs don't spend enough time covering the Wiring Rules. In short courses of four to five days, it's impossible to deliver a meaningful understanding of the topic, let alone the often complex technologies involved. For years, cabling registrars have called for training programs to comprehensively cover technical and regulatory matters, which means longer, not shorter courses. Unfortunately, training shortfalls continue to the detriment of the industry as a whole in a 'race to the bottom', where a common outcome is less skilled personnel working in the industry.

Action No 2

Before enrolling new employees, trainees or apprentices into a cabling course, ask the RTO the following questions:
1. How much time will they allocate to teaching the S009 Wiring Rules?
2. Ask if they are teaching the latest (2020) edition.
3. Ask how course instructors are maintaining their own currency with regard to these regulations.

If you don't get the answers you want, find another organisation who is willing to commit the required time and effort to help develop an adequately skilled industry.

TCA1 Forms

Cabling registrars constantly remind cablers of the catastrophic consequences of a failure in an essential service being traced to a cabler not adhering to the Wiring Rules. You could be subject to costly litigation and the prospect of your insurance coverage denied because of non-compliance.

A useful tool to protect yourself is the ACMA's Compliance Telecommunications Customer Cabling Advice Forms (TCA 1). These forms are mandatory, yet registrars are surprised how many cablers don't regularly use them. While used primarily to indicate compliance, they are also very useful for a legitimate cabler who finds themselves in a legal situation.

A TCA1 form is proof that you carried out the works listed on the form, in accordance with the required regulations. If there is ever an insurance claim by the property owner or tenant — even if they were not your original customer — the insurance company will look to all parties for contribution to the incident. With proof that you carried out compliant work and did not contribute to the incident, you may have dodged a bullet.

Action No 3

Always complete and keep TCA1 forms. They are a mandatory requirement for all your cabling projects, but also offer an important form of protection, even many years into the future. The law requires you to retain copies for a year, but we recommend you keep them forever, just in case.

While regulations are often regarded as unnecessary red tape or a convenient mechanism for revenue raising, we believe the cabling industry benefits from the continued involvement of a regulator. In an environment where shoddy workmanship or work practices can lead to catastrophic injury or worse, we applaud the ongoing development and maintenance of standards designed to protect customers, cablers and the sector as a whole.

BICSI South Pacific
www.bicsi.com.au

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2020 A BOOM YEAR FOR ROOFTOP SOLAR

The Australian solar industry defied expectation and the economic challenges of COVID-19 to install a record-breaking 5000 MW of solar power in 2020 — equivalent to almost 15 million average solar panels — new analysis by solar industry consultancy SunWiz has found.

With every state and territory except Tasmania smashing records for the volume of solar panels and system size installed, Australia now has 20,000 MW of solar capacity nationwide — up from 15,000 MW in 2019.

Australia led the world in uptake of solar on a per-capita basis and this follows a record year for installations in 2019. The annual growth rate for rooftop solar has exceeded 33% for the past four years, and accelerated in 2020.

"The number of Australians installing rooftop solar systems increased by 40% compared to 2019 levels," said Warwick Johnston, Managing Director of SunWiz.

"The COVID-19 pandemic had major impacts on Australia's economy, but the benefits of solar were strong enough to help the industry overcome challenges including supply shortages from China, lockdowns stopping installation in Victoria and economic uncertainty.

"In fact, the pandemic had an overall positive impact for the industry as people staying home more turned to solar to help reduce their electricity bills," said Johnson.

Commercial growth slowed, partly due to COVID-19's impact on the broader economy and business finances, but corporate power purchase agreements and green hydrogen provided optimism for the future, with megaprojects on the horizon — including the 14,000 MW SunCable and the 26,000 MW Asian Renewable Energy Hub.

Utility-scale battery projects also became commonplace as state governments worked towards meeting their net zero emissions targets, with Renewable Energy Zones, purchasing price agreements and subsidies.

"It's an exceptional time to be working anywhere in the Australian rooftop solar supply chain, and things will only get better as solar system prices continue to hit record lows and momentum builds on reducing emissions to tackle climate change" Johnson said.

"While we need policies that ensure every household can connect solar to the grid and ideally make it simpler and more affordable for renters across the country to install solar panels — similar to what is underway in Victoria — 2021 looks to be another bright year for solar."

SunWiz provides market intelligence for the solar sector; visit the website to learn more www.sunwiz.com.au.

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NEW STANDARDS TO FUTUREPROOF THE POWER SYSTEM

The Australian Energy Market Commission (AEMC) has announced that new compulsory standards are on the way for household energy technologies that connect to the power system, including solar panels.

"These new minimum technical standards are part of a raft of changes we are looking at to futureproof the power system so it can confidently handle more solar," said AEMC Chief Executive Benn Barr.

"The rapid uptake of solar means we must act now to make sure this technology and the system it uses work hand in hand.

"We need to keep pace with the change underway — nearly three million households and small businesses have taken up solar, and the demand for household batteries and electric vehicles will increase over time.

"These new standards allow us to do two important things at once: welcome more new technologies into the power system and at the same time help protect grid stability. The more we keep the system stable, the more solar we can connect up and the faster we can decarbonise," he said.

The new standards will apply to inverters and will ensure that household energy systems won't trip or disconnect when there are voltage disturbances on the network.

The change is forward-looking rather than retrospective, and so will apply only to new and upgraded systems rather than existing ones. It applies to all jurisdictions in the National Electricity Market and will take effect from December 2021.

The Energy Security Board is also considering the issue of integrating distributed energy resources, with recommendations for public consultation due next month.

"It's imperative that we make sure the right structures are put in place to support a whole new energy mix and a very different looking power grid than the one we've relied on in the past," Barr said.

"But we need to do this in a way that helps more people to connect, protects those that don't, and helps the system run smoothly overall. This means restructuring the system, including the market incentives and rules."

The new standards follow a rule change request from the Australian Energy Market Operator (AEMO) seeking to set up a framework for AEMO to set minimal technical standards.

The AEMC has decided to use existing rules and industry frameworks rather than establishing a new set of arrangements, because it will be faster and less costly to implement. This means the standards will more quickly be able to address the concerns of the Energy Security Board and AEMO about the impact that inverters tripping can have on the total power system.

The December launch date will mean manufacturers will have enough time to prepare for the change. The new framework will also be flexible, so that changes to the Australian standards over time will automatically apply.

Our capabilities

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Electrical Comms Data news

TRADIES START A CONVERSATION AROUND MENTAL HEALTH

Brisbane-based social enterprise and workwear brand TradeMutt has launched its new non-for-profit organisation: This Is A Conversation Starter (TIACS). The service is aimed at tradies, truckies, blue-collar workers and their families, and helps continue the conversations that TradeMutt's funky work shirts have started across the nation.

Since March 2018, the eye-catching shirts have taken the blue-collar community by storm and amassed the support of over 42,000 tradies across Australia, many of whom wear their bright-coloured work shirts every Friday to help start conversations about mental health.

Co-founders and carpenters by trade, Ed Ross and Dan Allen decided to launch the brand after Allen lost a close mate to suicide.

After their early success starting public and cultural conversations, launching the TIACS text and call service, the first of its kind in Australia, to continue these conversations at a private and clinical level seemed like the natural next step.

So far, the service has provided 1000+ hours of mental health support and employs two full-time psychologists.

"We have been blown away with the positive feedback, as well as the stories of people showing vulnerability once they know what the shirts are about," said Ross.

However, the brand has no plans to stop any time soon and, with 5% of profits from every garment sold going directly to TIACS, the boys are hoping that the launch of their new line of workwear will continue to bolster the 'Funky Friday' movement across worksites all around Australia.

TradeMutt's new collection, 'Retrospective', is the latest colourful offering from the brand, with a nostalgic Aussie feel that is designed to inspire tradies to reflect on the last year, embrace new challenges and look ahead with a positive perspective.

Catering to tradies who require day/night rated workwear as well as those who don't, the new collection has three new prints in five styles.

