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There's no denying the efficiencies and benefits that can be derived from replacing paper-based systems with a more automated field service management solution and there are so many options available to choose from — for any business, regardless of industry or size. Why, then, are so many implementations falling short of expectations, as new research has uncovered?

It turns out that many businesses just aren't treating the exercise with the degree of attention it deserves and are virtually setting themselves up for failure. As any business operator knows, making forced change can have a massive impact — either good or bad. To avoid the latter, we've taken a look at some things you should consider early in the process in order to derive the most benefit from your investment. As they say in the classics, if you're going to do it, you may as well do it properly.

This issue features plenty of articles, case studies and new product information on our two feature topics — Software & Apps and Vehicle Fit-Outs — as well as general items of interest from the world of field service management. Happy reading!

Kind regards,

Dannielle Furness

Editor

dfurness@wfmedia.com.au

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AUGUST 2016

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THERE IS NO 'I' IN SOFTWARE

WHY IMPLEMENTING AN FSM SOLUTION IS A TEAM EFFORT

Dannielle Furness

New research suggests that 50% of field service software implementations will fall short of planned outcomes and up to 25% of companies already using FSM solutions still undertake duplicate information entry, even though they have the tools to avoid this problem. What's going wrong?

There is enormous pressure on businesses today to improve internal efficiency and to deliver superior service. Technology advances keep coming, meaning that customers increasingly expect more from service organisations. The old break-fix methodology no longer applies, as we move to a service delivery model that demands a more proactive approach. So too are the days of accepting the service department as a non-profit-generating yet necessary entity well and truly over.

Of course, there is no shortage of choice when it comes to software solutions to improve field service operations for businesses of any size. Offerings range from relatively simple single-device mobile apps through to complex software solutions capable of integration with other enterprise elements, including accounting, payroll, CRM and supply chain systems — many of which offer endless potential for customisation. Add in other elements, such as GPS technology and advanced telematics, and managing a mobile team has never been easier... theoretically, at least.

So it doesn't take much to recognise the inherent benefit in moving from error-prone, paper-based, manually driven systems to a more automated solution. Why, then, do so many implementations fail to deliver the expected benefits?

Don't underestimate the endeavour

According to a recent Gartner report, 'Succeed on a field service project with the right team', much of the problem lies in the way the project is defined and managed from the outset. Underestimating the scope of the enterprise-wide change required to smoothly introduce a solution is common, as is the practice of nominating individuals with inappropriate skill sets or levels of influence within the business to adequately manage and guide the process.

Within most companies, implementation of a software solution falls squarely under the remit of the IT department. The reality is somewhat different. Gartner's research found that the most successful projects not only factor in all of the affected areas of the business, but also clearly define a hierarchy of responsibility, assign appropriately skilled people to those roles and — perhaps most importantly — empower them to act.

That structure, including detailed role descriptions and responsibilities, is then communicated to the entire organisation before the project is kicked off. This makes it clear where accountability lies and increases the chance of cooperation from other departments within the business. Gartner suggests that the following structure will deliver the best results:

1. An executive who has absolute authority — this would generally be at CEO level or similar, as this individual has given financial approval for the project and assigned responsibility to a 'project sponsor'.

2. A project sponsor is someone who has overall responsibility for ensur-

FEATURE

ing business benefits and outcomes but does not manage the project on a day-to-day level. This person appoints a project manager to run the planning and execution efforts but is also involved in working with other departments to ensure that the project manager receives cooperation. This person will generally be a leader from within the company's IT or service teams.

3. A project manager deals with all of the specifics and details, from scoping and planning through to execution, and works with other departments to ensure objectives are met. Other involved departmental leaders report to the project manager.

Functional change within many job roles is an unavoidable part of introducing any system to streamline operational activities. As each process change will have an impact across multiple parts of the business, this is often the point where things start to come undone and where buy-in from other departments can become difficult to achieve.

Unsurprisingly, Gartner suggests that there is a higher likelihood of achieving a favourable outcome when the right people are appointed to the right roles in the project plan. A project manager with experience across a number of functional departments is better placed to ensure a smooth transition than an individual with exposure to only one silo of the operation. Additionally, staff members that are well respected have a distinct advantage over those that are not highly regarded, for obvious reasons.

The forgotten team member

The changing nature of field service is giving more visibility to the customer when it comes to job status, particularly as things move toward a more predictive and proactive service program model.

Any chosen FSM solution will intrinsically impact on the customer as they will be required to interact with it to some degree. It therefore makes sense to include select customers in the implementation process — not just in the case of running small pilot trials.

Feedback from the other side of the fence will usually provide insight into kinks and issues that would not immediately be apparent from the service provider's perspective.

Shifting mindsets

The life of a field service tech was once a fairly autonomous one — he was always on the road, left to his own devices and to plan his own time, connected to the back office by phone (at best) and required to return to home base only in the event that parts were needed or paperwork was due to be submitted. This is how many service teams still operate and it undoubtedly suits certain people to lead such an unfettered existence. It may also go some way to explaining why service departments were never able to turn a profit.

Why, then, do so many implementations fail?

Things change dramatically once an FSM solution is adopted. Depending on the technology and the degree of functionality involved, the changes can be fairly broad: jobs are assigned based on an individual's current location, carried parts inventory, skill set and licensing requirements; driving routes are recommended based on real-time traffic conditions; driving habits are monitored and incidents reported; time sheets are automatically submitted without any user intervention; and parts are always accounted for. It's quite a mental shift for the frontline team — from being the Lone Ranger to having every move monitored and documented.

Understanding the significance of this change and eliciting buy-in from the field team *prior* to putting the solution into action will directly influence overall outcome, as the system can only be expected to operate as well as the team that feeds it.

Getting it right pays off

Gartner's research suggests that FSM software delivers significant improvement to business when successfully implemented, particularly in the areas of job allocation, technician efficiency and time to invoice. In the companies surveyed, it found that a return on investment was often achieved in less than one year.