With print names such as T.I.E. (Take It Easy), Whoopsie Daisy and Open Road, each with a unique story, the shirts are bound to start conversations about learning how to take it easy on ourselves and others, owning up to our mistakes and learning to let go and enjoy the moment.

The Retrospective collection is limited edition and launched on 3 February 2021.

SMART HOME TRAINING ON OFFER

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WHEN: 22– 25 June 2021
WHERE: Victoria — details available on registration.
COST: $999 for members of ACRS, TITAB or NECA; $1199 for non-members + $200 (optional) CIT exam coupon. Charges include four days of training, catering and a CIT textbook.

For many home owners, the local electrician or cabler is the first port of call when considering smart home technologies. Awareness of smart devices and home automation systems is growing, giving electricians and cablers the opportunity to capitalise on what is quickly becoming an essential utility in today's homes.

In order to offer your clients a truly customised solution — and to maximise business potential — you need to know what you're talking about.

CEDIA has introduced new training initiatives for Australian electricians and cablers.

Smart Home Week 2021
CEDIA Smart Home Week comprises four full days of comprehensive training and education.

This week exposes attendees to the ins and outs of home automation technologies, giving them the skills and knowledge needed to incorporate home automation into their business offering in order to develop new revenue opportunities.

After completing the four days of in-person training, participants are ready to sit the CEDIA Cabling & Infrastructure Technician (CIT) Certification exam. The exam can be taken online or at one of the 12 Kryterion examination centres in six states.

Attendees will be among the first people to experience the new education offering in Australia, giving them a competitive edge in this fast-growing industry.

Should participants wish to pursue further certification, books and other training resources will be available to purchase at CEDIA member pricing.

To register, visit the CEDIA website: cedia.net/education-events/education/asia-pacific/australia-smart-home-week.

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THE FUTURE OF
ENERGY EFFICIENCY
IN DATA CENTRES

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Researchers at Sweden's Chalmers University of Technology have found that graphene-based heat pipes can help cool the electronics and power systems used in avionics, data centres and other power electronics applications.

"Heat pipes are one of the most efficient tools for this purpose, because of their high efficiency and unique ability to transfer heat over a large distance," said Johan Liu, Professor of Electronics Production, at the Department of Microtechnology and Nanoscience at Chalmers.

The results, which also involved researchers in China and Italy, were recently published in the scientific open access journal *Nano Select*.

Electronics and data centres need to be efficiently cooled in order to work properly. Current heat pipe solutions utilise copper, aluminium and their alloys, which are relatively high density and offer limited heat transmission capacity, creating challenges when cooling power devices and data centres. The researchers believe graphene-enhanced pipes offer a viable alternative.

Large data centres are extremely energy intensive. The researchers suggest these applications are responsible for greater emissions in the aviation industry, making energy efficiency a key target. The paper outlines discoveries that could make a significant energy efficiency contribution to data centres and other applications.

Graphene enhanced heat pipes feature a specific thermal transfer coefficient that is around 3.5 times better than that of copper-based heat pipe. The new findings pave the way for the use of graphene-enhanced pipes in lightweight and large-capacity cooling applications.

The pipes are made of high thermal conductivity graphene assembled films assisted with carbon fibre wicker enhanced inner surfaces. The researchers tested pipes of 6 mm outer diameter and 150 mm length and uncovered advantage and potential for cooling of a variety of electronics and power systems, especially where low weight and high corrosion resistance are required. There is potential for further efficiency gains through the use of heat sinks and fans.

"The condenser section — the cold part of the graphene-enhanced heat pipe — can be substituted by a heat sink or a fan to make the cooling even more efficient when applied in a real case," said Ya Liu, PhD Student at the Electronics Materials and Systems Laboratory at Chalmers.

The new study is based on a collaboration between researchers from Chalmers University of Technology, Fudan University, Shanghai University, China, SHT Smart High-Tech AB, Sweden and Marche Polytechnic University, Italy.

KEEPING IT SIMPLE WITH KNX

Mark Warburton, Director

KNX hit 30 years of age in 2020. With over 500 brands now producing KNX-compatible products it's also widely recognised, backed by 93,000+ trained and committed integrators across 190 countries.

These figures paint a powerful picture of what is possible with KNX and the extent it is accepted worldwide. However, it can also sound pretty daunting, particularly when you consider the vast range of products to control lighting, shading, AV, security, HVAC and more. You'd be forgiven for being a little scared by KNX.

Too many devices?

The most common question is how can this be simple when we are working with so many complicated devices, numerous functions, parameters and configurations?

The key is decentralisation.

Each device in a KNX system has the capability to perform its own function, meaning complex operations take place before information is shared with the rest of the system. What's more, individual devices are able to communicate directly without commands needed to be processed by a central server.

This means the size and complexity of the system is only ever what you need. The overhead of running centralised servers is removed and if you ever need to upgrade devices you can replace components individually without changing other parts of the system.

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of interface and interaction is straightforward. In fact, there are really only three levels of control needed:
- Turning something on/off
- Turning something up/down
- Sending a value

When we approach systems communication with this mindset it becomes much clearer that although the devices we use can be extremely complex in their intelligence, and be controlling a myriad of sub systems, the basic way they communicate with each other is actually very simple.

So, the complexity must be in the software? Wrong again.

Easy with ETS

ETS is the software used to commission KNX projects, and to brand it complicated is to judge a book by its cover.

To configure a project from beginning to end there are only five individual steps:
- Create the project
- Add devices from the online catalogue
- Configure device parameters
- Link devices
- Download

Of course some of these steps are more involved, and there is no getting away from the fact that a large project has a lot going on. However, ETS is jam-packed with tools to make it as simple as possible to commission, debug and maintain projects.

Getting to grips with the way ETS works is something the KNX Basic course focuses on and you will quickly start to feel comfortable with the interface. It is then a case of exploring how specific devices work as the process for commissioning doesn't change, even if you change manufacturers or device type eg, from lighting to HVAC.

As your confidence grows you will start to see ETS for the extremely powerful yet simple application that it is.
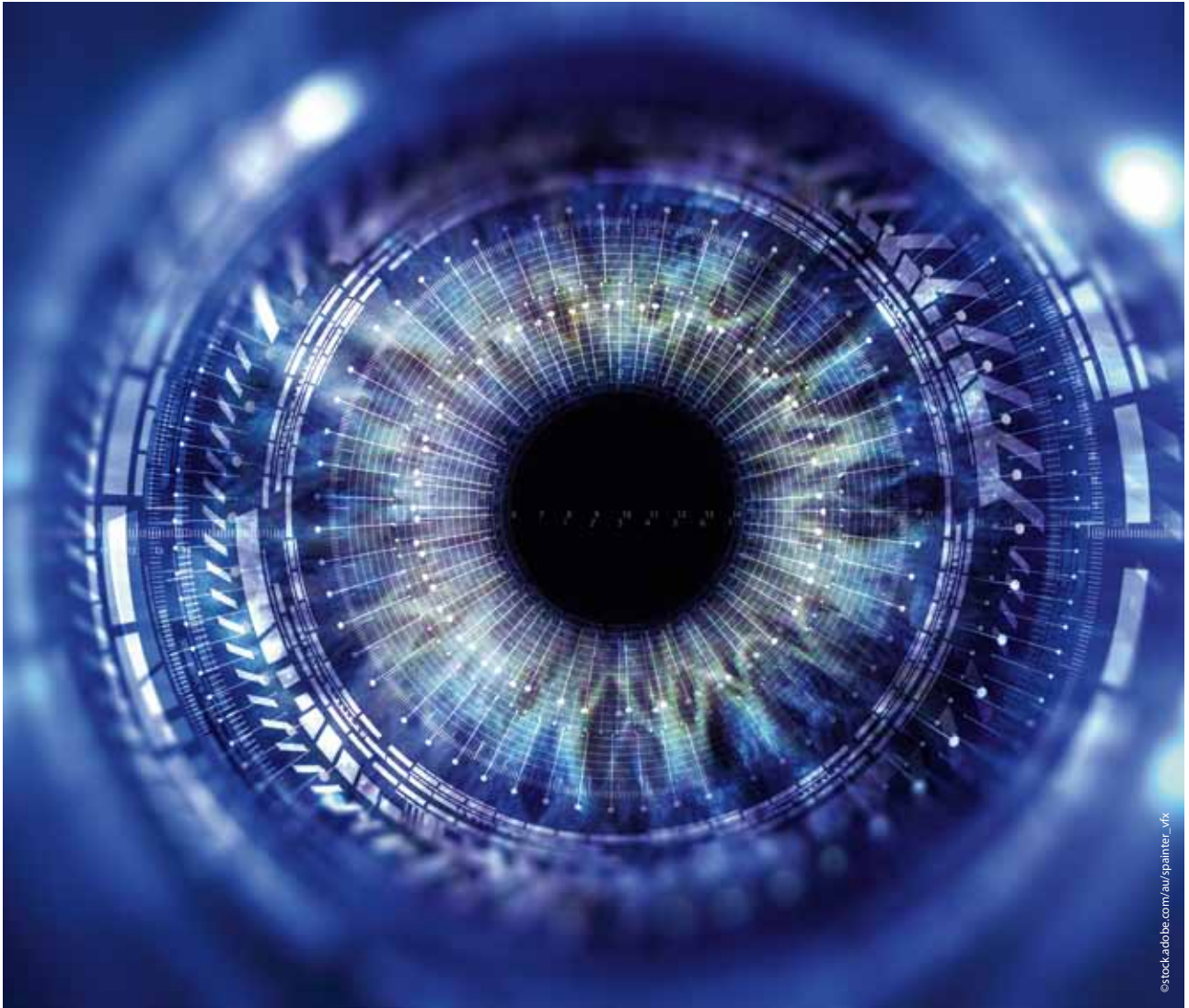
The path to KNX enlightenment