If you are yet invest in a more automated solution, there is every reason to do so as the benefits are clear. However, deciding to make the move is not enough — you will need to plan effectively, be clear about your expected outcomes and create an environment that delivers the highest chance of success.

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THE NEXT WAVE

David Younger, CEO, The Service Manager

Not too many years back, most field service companies used manual job books, Excel spreadsheets and whiteboards to manage their technicians and jobs.

The proliferation of field service software packages combined with the uptake of cloud computing has had a profound impact on the systems in use by almost every company.

The next wave of major change is about to hit the industry. One of the most exciting applications of new technology into the field service industry is the merging of RFID and Internet of Things and its practical applications.

Traditional job management consists of a combination of break fix, installation and scheduled maintenance work. RFID/IOT introduces the opportunity to introduce pre-emptive maintenance into the mix.

Once the domain of large service operations only, RFID/IOT provides low-cost opportunities to monitor the health of equipment in the field and send someone out to check it as soon as signs of trouble occur, before it breaks down. Preventable breakdowns cost the industry millions of dollars per year in addition to the inconvenience and worse that it causes to everyone affected.

The first wave will involve small devices placed on existing equipment measuring moisture, temperature, vibration or whatever is needed to be monitored. This information will be sent back to a central monitoring server via specialised low-cost data networks already installed in major capital cities and expanding elsewhere.

Once an anomaly is detected, an alert is sent via email, SMS or directly to your field service software with details of the fault so that you can dispatch a technician.

The 2nd wave will involve monitoring sensors built in to new equipment by the manufacturers, much like the port in your vehicle, allowing a range of readings to be captured and transmitted.

The tricky part is finding the correct sensors in the first place. A specialist RFID/IOT company can recommend off-the-shelf devices or design custom ones for specialist equipment.

The future is very interesting indeed.

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MULTI-OS MOBILE COMPUTER

Honeywell has released the first in a series of next-generation mobile workforce solutions — the Dolphin 75e mobile computer. The device is available with either Windows embedded 8.1 Handheld or Android 4.4 KitKat, giving users a choice of operating system and allowing a later upgrade to Windows Embedded 10 or Android 5.0 Lollipop.

The Dolphin 75e mobile device addresses the needs of enterprises in a variety of applications, including inventory and asset management, shelf stocking, customer engagement, check-in and reservations, quality and auditing, picking, and voice-enabled workflows, by allowing mobile workers to toggle between multiple applications from a single device.

The field-proven, pocket-sized design and easy-to-use interface encourages fast and easy adoption with minimal training resources. The Dolphin 75e features a 2.26 GHz quad-core processor with 2 GB of RAM, 16 GB of FLASH, 802.11 a/b/g/n/ac and capacitive touch with universal glove usage capabilities. The device offers a variety of input and output modes for operations needing to deploy multiple applications.

Honeywell Ltd
www.honeywell.com

MOBILE THERMAL PRINTER

The Thermomark Prime thermal transfer printer from Phoenix Contact prints card and matt formats for marking terminal blocks, conductors, cables devices and systems.

Equipped with a rechargeable high-power battery and fully integrated marking software, the printing system is suitable not only for stationary use, but also for mobile use directly on-site.

Printing data can be entered directly via a multitouch display and there is also an interface for transferring printing projects that have been prepared in the Clip Project marking software.

An automatic material detection function checks the components used, thereby preventing printing errors. The ink ribbon can be changed in under 10 s for fast retrofitting.

With more than 600 marking materials available, the thermal transfer printer offers flexibility when it comes to choosing the right marking for various applications.

Phoenix Contact Pty Ltd
www.phoenixcontact.com.au

MOBILE WORKSTATION

The NextComputing Vigor ED mobile workstation from Metromatics is designed specifically for use in mobile deployments, where graphics- or processing-intensive applications such as geospatial imagery analysis, UAV ground control or HD digital video are required.

These applications generally require powerful hardware, but the requirement for mobility means that size, weight, power and cooling (SWaP-C) constraints rule out the use of traditional rackmount servers.

The Vigor series overcomes these problems as larger rackmount hardware can be replaced by an easily transportable all-in-one workstation.

Modular and scalable, the Vigor EDS can be outfitted with the latest Intel multicore processors, high-capacity/performance memory, full-size PCI Express 3.0 cards and up to (16) removable enterprise-class SSD, SAS or SATA drives.

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A GUIDE TO AUTOMATIC SCHEDULING

There are many benefits to deploying an automated scheduling system, and from a software implementation point of view, it's fairly simple. The change management process doesn't end here, however.

Many organisations struggle to make the step changes needed to their working practices in line with the new scheduling method. This quick guide will walk through a series of steps that minimise the impact of implementation.

In today's field service landscape, customers are more demanding of service delivery and company executives are pushing for greater productivity, increased customer satisfaction, lower costs, higher revenue and more service profitability.

For field service delivery managers, the pressure to deliver the most efficient and productive service operation has never been higher. Yet, deciding which technicians to assign to tasks, and when to schedule and dispatch them, can be a tricky and complicated process. When you are managing a large number of technicians that complete multiple jobs per day, staying on top of the schedule as changes happen and emergency work comes in through the day can seem like an impossible task.

The benefits realised by fully automatic scheduling and optimisation tools are undeniable; allowing the scheduling algorithms to manage resources in the most efficient way not only improves productivity enormously but allows the dispatcher to concentrate on other, more valuable tasks. A 'hands-off' approach is particularly beneficial for enterprise

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organisations that are managing a large mobile workforce that is carrying out varied and very complex work in the field.

However, the change from paper to automatic scheduling is a jump too far for many. A stepped approach or journey is a more sustainable way to manage the business change and ensure that you achieve your primary objective — getting the right technician to the right place at the right time with the tools to do the job, first time.

Your scheduling needs will depend on a number of variables:

- The number of technicians.
- The number of jobs each technician handles.
- The degree of time sensitivity of each call.
- The degree to which the schedule will change throughout the day.

It's also important to consider that the demands placed on a field service application today may change quickly due to business growth, customer demands or competitive pressures. This quick guide explains the various scheduling strategies as steps, allowing you to select the stage that best describes your current operation and identify the goal for your future scheduling needs.

1. Paper and whiteboard

If you have a small service organisation with relatively few field service technicians undertaking just a few jobs a day, it is possible to adopt a paper-based scheduling system and not rely on software tools at all. These systems could be as simple as a paper-based chart, whiteboard or Excel spreadsheet to keep track of service calls and technician assignments.

While many service organisations use paper-based processes today, this is field service scheduling at the simplest level and it can quickly start to fail when volume, complexity or volatility increases. Indeed, often a day's schedule is forced to change, due to such circumstances as a new high-priority service request comes in, a job overruns or a technician gets caught in traffic and arrives late.

When circumstances like this happen it becomes very difficult to reconfigure the schedule for the rest of the day, given the number of dependencies, geographic distances and demands of each individual piece of work. A dispatcher can typically manage 15–20 technicians via a paper-based system. If the number of technicians out in the field increases, a dispatcher will quickly become overwhelmed and a company will be faced with hiring additional dispatchers or investing in some form of field service scheduling automation.

2. Manual drag and drop

Manual scheduling is characterised by 'drag and drop' features whereby a dispatcher can easily drag and drop work orders and tasks onto technicians' calendars and dispatch work out to them electronically.

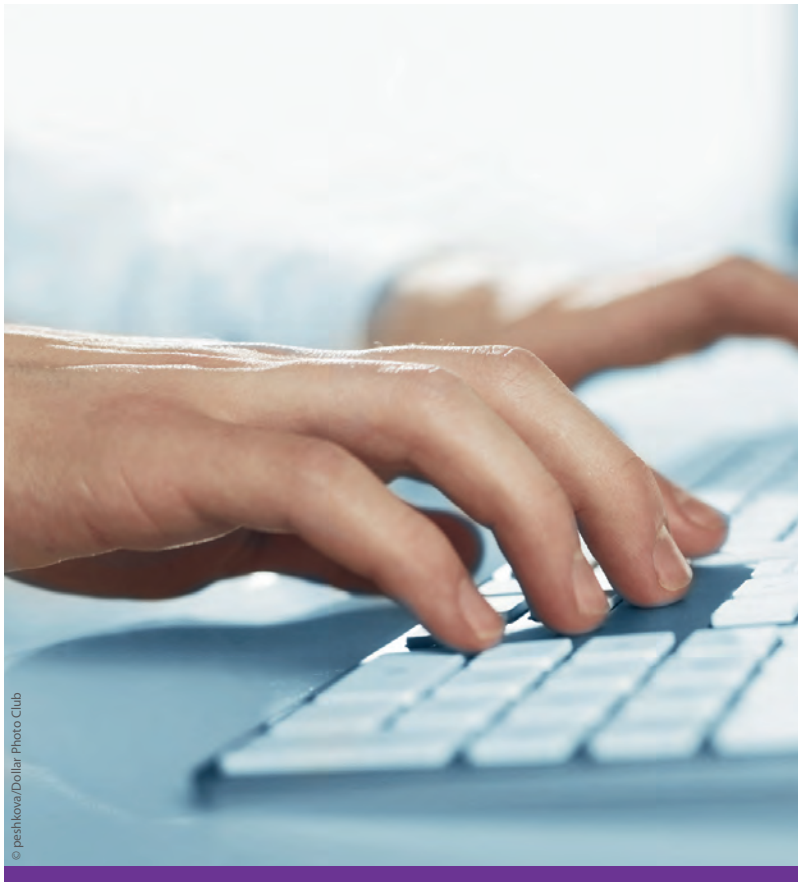
Typically the system will do some automatic checks once the task is dropped — for example, to check if the technician allocated to a job has the skills to complete it. Manual scheduling offers a more automated and predictive solution to a paper-based system, helping businesses to save time and improve accuracy. However, as human intervention is heavily involved, it can prove difficult to manage more advanced scheduling processes via this system.

When you have to consider where the technicians are located geographically, the nature and scope of the work they are doing, what skills or certifications are required and which spare parts they may need, field service scheduling can become a multidimensional problem.

3. Intelligent advisor

Although not a common feature in many systems, a semiautomatic method can be very compelling for organisations wanting to move from a manual to fully automated approach.

The Semi-Automatic scheduling method/service is invoked by a user (through manually pressing a button) to start an automated process. Although this scheduling system is automatic, it still requires some level of human interaction, which is something few vendors provide yet many businesses prefer as it allows them to maintain some level of control and trust. This helps with the organisational change management — dispatchers will start to understand the algorithms, creating more trust in the system's suggestions.



> It can quickly start to fail when volume, complexity or volatility increases.

It also gives a company the ability to test its scheduling policy and the technical elements entwined in the system while still being in control of the overall decision. Having decision-making tools built in to a scheduler can also help to alleviate a lot of headaches experienced by a field service manager.

For large field operations, emergency jobs often come in that need to be added to the day's schedule so having a tool that advises on the impact of what adding this job in will have before it is assigned can help to prevent the derailing of a field service operation. Often known as a 'what-if' tool or an 'Intelligent Advisor', such a feature allows dispatchers to make quick, informed decisions to keep the best possible quality of the schedule.

4. Fully automatic

Some companies may not have the time or resources to drag and drop work orders into manual and semiautomatic systems and check all the details. It can also prove difficult to keep on top of scheduling all of the in-day emergency tasks.

Fully automatic scheduling takes the intuitive nature of automated scheduling even further. Such a tool quickly and easily builds schedules automatically and dispatches work to technicians out in the field based on predefined parameters. The process completely eliminates manual intervention. Today's software technology provides a wide range of features that optimise and
update field service technician schedules automatically and in real time as service conditions and requirements change.

Case study

Pacific Telemanagement Services (PTS) achieves 95% job completion rate and 75% productivity increase transitioning from manual to automated scheduling. PTS operates a fleet of 90 mobile workers who service pay phones and pay internet kiosks, as well as perform freezer cleaning and maintenance for their ice-cream distribution company, Arctic Express.