The biggest takeaway is that KNX is not scary. For many it has already proven to be the opposite, taking their businesses to new heights and allowing them to work on projects not possible with the systems relied on previously. It provides a robust and versatile solution that you can use to deliver projects of all types and sizes.

Getting started with KNX is simple as well. With so many great resources available, including foundational courses, videos and articles, you'll quickly have the foundations needed to use KNX on your next project. Most importantly, you have the support of an amazing community. You're never on your own when using KNX! Visit the local website for information on KNX training, compatible products and other resources.

Ivory Egg
www.ivoryegg.com.au

Decentralisation also mean you can select the right device for the right application. When you are faced with quickly evolving specifications, knowing the system you are using can easily be changed is not only reassuring but also makes your project more profitable.

Devices that operate independently, whilst interacting through a common language, KNX, means you have a system that is easy to scale, reliable and offers you huge flexibility.

Just like turning something on or off

So with all these devices, controlling so many different functions, surely the KNX communication must get pretty messy? Quite the opposite.

What KNX actually does is very simple. Not because the system or what we are trying to control is basic, but because the level

Biometric controls for COVID-safe return to work

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Augmented identify vendor IDEMIA has deployed its MorphoWave Compact biometric contactless fingerprint reader for access control to two prominent Sydney office towers.

Both the Gateway building at Circular Quay and 100 Mount Street in North Sydney now feature safe and secure access control, the ideal solution as many organisations struggle to implement a return-to-work program that addresses COVID-19 safety requirements.

The devices were integrated within the access control and building management at Gateway, delivering secure, frictionless and fast employee access. Gateway is the first office building in Australia to offer fully integrated, touchless entry technology. Over 30 MorphoWave Compact units have been installed at entrances and carparks within the building, replacing traditional swipe cards. With a simple wave of a hand above the fingerprint reader, users are able to open security gates and locker doors, gain carpark access and call lifts without touching the device directly, therefore maintaining better hygiene standards.

MorphoWave Compact is the company's flagship biometric device for physical access control. It uses patented, touchless 3D fingerprint technology to accurately scan four fingers in 3D within a second when a hand is waved over the reader. It is fully equipped with anti-fraud features such as fake finger detection and banned user lists, and can scan and verify up to 50 people per minute, which makes it suitable for secure yet fast access. The device is IP65 rated and Powered over the Ethernet (PoE+), enabling the devices to be installed at both indoor and outdoor locations.

The Gateway building is owned by the Dexus Wholesale Property Fund and is the second Dexus-managed building to install this touchless technology, following the rollout of MorphoWave devices at 100 Mount Street.

Demand for contactless technology has risen as organisations look for ways to seamlessly manage high-traffic environments. With four-finger detection in 3D, high throughput rate, multifactor authentication and an easy-to-use interface, the MorphoWave Compact device has become a benchmark for frictionless access.

"This touchless entry technology at Gateway and 100 Mount Street is enabling us to deliver a safe, secure and seamless experience for our customers," said Mark Hansen, Chief Information Officer, Dexus.

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Electrical testing technology

Fluke FieldSense technology offers a safe way to measure voltage by isolating the measurement tool from the voltage source under test. This means that users can conduct test and measurement without contact to live conductors.

The technology senses electrical fields in the open forks of its FieldSense-enabled test tools, including the Fluke T6 series of electrical testers. This allows Fluke tools to be able to measure voltage and current through cable insulation. By doing so, electricians and technicians are provided with an additional layer of safety to protect them from potentially dangerous electrical contact points.

Commercial and light industrial electricians can use FieldSense-based devices for voltage and current measurements, verifying continuity values, and testing individual circuits.

Fluke FieldSense requires no metal-to-metal contact when measuring AC voltage, meaning there is no need for probes or alligator clips to be attached to the conductor. It puts users out of harm's way of sparks and arc flashes, meaning they can work safely and quickly, taking measurements with only one hand.

By not requiring contact, the technology allows measurements to be taken at any point along the conductor, meaning that crowded junction boxes are no longer an issue. Unlike traditional testers, it goes beyond simple detection and provides information on how much voltage is present.

Fluke Networks
www.flukenetworks.com

Energy management devices

ABB's System pro M compact InSite connected devices provide a scalable cloud-integrated solution to optimise and manage energy consumption.

Designed for commercial and industrial buildings, the range can be installed as a standalone solution or integrated into any IT infrastructure, to help users achieve a high standard of energy efficiency compliance and save up to 20% on energy bills.

The preassembled kits are designed to make sub and final electrical distribution smarter with minimal effort. Once installed, system diagnostics and real-time notifications track electrical system performance. Actions can also be programmed on the web user interface, which automatically reacts to the system conditions without the need for manual intervention.

The solution delivers high data security standards and regular firmware updates. Central to the range is the SCU100 control unit, which allows users to better manage energy in subdistribution panel boards. The unit can gather data from up to 16 energy and power meters, as well current sensors for branch measurement.

ABB Australia Pty Ltd
www.abbaustralia.com.au

Plugs and sockets

The SolConeX by R.Stahl is the latest in a series of explosion-protected plugs and sockets, available from Control Logic. The series is versatile and has clever features for quick and easy installation.

Fully compatible with older versions, the SolConeX range can be used in Zones 1, 2, 21 and 22, and is suitable for all international wiring systems. Thanks to a deep-drawn enclosure wall, there is more space in the connection chamber for the load disconnect switch for quick set-up. An integrated strain relief ensures optimal contact during operation, and the self-cleaning contact stacks have been developed to minimise contact resistance.

For control and status signals, there is the option of retrofitting up to two auxiliary contacts. The switch sockets are available for currents between 16 and 125 A, and for connection cross-sections of up to 150 mm².

Control Logic Pty Ltd
www.controllogic.com.au

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Oceania Healthcare is one of New Zealand's largest owners and operators of retirement villages. The group has 46 locations across the country, with around 2500 care rooms and around 1000 independent living villas and apartments. Caring for over 4000 residents, the group prides itself on the care, choice, respect and dignity given to each individual.