Until recently, it was using a manual scheduling process to assign tasks each day, which lacked efficiency and productivity suffered as a result.

"We used to just throw a group of tickets at our technicians in an assigned region to see what they could get done in a day. Each morning they would print out a list of their tasks, then spend a half hour planning routes based on their own knowledge of the area. We saw that this way was not always most efficient," said Justin Keane, chief operating officer of PTS.

The company tried using a map feature to sequence the stops but this took an hour a day for each regional hub, and as they manage eight regional hubs, it took eight hours a day to build the routes. PTS implemented Trimble's cloud-based scheduling solution to help it improve the efficiency of its scheduling process and raise the productivity level of its workers. By transitioning from manual to semiautomatic scheduling, PTS has been able to cut three hours a day spent on routing per dispatcher to about 45 minutes a day — a productivity saving of 75%, or about nine hours per week. Furthermore, technicians no longer have to plan their own routes, saving an additional 90 hours per week of their time so that they can spend it on completing more jobs per day.

Trimble Field Service Management
www.trimble.com

RUGGED TABLET

The next-generation Getac T800 is a fully rugged tablet designed to meet the needs of mobile field service and transportation technicians working in tight spaces and extreme environments. Designed for comfortable one-handed operation, the T800 features a thin, ergonomic design, an optimally sized touch screen for greater productivity and best-in-class battery life with an optional hot-swappable SnapBack battery.

The 8.1″ touch screen provides ample real estate for document viewing and data entry with minimal scrolling. Its sunlight-readable LumiBond(R) 2.0 display delivers a responsive 10-point touch experience along with a 170° viewing angle and 16:10 aspect ratio to enable reading from virtually any angle. Rain, glove and pen (hard-tip stylus and optional digitiser) touch modes offer variable sensitivity options for writing and signing.

In addition to the optional hot-swap battery, SnapBack options include a 2-in-1 SmartCard and RFID/NFC reader or a 2-in-1 SmartCard and magnetic stripe reader. The device features a full HD webcam for video conferencing, an 8 MP rear camera with LED flash, dual-band 802.11ac Wi-Fi and optional 4G and GPS. The expansion slot can be configured for optional 1D/2D barcode reader, RS232, LAN or Micro SD.

The T800 is MIL-STD810G and IP65 certified to survive drops up to 1.83 m, rain, dust, vibrations, shock and extreme temperatures from -21°C to +50°C (operating temperature).

Synnex Australia Pty Ltd
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FIELD SERVICES 2.0:

SECOND-WAVE TECHNOLOGIES CONNECTING CUSTOMERS WITH AGENTS

Daniel Cran, Managing Director APAC

As the pace of technology advances increases, many field services organisations struggle to keep up. The answer may lie in resources you already have.

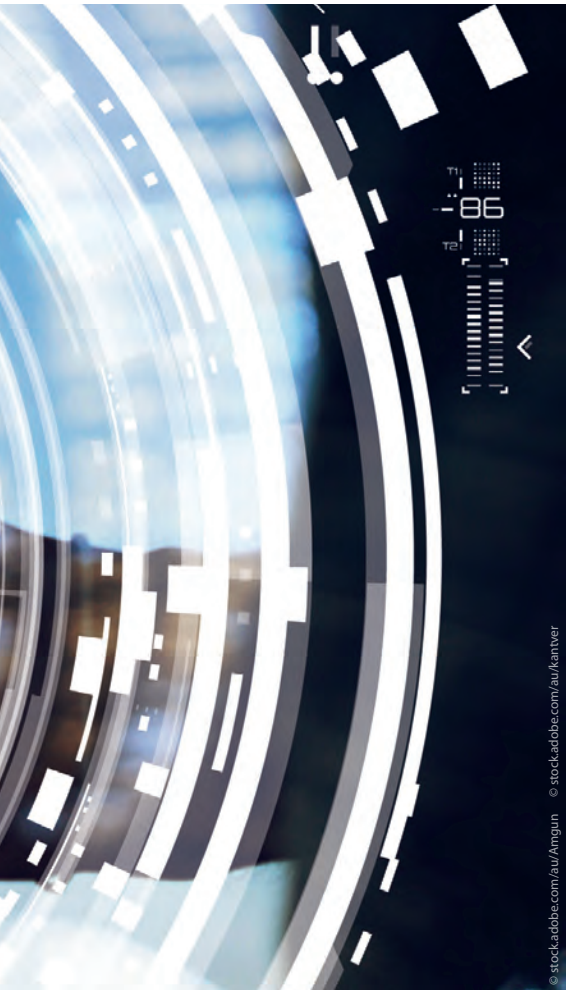
There is no denying that connected technology is powering innovation and business transformation, making organisations rethink the way they do business. BI Intelligence[1] reports that by 2020 we will have over 34 billion connected "things" in the world. That's almost the number of smartphones, smart TVs, tablets, wearable computers and PCs combined.

But with increased connectivity come all new complexities — especially in the realm of support and customer satisfaction. LogMeIn along with research firm Vanson Bourne recently released its Effective Mobile Engagement Report 2016 that found 91% of Australia and New Zealand (ANZ) consumers have stopped doing business with a company following a bad customer experience. If you think your customers are here to stay, and that support is a burden to be addressed later, think again. It is easier than ever for users to switch products and one of the top drivers for this is poor customer experience.

With the "always on, always connected" nature of technology and business, it should come as no surprise that today's customers have high expectations around speed and quality of service. They require an immediate response and quick remediation of any customer service issue. More than ever, these customers are making buying decisions based on customer service experiences.

Businesses must now be armed with a clear vision for what their support strategies will look like. What happens when a customer asks questions about product set-up or requests support for when a device breaks or needs to be serviced? People want new devices and products, but don't always know how to use them, how they interact or how to fix them when they break. This need for connected device support has resulted in the emergence of a second wave of technologies that are driving field services and enabling new support tools.

So what are the technologies that are boosting field services, and how can technology be the enabler to help you improve customer service and problem resolution in the field?