In 2017, a full review of the company's IT infrastructure was carried out. The infrastructure was ageing and was not uniform across the multiple sites. On completion of the review, the group made a commitment to undergo a digital transformation aiming for four main developments: 1) the installation of equipment that was easy to use; 2) centralised management of hardware and software; 3) standardised and integrated solutions for platforms; and 4) a robust and reliable backup solution for critical infrastructure.

The challenge

Across the 46 sites, there were two main concerns for Oceania Healthcare when it came to the existing IT infrastructure: an ageing uninterrupted power supply (UPS) solution and lack of remote monitoring capability.

The existing UPS solution was approximately five years old and had not been well serviced, meaning the consumable battery components had not been replaced.

Contacting APC by Schneider Electric, Oceania Healthcare needed an IT solution that would be standardised across the sites, have remote access capability so that everything could be viewed from one location, and be reliable and robust so the company could ensure the ongoing care and support of their residents.

Andrew Mantle, ICT Support Manager at Oceania, said, "We need to provide a very reliable IT service to our facility care team to enable them to care for our residents without any technical issues.

"Our Resident Records, including all clinical information, is now digital and all care is fully or partially reliant on technology.

"Real-time data capture at point of care is crucial in improving the quality of care given to our residents. With readily available data we can progress from reactive to proactive care and aim high for predictive care in the future to our residents."

The solution

At each care and village facility, Oceania Healthcare has IT network infrastructure, Wi-Fi infrastructure, emergency nurse call systems, clinical nursing stations and admin offices. To ensure these systems are online and available 24/7, APC Smart UPSs with 1 or 1.5 kVA network management cards were deployed throughout the sites.

Along with supplying the hardware, Schneider Electric also carried out the installation. There is a service agreement in place for maintenance support to ensure the products continue to work optimally over time.

At the larger facilities, an APC battery system has been installed to support critical loads for up to two hours. This will ensure the IT systems which house residents' information, and critical nurse call systems, are always available.

Schneider Electric's EcoStruxure IT Expert software was chosen to monitor and manage the sites remotely. The cloud-based app allows users to proactively monitor and manage their IT equipment with customisable dashboards, remote device management, alert and alarm notifications as well as analytics for smarter decision-making.

For a multi-location group such as Oceania Healthcare, the solution allows easy access to all sites from one tool, producing efficiencies and benchmarking opportunities.

"The EcoStruxure IT Expert phone and desktop app has already proven itself," Mantle said.

"The solution provides us with proactive alerts on issues not just relating to the UPS, but also heating in our facility comms rooms. Because we saw the value in the software very early on, we have also expanded the solution to encompass our nurse call system. Now we can ensure it is also always up and running and we continue to be ahead of any upcoming maintenance."

To keep all the networking and comms hardware tidy and in good working order, APC Netshelter Power Distribution Units (PDUs) were included in the scope for each project. This helped to ensure consistency and standardisation across all sites.

Oceania Healthcare chose to have all the services installed by a Schneider Electric certified APC engineer. This gave them peace of mind that the project would be completed correctly, with increased speed and minimal downtime.

The outcome

With the project successfully deployed and all facilities now live, Oceania Healthcare have a much better view of their IT infrastructure and a better understanding of their ongoing maintenance needs.

"Schneider Electric was able to complete the project swiftly and with minimal downtime," Mantle said.

"Each facility deployment was very well planned and facility management and care teams were aware of the changes happening each day. This allowed us to ensure resident care was not affected in any way."

In addition to the ongoing monitoring which EcoStruxure IT Expert offers, Oceania Healthcare have found the software to be beneficial in other areas too.

"EcoStruxure IT Expert also provides us with insightful analytics and predictive maintenance schedules. We can ensure maintenance is done proactively, reducing the likelihood of downtime.
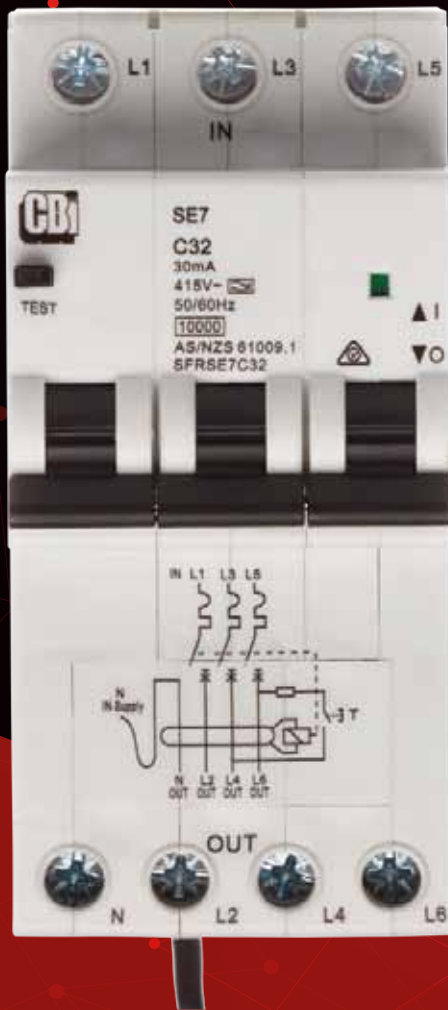

"I am very happy with the outcomes of the project and we are very proud of what we've achieved. We look forward to continuing to work with Schneider Electric in the future on new facility development projects."

Schneider Electric
www.se.com/au

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Enclosures are fitted with a
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Innovative, Robust, Reliable and Efficient Protection | CBi

Cooling telecoms cabinet range

The STULZ CabinetAir PRT solution is the latest addition to the company's Shelter Cooling portfolio. CabinetAir PRT is specifically designed to control the temperature in outdoor multifunction telecommunications cabinets by combining the benefits of mechanical cooling with energy-saving direct free cooling technology.

CabinetAir PRT operates at a temperature range of -20 to 60°C and has been designed to offer reliable operation, even during extreme temperature fluctuations. As well as substantially lowering the noise level of active system equipment, its direct free cooling technology helps to significantly reduce energy consumption by using the outside temperature to cool the telecommunications cabinet.

For locations with frequently higher outside temperatures, CabinetAir PRT combines direct free cooling with mechanical cooling. Both modes are controlled by an integrated STULZ C100 microprocessor to cool down the inside at any time with maximum efficiency. The STULZ C100 also allows optional connection to a central building management system via Modbus RTU, as well as alarm management and a multi-level configuration menu with password protection. Additionally, a control panel is available for displaying status and system messages, and for changing parameters.

The CabinetAir PRT range is available in three versions — fully integrated, semi-integrated and side mounted — to suit the requirements of different locations and provide maximum flexibility.

STULZ Australia Pty Ltd
www.stulz.com.au

Home theatre projector

The Epson EH-TW5700 projector incorporates an in-built Chromecast for entertainment viewing smartphone or tablet. The projector also comes with a voice-controlled, in-built Epson Smart Media Player for wireless streaming of over 4000 apps without the need for an external smart device.

The EH-TW5700 offers 1080p resolution delivery Full HD up to 330″ on virtually any wall or screen. It features 2700 lm colour brightness and 2700 lm white brightness, with a contrast ratio up to 35,000:1.

The Detail Enhancement feature uses mixed colour separation techniques and imaging simulation to deliver crisp, clear images from DVDs and standard definition content. Blurry images are sharpened using an upscaling process and frame interpolation smooths fast motion footage. The projector incorporates an in-built 10 W speaker for standalone entertainment and output audio capability via cable or Bluetooth.

Vertical auto keystone correction and a 1–1.2x zoom ratio allows for quick and easy installation in a variety of spaces. The EH-TW5700 comes with a two-year warranty and a lamp life of 7500 h in ECO mode.

Epson Australia Pty Ltd
www.epson.com.au

AC and device automation

The Nature Remo 3 is a tiny, wall-mounted device that uses built-in sensors and a connected smartphone app to make any IR remote-controlled air conditioner or other home appliances smart. Automatically control cooling and heating from anywhere through a mobile app. When linked to a smart speaker or voice assistant, it also allows voice control of AC.

The Nature Remo 3 allows users to create automation triggers like GPS location and timers, while built-in environmental sensors for temperature, humidity, lighting and movement automatically operate the air conditioner.

The device works with Amazon Echo, Google Home and Apple Homepod.

Nature Inc
www.en.nature.global

PREPARING THE GRID FOR
ELECTRIC VEHICLES

A new $3.4 million trial will help support growing adoption of electric vehicles across Australia while reducing the need for costly upgrades to electricity infrastructure.

The EV Grid: Enabling Electric Vehicle Friendly Networks and Neighbourhoods trial will be led by Jemena in partnership with electricity distribution companies AusNet Services, Evoenergy, TasNetworks and United Energy. It has been awarded $1.6 million in funding from the Australian Renewable Energy Agency (ARENA) and will run over two years. ARENA funding will assist in purchasing smart charging hardware, network monitoring equipment, as well as program management costs for the trial.

The trial will see more than 170 electric vehicle owners across Victoria, the ACT and Tasmania receive a 'smart wall charger' that will be up to three times faster than the regular charger commonly supplied with a new electric vehicle and will allow electricity networks to dynamically manage when charging occurs. This will reduce charging time from three hours to one hour for a typical vehicle that travels around 40 km a day. The smart wall charger will be supplied and installed for free, initially saving participants around $2000. A bonus of up to $300 will also be provided to participants who remain on the trial for the full trial period.

Dynamic adjustment

Electric vehicles can increase a typical household's electricity consumption by around 40%. To help the electricity grid manage this extra consumption during peak times, the smart wall charger will allow electricity networks, like Jemena, to dynamically adjust charging of an electric vehicle to a time when the electricity grid has more capacity, such as between midnight and 6 am.

"Many electric vehicle owners plug into their home charger at around 6 pm when there is already increased demand on the electricity grid," said Executive General Manager of Jemena Networks Shaun Reardon.

"This trial will allow the owner to plug in their car at the same time, but the smart wall charger will defer the charging until a time when there is reduced demand on the grid based on a real-time assessment of available network capacity.

"Participants will also benefit from off-peak tariffs (where relevant) and other incentives may be provided during the trial."

Melbourne-based electric vehicle charging infrastructure company JET Charge will manage the distribution and installation of the smart wall chargers.

Vehicles vital for a resilient and affordable grid

"Electric vehicles will be vital for a future electricity grid that is resilient and affordable. This project will deliver a key piece of that puzzle: collaboration between the electric vehicle driver and the distribution network, which, if sustained, will contribute to delivering cheaper electricity for everyone," said JET Charge CEO Tim Washington.

According to the Electric Vehicle Council's annual State of Electric Vehicles report released in August last year, electric vehicle sales in Australia increased by 200% in 2019 and 56% of Australians are now considering purchasing an electric vehicle as their next car.

"Put simply, mass electric vehicle uptake cannot happen in Australia without either smart coordination of charging behaviour

that considers local network capacity or significant upgrades to existing electricity infrastructure that would result in higher network costs for all customers," Reardon said.

"With more and more Australians buying electric vehicles, we want to play our part in supporting this adoption while ensuring the electricity grid can manage the extra consumption, particularly in neighbourhoods that already have a high uptake of electric vehicles."

"The thing that makes this trial different is that we have a group of energy distributors cooperating to understand how to facilitate the expected growth in electric vehicle adoption, and even more importantly, how to fully realise the possible benefits for all electricity users," said AusNet Services' Head of Emerging Markets John Theunissen.

"As more people buy electric vehicles, we are preparing our networks to support this change while continuing to deliver reliable and affordable power to all customers," said General Manager of Electricity Networks for United Energy Mark Clarke. "By better understanding how and when customers want to charge their electric vehicles while balancing sustainability and cost, we will be able to adapt how we operate our networks to assist with a smooth and affordable transition to renewable energy."

The learnings from this trial will be shared with electricity retailers, electric vehicle manufacturers, universities, government and other electricity industry stakeholders.

Jemena
www.jemena.com.au

How connected building technology delivers business value in commercial real estate

Prior to the onset of COVID-19, the top commercial real estate priorities were keeping costs down, making spaces more appealing for tenants, and meeting sustainability goals through increased energy efficiency.

Like many other verticals, the global pandemic has revolutionised commercial real estate. While the industry was already dealing with challenges including operational costs, energy efficiency and ongoing sustainability of real estate portfolios, now it must also focus on the health of building occupants and rethink how space is used. A new opinion paper from IDC explains how connected building technologies can help deliver higher real estate asset values and help manage the new challenges brought about by the global pandemic.

In a recent webinar, Carrie MacGillivray (Group VP and GM for Mobility and IoT Research at IDC), Ruud van der Sman (Sr. Smart Solutions Manager at Edge Technologies) and Schneider Electric's Cormac Crossan (Business Developer Director of Commercial Real Estate), outline the trends they see in the commercial real estate market and how smart building platforms can help address them based on their experiences and recent research.

"Our goal is to create IoT-enabled buildings which can serve all kinds of services on top of that data — services, data sharing and data processing — those are the most important topics for us and why we have selected Schneider Electric — next to all of their capabilities, especially the data side. That's the most important one." – Ruud van der Sman, Sr. Smart Solutions Manager at Edge Technologies.

Evolving commercial real estate priorities

Prior to the onset of COVID-19, the top commercial real estate priorities were keeping costs down, making spaces more appealing for tenants, and meeting sustainability goals through increased energy efficiency. Presently, those priorities are all still in place, MacGillivray said, but they're joined by three additional priorities:

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1. A need to focus on the health of employees, tenants and customers
2. Ensuring safety and compliance
3. Rethinking how space is utilised to meet social distancing guidelines

These overall drivers are pushing commercial real estate players to adopt connected building technologies that can help them deliver on these priorities. For one, the technologies are the foundation of a connected building, one that uses sensors, connects disparate engineered systems and optimises operation.

Another driver is the ability to make data-driven development decisions, helping companies to optimise new projects and adopt predictive maintenance capabilities, which leads to improved tenant satisfaction.

The third driver is a desire to be positioned as a leader in sustainable design. Connected building technologies can help companies meet or exceed

sustainability goals, create sustainable urban designs and achieve long-term cost savings, MacGillivray said.

How connected building technology delivers value

IDC's research showed that connected building technologies can deliver value in four distinct areas:

4. By maximising market value: simply put, attractive properties are worth more and the kind of benefits smart building technologies bring — including improved comfort for tenants and lower operating costs — make them attractive.
5. Delivering operational efficiencies: by collecting and leveraging real-time data and applying policies across buildings, companies can optimise the use of office space and electricity, while requiring fewer staff resources for ongoing maintenance. One of the survey subjects said the strategy resulted in electricity savings of 15% to 20%.
6. Tenant experience: companies report improvements in measurable metrics such as tenant complaints and time to resolve issues, as well as less tangible areas such as employee comfort, which is important in terms of employee productivity and the overall customer experience.
7. Green building and sustainability gains: a building's "green" credentials such as LEED, BREEAM, WELL and others are often a clearly stated decision criteria for tenants, and can drive higher property values and rent levels.

EcoStruxure for Commercial Real Estate solutions deliver business results

For their research, IDC interviewed companies that were using Schneider Electric's EcoStruxure for Commercial Real Estate solutions, an open IoT platform that brings together data from numerous smart building sensors and components, including lighting, HVAC, access controls, surveillance systems and energy management.

The research showed the value customers are getting from Schneider Electric's platform, including:

- 83% fewer operational problems: getting sensor-based, real-time data meant companies could act quickly to address problems
- 11% fewer tenant complaints: not surprising given there are fewer problems
- 43% faster time to resolve operational problems: diagnosing issues more quickly and pinpointing the source of problems
- 8% higher employee satisfaction: tenants are more comfortable with office temperatures, air quality, and overall office conditions
- 18% energy-related cost savings

EcoStruxure for Commercial Real Estate: an Australian success story

In November 2020, the $200 million redevelopment of the 388 George Street building was completed, transforming the 1970s office 28-storey tower into a state-of-the-art A-grade commercial tower with a prime-new retail pavilion and improved connectivity to the surrounding Sydney CBD.