Field Services 2.0

For businesses in field services, a critical yet often overlooked opportunity for business transformation is in the deployment of remote support tools.

Though remote support tools got their start helping IT helpdesks and technical support organisations to cut incident handling and resolution time, other disciplines including field services are beginning to reap the productivity, profitability and customer retention gains offered by remote support platforms.

From a customer perspective we have all experienced the call-out time life cycle. Place a service call, go through the contact call centre, try troubleshooting over the phone, arrange for an on-site support technician and hope for a resolution the first time around. The all-too-common and worst-case scenario is that it takes multiple call-outs to achieve a resolution. Not an ideal customer experience, and not always ideal from a field services perspective either.

So what can remote support solutions offer? For field services personnel, these platforms can allow technicians to access customer equipment to troubleshoot problems before heading on-site. In some cases, remote support enables full issue resolution without having to hit the road. At the very least, technicians are better informed about the problem, allowing them to research the issue and bring along all necessary parts to avoid making several visits to complete a repair.

Other 'bleeding edge' technologies have emerged in the last 12 months revolutionising resolution times and overall customer satisfaction. One such technology has been video links that remotely connect a field service agent to their customer. This has provided support technicians with a view of the customer, their environment and their equipment to actually see hardware, error codes and walk a customer through replacing parts or running diagnostics — beyond the screen.

Some providers even offer a mobile application that customers can use from their smartphone or tablet to virtually walk the support technician around an equipment room, making close-up views of serial numbers or error lights possible, and permitting agents to visually inspect all aspects of a piece of equipment.

But, if you are one of many support organisations already running lean and efficient operations, there are still opportunities to offer added value to customers using resources that already exist within your business.

Analytics and dashboards

All these new connections, applications and devices are generating a flood of data. The interest in big data has been growing as organisations look for ways to manage and find insights from the oceans of content being created.

Customer information is often stored in an average of a dozen or more places, but businesses can take advantage of new robust analytic capabilities out of the box and sophisticated dashboards without a data scientist guiding the way. One approach is to use analytics to inform recommended solutions to a customer based on their profile and problems experienced by other customers with similar profiles.

Get proactive

Proactive support isn't just about remotely monitoring customer equipment to detect errors. Today, proactive support implies anticipating customer needs and expectations and delivering it in an automated way. This can include updates to support processes, self-service websites and tools, online community notifications, among many others.

Reduce customer effort

Companies have to do to more to understand the customer experience and how to improve it, particularly for support interactions. Introducing surveys and focus groups to gather input about the level of effort required to perform basic customer activities is key. But make sure the organisation has an appetite to change before starting a survey project — customers hate to give input on what needs to change only to have these concerns ignored.

FSB magazine is co-hosting a Field Services breakfast panel with LogMeIn in Melbourne on Wednesday, 14 September 2016. For more information, email Martin Sinclair at FSB: msinclair@wfmedia.com.au.

[1] BI Intelligence — The Internet of Things: Examining How The IoT Will Affect The World

LogMeIn Australia Pty Ltd
www.logmein.com

CLOUD-READY NOTEBOOKS

Acer has announced the release of the online-oriented Aspire One Cloudbook 11 and 14, powered by Windows 10. The two portable notebooks feature the latest Intel mobile processors, keeping users productive with a faster connection.

The notebooks come with a one-year subscription to Office 365 Personal and up to 1 TB OneDrive online storage, making it ready to use out of the box. Acer's cloud-enabled abApps, including abPhoto, abMusic, abDocs and abFiles, allow consumers to easily sync their files and documents with their smartphones or tablets, all securely and privately in their own personal cloud. Dual digital microphones, with enhanced digital signal processing (DSP) that cancels out background noise, ensure online calls are heard loud and clear, while also allowing a smooth experience for Cortana, Microsoft's personal digital assistant.

The series features a 17.9 mm thin, clean and fanless design. The 11″ model weighs 1.15 kg, while the 14″ model weighs 1.6 kg. Sporting a mineral grey cover with a dotted textile pattern that provides tactile feedback, the notebooks offer full-sized HDMI, USB 3.0, USB 2.0 and SD card ports to eliminate the need for additional adapters. Their full-sized chiclet keyboards and large touch pad, supporting Windows 10 gestures, provide a comfortable typing and navigation experience.

The Aspire One Cloudbook 14 features the latest 802.11ac wireless technology, allowing up to three times faster connection speeds, while eMMC configurations up to 64 GB provide adequate storage for work and play. The notebooks are powered by the latest Intel Celeron mobile processors and 2 GB of DDR3L system memory, and feature a HD (1366 x 768) 16:9 LED-backlit display.

Acer Computer Australia Pty Ltd
www.acer.com.au

INDUSTRIAL TABLET

The IMT-BT industrial rugged tablet with vehicle dock from ADLINK Technology can be installed in each vehicle within a fleet to enable both asset tracking and data processing in the field. Using the device with integrated GPS and extensive wireless communications options (built-in WLAN and optional WWAN), truck control centres can easily track the location and movement of a fleet and provide field workers with advanced technology in a rugged form factor for field computing, communication and data collection.

It comes with a 10.1″ capacitive touch screen and built-in megapixel cameras on the front and rear for easy on-site data collection. The IP65-rated enclosure and built-in durability will withstand drops up to 1.5 m (with optional protective rubber housing). The display's ultrastrong Gorilla Glass is virtually impervious to damage, able to flex on impact without shattering or scratching.

The device supports 802.11 a/b/g/n/ac protocols for fast wireless connectivity in any setting. The optional data-only modem provides communications on high-speed 3.5G HSPA+ or 4G LTE cellular connections.

ADLINK Technology Inc
www.adlinktech.com

SMARTPHONE

HTC has released the Desire 825 smartphone in Australia. The device comes with a 5.5″ 720p display and features a sleek polycarbonate design in Graphite Grey.

The Desire 825 incorporates 24-bit, Hi-Res audio certified sound, HTC BoomSound with Dolby Audio. It also comes with a 13 MP main camera, built-in HTC Sensor Hub and 5 MP front-facing camera. In-built BSI sensors improve low light performance and increase the amount of light captured. The burst shot feature allows users to freeze movement when taking dynamic images and to create landscape photos with sweep panorama. The camera also shoots videos in 1080p resolution.

The device comes with Google Photos, allowing users to free up space with unlimited storage for up to 1080p videos, coupled with expandable storage up to 2 TB via microSD1.

HTC International
www.htc.com/au

FROM SPREADSHEETS TO SPEED

MainPower distributes electricity to over 37,000 customers via 4873 kilometres of overhead lines and underground cables across an area of almost 12,000 square kilometres in New Zealand's Canterbury region.

Sustainability savvy, the company constantly seeks to take advantage of renewable resources and is focused on expanding and upgrading its distribution network to keep up with the demand.

"We're relatively small but like to think we're powerful," said Sean Fahey, MainPower's database administrator. "We've got around 180 employees including the field staff out on the road servicing the poles and wires."

To maintain its standards for excellence in customer service, MainPower analyses a wide scope of data from varying sources including information sourced through a GIS system to map all assets with coordinates and an ERP system, Tech One. It recognised limitations in the way it collected, viewed and analysed data.

The type of information collected is crucial to operations and spans from maintenance history and reports to power ratings, outages and voltages and customer records. Flora and fauna also feature, as trees are often responsible for power outages. Each unique dataset could include up to 40 attributes and the data was often siloed — it couldn't 'speak' to other sets.

"The information we were gathering tended to be quite scattered," said Stuart Wilson, MainPower's network manager of development.

"We wanted to reduce conflicts within the organisation because at that stage we had everyone looking at datasets from different perspectives; there was no unity of information, methodology or centralised depository. We also feared that important connections between sets were being overlooked. We simply had no way of compiling and easily viewing datasets collected across different departments and maintenance history," said Wilson.

Double-handling specific sets also hindered business efficiency and diluted employees' capacity, with several sets of eyes viewing the same spreadsheets but interpreting them to suit individual needs.

MainPower's system didn't present and understand trends and patterns and was leaving information static and siloed, slowing analysis and impacting efficiency. The company decided to build a data warehouse.

"We attended a series of seminars held by independent consultancy Montage to look into business intelligence solutions," said Fahey.

"At one of these events we saw six BI solutions and the standout was certainly Tableau."

Montage worked with MainPower to create a pilot program, which was then complemented by a further targeted statement of work, using best-of-breed solutions (which could be built on later).

"The use of MainPower's real-time data in that initial presentation opened our eyes to the true power of the software," said Fahey.

After successful trials using Tableau, Montage worked with internal teams to integrate the software into the organisation's pre-existing environment.

"We found that no matter what the department, our employees are able to pick up Tableau quickly and effectively, with a little assistance from Montage. We now have four or five staff regularly using the software," said Fahey.

After 12 months of using Tableau, the company can see the value of a cohesive solution, including speed-to-insight and efficient data compilation.

"We've been able to cut down on the hours spent analysing data; our employees are no longer doubling up to look at the same information because it's centralised.The input doesn't seem so much like an avalanche anymore. It's certainly a refreshing change that several sets of eyes can easily explore datasets that relate to them," said Wilson.

"We've uncovered some unexpected insights through the new software, simply because now we're able to join data from different sources, linking it together to ask questions we weren't previously able to," said Fahey.

Finally, Fahey applauds the user experience and ease of implementation Tableau has provided.

"It's something that is easily understood, everyone can implement it in their work. Rather than buying separate tools, we're able to use software that works for all employees within the company. Tableau has been more helpful than we could have imagined," he said.

Tableau Software
www.tableausoftware.com

FLEET TRACKING SOLUTION

Ready Track is offering a new fleet tracking and management solution. Garmin Dispatch Agent is a modular solution that provides integrated vehicle tracking, navigation, driver communication and dispatch capabilities. The device comes installed with a full tracking system from Ready Track and makes use of the IsatData Pro Satellite service and IDP terminals in tandem with off-the-shelf Garmin FMI-enabled devices as the human interface.

The system allows dispatchers to communicate and manage driver stops in real time and provides subscribing customers with full access to a web portal which contains additional information regarding the movement, stoppage time and other vital data.

Garmin Dispatch agent is quick to deploy, simplifying comprehensive in-vehicle communication to fleet management solutions. It enables the use of industry-standard, Garmin FMI-enabled devices instead of proprietary data terminals and reduces costs through optimisation of the amount of data sent over the satellite network. Satellite offers a reliable alternative to cellular coverage and ensures complete accessibility.

Ready Track Pty Ltd
www.readytrack.com.au

POWERED HAND TRUCK

The Makinex PHT-140 is a universal materials handling solution that enables one person operation to safely lift and load small equipment or bulky goods weighing up to 140 kg. It provides a quick and easy alternative to using a forklift or tailgate loader and can be used in workshops, warehouses, factories, depots, distribution companies and rental yards. Multiple attachments allows users to lift various heavy objects easily, with no requirement for a licence.

The product is said to deliver a safer and more efficient worker environment with reduced potential for workplace injury.

Makinex Construction Products
www.makinex.com.au

HEATED WORKWEAR

The Gen 6 heated M12 workwear line from Milwaukee includes the 3-in-1 Ripstop Jacket and Ripstop vest, a redesigned women's heated jacket and improved run-time across the range.

The Ripstop Jacket and Vest are designed from the ground up and are built to provide warmth, versatility and durability in the most unforgiving jobsite conditions. Both feature 900 denier Ripstop fabric, high wear zone reinforcement and heavy-duty construction for protection. They are insulated and both wind and water resistant and the high-loft insulation and brushed thermal lining maximise warmth during colder months.

The redesigned M12 women's heated jacket optimises style, fit and heating zone locations. Designed to actively stimulate blood circulation, heat zones are positioned closer to the body and located on the back, collar and pockets.