Located on Sydney's most prominent intersection, the corner of George and King Streets, 388 George Street is jointly owned by Brookfield and Oxford Investa Property Partners (OIPP), with the redevelopment built by premier builder, Multiplex. It delivers 38,364 square metres of A-Grade commercial office space and 2,680 square metres of prime retail space to the CBD core.

Schneider Electric's EcoStruxure for Commercial Real Estate solution provides 388 George Street with its digital backbone. The IoT-enabled solution enhances the building's commercial property management and operation processes.

Specifically, EcoStruxure Building Advisor provides key insights into the building operations by monitoring systems and identifying faults to proactively address building inefficiencies. EcoStruxure Power Monitoring Expert helps lower maintenance costs, reduce energy consumption, increase equipment life span, and even predict future energy consumption based on external temperature or occupancy. Integration of third-party systems such as the HVAC and electrical infrastructure were also achieved with the EcoStruxure platform.

The future of the property will see an ongoing reduction in operational and energy efficiency, and the use of the EcoStruxure platform means that 388 George Street has been future-proofed for new technologies that are introduced down the line.

Find out more

Schneider Electric's solutions for Commercial Real Estate, are developed from a long history in making buildings more efficient, smart and connected. Backed by Schneider Electric's global teams, experts and partners can help develop and deliver innovative solutions for your complex commercial buildings projects.

While there's no question COVID presents challenges for real estate companies, there are solutions available today to help support the rapid transition to digital while enabling greater real estate value. To learn more, visit se.com/au/buildings-of-the-future and download IDC's report, "The Business Value of Schneider Electric's EcoStruxure Solutions for Commercial Property."

Life Is On | Schneider Electric

Schneider Electric Pty Ltd
www.se.com/au

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ACCESS IN THE AGE OF DIGITAL BUILDINGS

HOW COVID-19 IMPACTED THE SECURITY INDUSTRY

Aaron Smith*

Home and workplace security have become paramount over the last 12 months, but what has that meant for the security industry?

With workplaces left unoccupied and the community at large mostly staying at home throughout 2020, the ability to remotely protect assets and implement ways to minimise the spread of germs has become part of our 'new normal'. Where security and access control systems were once considered 'nice to have', they've become a necessity in both businesses and homes.

Like many industry sectors, locksmiths and security companies had a rough run throughout 2020, with many forced to reduce operating hours and staff and, in some cases, close showrooms. That meant adapting ways of working to ensure the safety of both employees and customers, while working-from-home measures were implemented.

Silver lining

As time went by, the operational effects of the pandemic saw suppliers reporting a positive increase in sanitation and technology products, including security and access control, as interest in hands-free entry grew.

It was interesting to witness a large demand for electronic access control and video monitoring via CCTV, as buyers suddenly became more aware of these types of technologies. Locks and camera systems were becoming increasingly connected to the internet, especially with more people at home. As online shopping grew, people wanted to see when parcels were being delivered; for example, while workplaces were looking to secure their sites and protect their assets while staff worked remotely.

As this happened, it became clear to me and to members of the Master Locksmiths Association of Australasia (MLAA) that the locksmithing industry was not at long-term risk. In fact, the demand for contactless security is expected to grow exponentially off the back of the pandemic.

Hands-free in demand

An increased focus on hygiene has led to an understandable uptake in thermal imaging and contactless locks. Thermal cameras can detect when someone is in a location, measure their temperature and, in some cases, lock them out if it's too high. Contactless locks also support minimising the spread of germs through handles and pin pads. This type of new technology is where we see the locksmithing industry heading thriving in a COVID-normal society.

Behind the business

As an essential service during lockdown, Melbourne Polytechnic was still able to operate with social distancing precautions and continue to deliver safety to the community — something we acknowledge was only possible with the support of the Victorian Government through the Regional Specialist Training Fund. This was an investment into our future which allowed us to continue to support our students.

Melbourne Polytechnic is one of only four TAFE colleges in Australia that offers the Certificate III in Locksmithing course and our apprenticeship programs play a major role in this. We endeavour for our students to practise real-world scenarios using the machines, software and techniques used by locksmiths, including aspects of cybersecurity and IT.

Moving forward, I see our industry expanding to cater to the effects of COVID-19. The need for remote viewing, securing workplaces and hygiene technology shows no sign of slowing down. As this evolves, and working from home continues to some degree, home and business owners will ultimately need to be able to monitor multiple locations. The future of locksmithing not only looks bright, but very promising.

*Aaron Smith is the leading teacher of Security Technology & Locksmithing at Melbourne Polytechnic.

Compact LED floodlights

The new generation R. STAHL explosion-protected LED flood-lights are now available from Control Logic. Offered in three classes with 100, 160 and 225 W, these high-performance flood-lights feature IK 10 impact-resistant IP 66 degree of protection with a robust stainless steel enclosure and are capable of withstanding even temperatures as extreme as -60 and +60°C.

Suitable for marine and offshore use, R. STAHL's range of products also includes enclosure versions made of 316L double-coated stainless steel. Thanks to their streamlined design and new driver technology, the weight of these devices has been reduced to between 19 and 15.5 kg, depending on the model. The input voltage range has been expanded to 100 V to 277 V AC for global use and to 176 V to 264 V for DC ranges.

These models are optionally available with wide-, medium- or narrow-beam light distribution and achieve lighting efficiency of over 100 lm/W, thereby meeting the criteria for most public support measures. The floodlights are available in cold white (6500 K), neutral white (5000 K) and warm white (4000 K) light colours as standard. Additionally, extra-warm white and phosphorus-converted yellow LED versions are available in order to fulfil demand for environmentally friendly outdoor lighting.

As well as the easy-to-install 612/2 series for Zone 1, the range also includes the 6525/21 and 6525/22 model series, specifically designed for operation in Zones 2, 21 and 22. These floodlights 6525/22 mean that there is no need for time-consuming restricted breathing tests after installation or maintenance, and can optionally be supplied with an integrated DALI interface for digitally networked lighting management.

Control Logic Pty Ltd
www.controllogic.com.au

Data centre management software

The Vertiv Trellis Smart InfraSight is web-based, next-generation data centre management software that provides added intelligence in managing multiple IT assets. The platform is targeted at small to medium-sized businesses that are managing multiple branches or edge locations across different geographical locations.

On a single dashboard, the platform integrates environmental and infrastructure data gathered from up to 200 Liebert RDU-A devices, bridging the critical gap between a data centre's IT equipment and facilities infrastructure. The platform can easily consolidate data on power usage, temperature, humidity and HD video streams across multiple IT assets within minutes.

The platform helps to protect data centre investment by alerting users anywhere in the world when there is a problem, allowing for corrective actions to be taken quickly and with more helpful information.

Enhanced security features include alarm management, video surveillance and door access control features that allow for easy remote management for personnel who are unable to go to the site.

Vertiv Co
www.vertivco.com

Power quality analyser

SATEC introduces the next generation of power quality metering analysers within a "5 DIN Width" DIN Rail compact profile. They support IEC61850, Modbus and DNP 3 protocols with RS485, Daisy Chain Ethernet or two (2) independent Ethernet ports and USB communication ports.

The eXpertPRO DIN325 provides waveform capture, sag/swell, interval data for load profiling, event logs, input/output functions with control capabilities.

SATEC (Australia) Pty Ltd
www.satec-global.com.au

Laser projection TV

The Epson EH-LS500B laser projection TV combines an ultra-short throw laser projector with a high-definition ambient light-rejecting screen to produce vivid colours and deep blacks for a bright, sharp picture. The ultra-short-throw lens allows set-up just a half metre from any wall for an image up to 130″ in size.

As well as 4K PRO-UHD, the laser projection TV also enjoys up to 3x brighter colours by using the company's 3LCD, 3-chip technology. The laser technology provides the added benefits of higher image contrast and instant ON/OFF, ultra-bright Images of 4000 lumens colour and 4000 lumens white.