The run-time of the core heated gear range has been upgraded. Powered by M12 REDLITHIUM battery technology, the gear provides up to 8 h of continuous heat for a full day of work on a single battery charge. The garments are washer and dryer safe.

Techtronics Industries (Milwaukee)
www.ttigroup.com

INDUSTRIAL VIDEOSCOPE

The Olympus iPlex NX industrial videoscope can help locate flaws that were previously undetectable, as well as streamline inspections in even the most difficult-to-reach areas. The device combines a high-pixel CCD chip, an ultrabright laser diode light system delivered through the tip of the probe and Olympus's PulsarPic processor to automatically adjust light output, to deliver the clearest images possible in changeable inspection conditions.

The device features the multi Spot-Ranging function that enables real-time measurement of the distance from the scope tip to multiple points on the inspection surface. This provides real-time surface shape information with no pause or break in the inspection. Users can choose between the touch screen or the ergonomically designed manual controls to suit the environment and inspection application. The touch screen is manoeuvrable for optimised ergonomics and viewing comfort.

The scope includes 6.0 mm probes ranging in length from 3.5 to 7.5 m and 4.0 mm probes with lengths of 3.5 and 5 m. The finer probe tip allows access to very confined spaces such as between heat exchanger tubes or turbine blades. The compact and robust construction of the NX design has achieved an International Protection Rating of IP55 and complies with stringent US military standards for dust and rain resistance, as well as drop testing.

Olympus Australia Pty Ltd
www.olympusaustralia.com.au

TWO-WAY STREET

THE RISE OF TWO-WAY APPLICATIONS CRITICAL TO MEETING THE FUTURE NEEDS OF THE FREIGHT INDUSTRY

Martin Chappell, General Manager – Radio Channels, Motorola Solutions Australia, New Zealand and Pacific Islands

The ubiquitous smartphone has become a popular tool for drivers, but the digital two-way radio is still the most essential communications device for drivers.

The road freight industry employs about 200,000 people in Australia and it's estimated that more than 42,000 businesses use the sector. The industry continues to grow and researchers forecast that road freight tasks will almost double by 2030.

This research suggests there are bound to be many more drivers in years to come, and with more drivers comes the need to ensure they are equipped with the same level of safety through resilient communications systems as the drivers of today. While the smartphone has become a popular tool for drivers, the digital two-way radio is still the most essential communications device to ensure their safety and productivity.

The most obvious benefit is the ease of use while driving: rather than entering a passcode, entering a phone number and waiting for the dial tone, two-way radios open up immediate and seamless communication to the right people with the push of a button.

It's also not illegal to use a two-way radio on the road, for that matter.

On the road, or in any operational environment requiring workers to keep their heads up and hands free, voice communications are still king. That's why the two-way radio remains so popular and an essential communications device in road freight enterprises. Yet in a similar way that the original mobile phone has evolved into the smartphone, two-way radios have also undergone an evolution through substantial growth in new applications designed to improve functionality and workflows within the enterprise environment.

What we once knew as the 'walkie talkie' has evolved into a full-featured digital device through apps that enable organisations to reach their goals for safety, productivity and efficiency.

Digital mobile radio (DMR) apps allow personnel to do more than just communicate with each other. With hundreds of compatible business apps now available for DMR systems, drivers can use their two-way radios to raise an alarm, moni-

tor their health, locate their co-workers, track sensitive equipment or deliveries and even share updates with other users working outside of their radio networks via broadband.

Delivery company Wentworth Carrying is just one company that has improved business efficiency in a number of ways through the use of DMR applications.

"The [new DMR] system has lightened the workload of the drivers," said owner-operator Angela Chambers.

"I can guide a driver to the destination over the radio if need be, rather than having the driver pull over to use the map.

"This system is definitely more efficient and the cost savings are across the board. We've not only saved on mobile phone costs, we save time, which is a big factor, by making everything quicker and easier. A job which used to take one hour now takes nowhere near that time. It's hard to put a monetary amount on the value because there's so much time saved as well."

Many applications are being built for enterprise and are in routine use today. For instance, a digital radio application could be used to provide GPS location and mapping information to alert a freight company's headquarters of accidents or road blocks so that a new route can be determined for drivers.

Meanwhile, job ticketing applications can help manage busy workloads while enabling greater efficiency. In circumstances where drivers are managing a large number of deliveries in a day, a job ticketing application provides a simple but highly effective way for drivers to send a message instantly back to base after each delivery is done. In addition, staff at headquarters can create, assign and monitor job tickets through the radio network to deliver routine tasks more efficiently. These tickets are sent out to drivers over the network and can be accepted or declined by a driver with the simple push of a button.

Image courtesy of Motorola

It's not just time that is saved by DMR applications, but lives, too, and an increasing number of digital two-way radio apps are specifically tailored with the aim of improving safety standards and response times. Applications such as 'Man Down' are helping to alert control rooms when field workers face potential dangers. When a two-way radio is tilted past 90° for 90 seconds, an alarm is triggered in the control room. The GPS tracking system then sends to headquarters a link to a mapping application which pinpoints exactly where that user is located. Another application can track a driver's speed leveraging that same GPS functionality. If a driver is speeding, an alert is sent back to headquarters, which can then request the driver to slow down.

Additionally, the underlying communications network is now evolving and increasing in capacity to support the maximum number of users and applications — becoming more than capable of meeting the resilient communications needs of a growing industry today and into the future.

Two-way radios open up immediate and seamless communication.

Infrastructure upgrades to DMR networks have enabled a far larger number of users to access the network, expanding across a greater number of sites, with thousands more users now able to connect to the network at each site.

As the push for greater productivity and reduced downtime continues, another important innovation has been the ability to provide remote software updates on digital radios. In a manufacturing environment, for example, this capability could enable workers to continue their daily tasks while live software updates are completed over the air in the background — a substantial improvement over having to physically plug in every radio to upgrade it with new software.

Due to the ease of functionality and instant communications capabilities, two-way radios are ideal for the road freight sector. And while business productivity and efficiency apps are still largely accessed through consumer-grade devices, the new generation of DMR radios is making it possible for companies to extend the value, reach and capability of their radio networks.