There is also a dedicated 4K enhancement processor, which uses pixel-shifting resolution-enhancement technology. The EH-LS500B also has the ability to provide a more realistic and natural image with a dedicated full 10-bit HDR processor, which uses 100% of the HDR source information.

The dedicated digital imaging processor provides real-time full 12-bit analog-to-digital video processing for smooth tonal transitions and the system features a contrast ratio up to 2,500,000:1.

The product has a smart media player included in the box so users can enjoy all of their favourite streaming channels, and a remote that features voice search. The projector offers versatile connectivity with HDMI ports that enable users to display 4K HDR content at a full 60 Hz and two built-in 10 W speakers.

Epson Australia Pty Ltd
www.epson.com.au

Mini-rack range

METCASE has added 5U as a standard height to its TECHNOMET 19″ range of mini-racks for table-top instrumentation. They are now available in all heights from 3U to 6U as standard.

These advanced mini-racks are designed for mounting standard 19″ subracks, chassis and front panels. Applications include test and measurement equipment, networking and communications devices, sound and studio systems, laboratory instruments, industrial computers and control systems.

Elegant TECHNOMET 19″ enclosures consist of two diecast aluminium front and rear bezels, the case body with internal chassis and a removable rear panel. Four snap-on cover trims create a flush-fitting cohesive design with no visible fixing screws.

The front and rear bezels include standard 19″ panel mounts with caged nut apertures for fixing the equipment. The four standard case sizes (3U, 4U, 5U and 6U) are all 400 mm deep. Custom heights and depths can be supplied on request.

The rear and base panels are ventilated to aid cooling. Inside there are two subrack/chassis support rails. All case panels are fitted with M4 threaded pillars for earth connections. ABS side handles are recessed for easy portability. Moulded ABS non-slip feet are also included.

TECHNOMET 19″ is available in two standard colours: anthracite (RAL 7016) and light grey (RAL 7035). Custom colours are available on request.

Accessories include (unvented and vented) 19″ front panels and M6 caged nuts and fixing screws.

METCASE can supply TECHNOMET 19″ enclosures fully customised. Services include: custom front panels; CNC punching, folding, milling, drilling and tapping; fixings and inserts; painting and finishing; digital printing of legends and logos.

ROLEC OKW Australia New Zealand P/L
www.metcase.com.au

THE ROAD TO RECOVERY
FOR THE CONSTRUCTION INDUSTRY

George Maglaras, Sales & Technical Director, Stanley Black & Decker

Infrastructure will continue to stimulate the economy and jobs in 2021, in turn supporting residential and commercial projects.

The COVID-19 pandemic has caused unprecedented challenges for businesses, governments and organisations globally. In Australia, the construction industry remains resilient and essential; however, numerous factors have disrupted construction activities and reduced productivity. Businesses in the construction industry need to embrace innovation and offer solutions that will increase efficiency to remain relevant.

Job site productivity has been a huge challenge due to COVID-19. This is the result of several factors including the level of skilled trade able to work onsite at any time and the shift of resources due to social distancing restrictions. Supply chain management has been challenging, as has job site phasing.

The road to recovery will require continual government and private investment to drive the various sectors of the market supported by the availability of finance. Shorter-term recovery will likely be dependent upon the federal and state governments' expenditure and investment in essential infrastructure.

Economic activity generated by increased public sector investment in infrastructure will not only offset the downturn in private sector investment, but also create necessary momentum to entice private sector businesses to focus on important areas of commercial building like health and education.

Looking at 2021, we'll see the infrastructure journey continue to stimulate the economy and jobs which will in turn support residential

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that are trade focused and add value to the job site productivity. The 2021 construction trends will be on safety, productivity and a continuing shift in construction methods and systems such as an increase of modular construction and prefabricated building components that support efficiency and productivity.

Increase in modular construction and prefab building

In the post-pandemic era, there will be a boost in modular construction and prefab building. The manufacturing process is suitable for this time period. Manufactured buildings are large and already promote low worker density with plenty of room for social distancing. Prefabricated buildings have the dual advantage of being affordable and potentially temporary, which works well in a time of uncertainty.

Supply chain diversification

The construction industry is less reliant on global supply chains, but some projects will continue experiencing sourcing delays. In the medium-term supply chain breaks will recover as approvals and projects start, as the government stimulates investment which supports the construction and renovation segment.

From the outset of COVID, DeWalt has worked intensely with global supply chains to ensure we can achieve the best supply rates to support the industry with core products through these fluctuating times. Suppliers will continue to play a major role in building businesses and influencing success and profitability. It is critical to use trusted suppliers, ensuring that a mutually beneficial relationship is established.

Health and safety

Safety is always a concern, and meeting compliance and transparency standards is an obligatory requirement when it comes to working on major construction projects. In the COVID-19 environment, health and safety is priority. Separation is a particularly difficult thing to achieve on a job site, where cooperation and teamwork are the norm. Anticipate smaller crews and the use of staggered shifts to minimise crowding on job sites, along with a need for enhanced equipment and cleanliness protocols.

With construction work in Australia forecast to be $240 billion in 2021[1] the industry must embrace innovation and offer solutions that meet new demands and increase efficiency in order to remain relevant.

[1] *ABS and ACIF CFC*

Stanley Black & Decker Inc
www.stanleyblackanddecker.com

and commercial projects. In a 2021 COVID normal environment, we anticipate higher 'work done' volumes than 2020 and see an effort to play catch-up to reign in the delays in construction timelines from 2020. Hopefully next year we will see the industry getting back on its feet and fast-tracking project starts that will serve the years ahead.

A substantial number of current and future infrastructure projects continue to underpin Australia's construction market. The most significant of these already under construction include the $16.8 billion WestConnex project in Sydney, the $15.5 billion Sydney Metro City and Southwest Project – Stage 2 of Sydney Metro, the $11 billion Melbourne Metro Rail Project (in conjunction with the private sector) and the $10 billion Melbourne-to-Brisbane Inland Rail.

For newly merged DeWalt Engineered by Powers, 2021 will see the business continue to drive product innovation, complete solutions

Blown fibre system

The Excel Enbeam blown fibre system includes a range of microducts from single to multiway, in designs suitable for either internal or external applications. It is complemented with enhanced fibre performance units of 4 through to 12 fibre in both single and multimode.

The internal Enbeam microducts come in an ice blue jacket colour, while the external ducts have a black high-density polyethylene outer sheath, with aluminium foil inserted between the jacket and microducts to provide moisture protection. Each of the designs have internal longitudinal ribbing and a permanent lining of Silicore to reduce friction during cable placement.

The enhanced performance fibre units are designed specifically for blown fibre applications, and are optimised for installation within a range of blown fibre ducts. The fibres are contained within a soft acrylate layer, which cushions the fibres. This is coated with a hard layer for strength and finally a low-friction coating to ensure low drag and maximise blowing distances within the ducts. The acrylate coatings are easy to remove to expose the 250-micron primary-coated fibres for quick splicing. The fibres are colour-coded according to TIA-598-C. The fibre units are available in OM3, OM4 and OS2 compliant with G-652 and G.657.A1 bend insensitive specifications as standard.

Excel Networking
www.excel-networking.com

Energy monitoring and measurement

Schneider Electric has expanded the PowerLogic PowerTag Energy range with three new products: PowerTag Flex 160A, PowerTag Robe up to 2000A and PowerTag Link Display, offering enhanced monitoring of electrical assets.

Designed for any type of building, the PowerTag Energy monitors and measures current, voltage, power, power factor and energy. Data are sent wirelessly to a concentrator/gateway, which can provide data to energy or building management systems, or through webpages.

Customised email or SMS alarms enable facility managers to remotely monitor their electrical assets. Non-intrusive, wireless communication immediately enables easiness of installation and commissioning.

PowerTag Energy is a key enabler of IoT EcoStruxure Power architecture. It brings new opportunities to today's power systems and energy management applications.

Schneider Electric
www.se.com/au


LED twin spot light fitting

The Stanilite TwinSpot from ABB features an ultra slimline LED design and high lumen output, making it suitable for use in large spaces and high ceiling installations in commercial or industrial applications.

Featuring fully adjustable heads with 140° beam angle and NexusRF Infinity compatible, the model offers 500 lumens output and features the latest lithium ferrophosphate (LiFePO$_4$) battery technology to deliver a longer service life.

The slimline, low weight Stanilite TwinSpot is available in two options — manual and NexusRF — and is simple to install. The removable cover also provides easier maintenance.
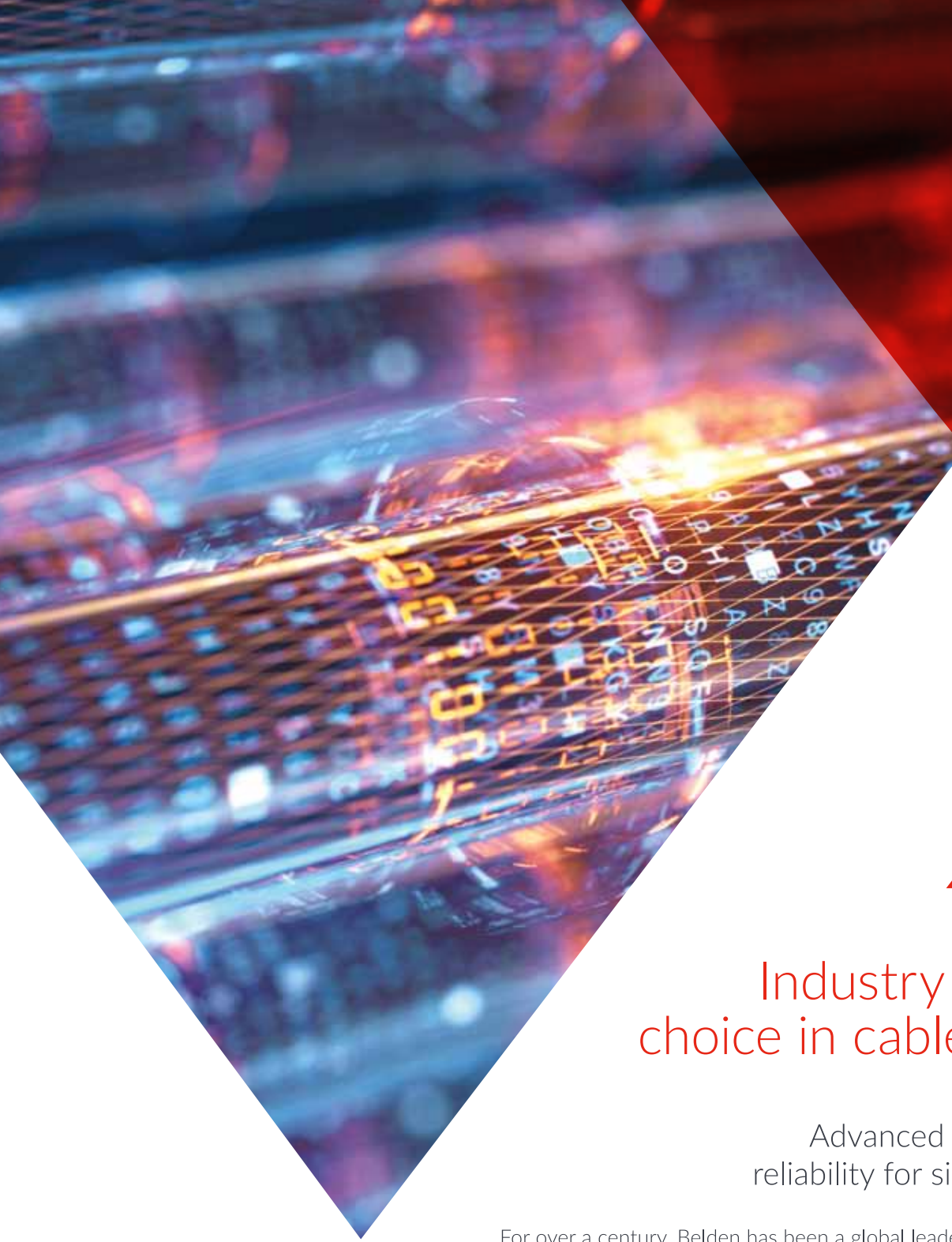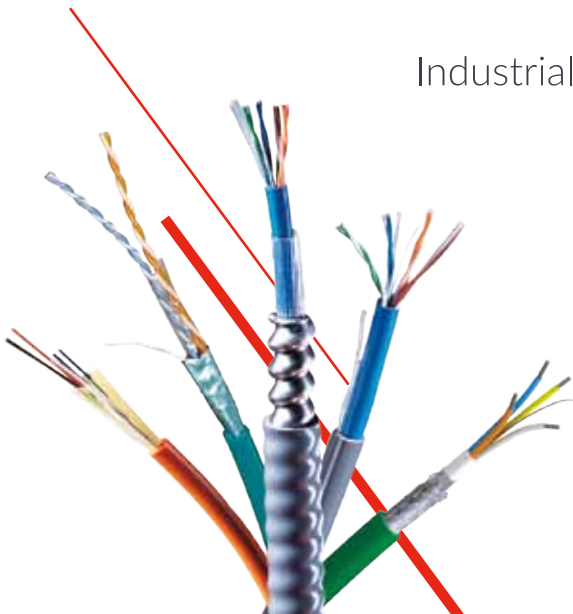
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MTDCs
AT THE NETWORK EDGE

Alastair Waite

"Edge computing" and "edge data centres" are terms that have become more common in the IT Industry as of late. Multitenant data centres (MTDCs) are now living on the edge to capitalise on their network location. To understand how and why, we first need to define the "edge."

What is the "edge" and where is it located?

The term edge is somewhat misleading as it is located closer to the core of the network than the name might suggest — and there is not one concrete edge definition, but two.

The first definition is that of the customer edge, located on the customer's premises to support ultra-low latency applications. An example would be a manufacturing plant that requires a network to support fully automated robotics enabled by 5G.

The second definition is that of the network edge, located toward the network core. This paradigm helps to support the low-latency needed for applications like cloud-assisted driving and high-resolution gaming. It is at the network edge where MTDCs thrive.

Flexible and accommodating

MTDCs that are flexible and ready to accommodate a variety of customer configurations can fully take advantage of their location at the edge of the network, as well as proximity to areas of dense population. Some MTDC customers will know what their requirements are and provide their own equipment. Other customers moving their operations off-premise to an MTDC will require expert guidance to support their applications. A successful MTDC will be able to accommodate both scenarios.

Flexibility is needed not only within the initial setup; the connectivity within the MTDC must be flexible on day one and two as well. To enable this flexibility, you need to consider your structured cabling. The recommended architecture for flexibility within the customer cage is based around a leaf-and-spine architecture. When using high fiber-count trunk cables, like 24-fiber MPO, the backbone cabling between the leaf and spine switches can remain fixed.

As optical networking technologies change from duplex to parallel optics, and back again, you simply have to change the module and optical fiber presentation entering or exiting the spine or the leaf cabinet. This eliminates the need to rip and replace trunk cabling.

Once the leaf-and spine architecture are in place, there are additional considerations to take into account to ensure that the MTDC can easily accommodate future speeds and bandwidth demands in the cage. To achieve this, one must look to the server cabinets and their components, while keeping in mind that additions and alterations must be made simply and swiftly.

For a deeper dive into how MTDCs can optimise for capitalising at the edge, check out CommScope's recent white paper entitled "New challenges and opportunities await MTDCs at the network edge."

Alastair Waite joined CommScope in September 2003 as a Product Manager for the company's Enterprise Fibre Optic division, since that time he has held a number of key roles in the business including Head of Enterprise Product Management, for EMEA, Head of Market Management and the Data Centre business leader in EMEA. Since January 2016, Alastair has had responsibility for architecting CommScope's data centre solutions for Europe, ensuring that customer's infrastructures are positioned to grow as their operational needs expand in this dynamic segment of the market.

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