In an industry that will only continue to grow in scale and pressure, it's clear that the two-way radio is still the go-to device for freight drivers.

Motorola Solutions Aust Pty Ltd
www.motorolasolutions.com.au

©iStockphoto.com/Yunus Arakon

THE NEW FRONTIER IN APP DEVELOPMENT

No matter what you're looking for these days, as the saying goes, 'there's an app for that'. With the consumer market all but saturated, is B2B the new frontier?

The world is awash with a huge variety of apps designed for a multitude of different purposes, from Candy Crush to an app that allows you to pop virtual pimples. Given the sheer volume of app development that has already occurred, the consumer market is already pretty saturated and recent research has revealed at least half of developers make less than US$500 per app, per month.

Despite (and perhaps because of) this, a bold new frontier has opened for developers in the B2B commercial arena. Driven by the evolution of the API and the need to open new markets, developers have unearthed exciting new opportunities for the creation of B2B or enterprise apps. The use of data streams from one system to enrich streams from others is helping to meet the call for greater efficiency in business processes.

The emergence of APIs

For the uninitiated, an application programming interface (API) is a set of routines, protocols and tools for building software applications. It is essentially something that allows one piece of software to speak to another and to share useful data.

Amazon is credited as one of the early innovators that set the tone for the current state of play by opening up its store API.

A bold new frontier as opened

This effectively revolutionised the online retail environment, as smaller businesses were able to sell and deliver merchandise without needing to develop their own stand-alone e-commerce system.

Similarly, the shift in perception and use of APIs is revolutionising the use of software in our everyday lives, particularly in the cloud, transforming the internet from a network of distinct, individual pages to an ecosystem of interconnected applications communicating via open APIs.

Revolutionising the world of work

In short, the Internet of Things (IoT) is allowing us to automate an increasing number of daily tasks, breaking down traditional barriers and providing an unprecedented level of intelligence and insight.

To use an example from the fleet management and telematics industry, integration with TomTom Telematics' WEBFLEET platform allows mobile workers to complete all of their daily tasks via an app on a single, customisable tablet-style device.

Vehicle checks are made via the device, with results instantly communicated to the back office. Daily workflow is loaded onto the device and navigation provided to each job. Automatic texts can be sent to customers advising them of arrival time and proof of delivery obtained by using the app's signature-capture functionality or by scanning with the device's in-built camera or NFC chip.

Once jobs are completed, status is updated in the back-office system, along with daily mileage records and worker hours, eliminating the need for laborious record-keeping processes. All of this is only possible through the power of APIs, allowing developers to create bolt-on solutions that further enhance the functionality of existing technology.

The power of platform

This has led to a situation where businesses such as Mendix, Salesforce and, more recently in the fleet management space, TomTom Telematics have evolved from mere technology providers to platform as a service (PaaS) companies, with ecosystems of partner developers. These companies provide the core technological infrastructure but allow developers to apply their specific expertise to add further layers of functionality.

As a result, technological platforms can be tailored to suit a multitude of purposes and offer specific solutions for a variety of different industries.

In the fleet industry, change is already occurring. WEBFLEET open design allows other software applications to access highly accurate traffic information, historic journey times and up-to-date ETAs for any route and accurate traffic information.

Access to this data enables transport business to benefit from more dynamic planning and scheduling, while home delivery firms can better communicate delivery times to customers. In the case of transport, planning is further enhanced by remaining driving time information, which keeps management notified of driver hours in line with tachograph and European working time legislation.

But despite the limitless possibilities for smarter working, B2B apps remain a largely untapped market. A recent VisionMobile survey found just 16% of app developers are focused on enterprise, so golden opportunities abound for developers who act now.

TomTom Telematics Australia
www.tomtom.com/telematics

2-IN-1 TABLET

The STYLISTIC Q736 from Fujitsu is a 33.8 cm (13.3″) tablet that also converts instantly into a classic clamshell notebook through the connection of a dockable keyboard. The device enables security authentication with biometrics or SmartCard technology, also including support for contactless SmartCard via NFC (near-field communication) technology. The tablet features encrypted drives and Intel's TPM, which provides secured storage for security keys and passwords, further protecting against unauthorised access to sensitive data.

Once users are quickly and securely authenticated, they can access corporate data from anywhere, anytime. The tablet features enterprise-grade connectivity including 4G / LTE communications and built-in GPS.

The tablet features 6th Generation Intel Core i7 vPro processors and a high-resolution IPS full-HD, anti-glare, dual digitiser touchscreen display (1920 x 1080 pixels). The big-screen tablet can be combined with options such as a keyboard docking station providing additional interfaces and a second battery option, as well as an expansion cradle.

The STYLISTIC Q736 tablet weighs less than 1 kg, putting it among the lightest terminals with an anti-glare, multitouch display in this form factor. The embedded dual digitiser also works with a digital pen. The device is available from March.

Fujitsu Australia
www.fujitsu.com.au

FIELD SERVICE SOFTWARE

Loc8 has released a new version of its software platform and mobile application, delivering a range of smart new features. The solution is available in three editions: Service, Enterprise and Team, and is designed for companies of all sizes.

Service provides preventive maintenance features and mostly appeals to medium and large service teams who require a complete field service and asset management solution. For larger companies, the Enterprise edition is the recommended solution as it offers extended support and enables integration with other platforms. Team is suited to small field service teams and subcontractors.

The new platform offers a complete overview of all staff and collaborators within a company and can be used to create work orders and set appointments, then assign to technicians for completion via the mobile apps. Loc8 ships with a full suite of appointments scheduling tools, from basic real-time slot section through to advanced resource availability. It also enables a real-time activity stream, in order to follow-up on technicians' work progression as they go.

It is now possible to create schedules for different asset classes, customers and sites, which automatically generate work orders for the relevant assets. This means customer issues can be solved before they occur. Custom notifications ensure smooth communication flow between customers and service teams.

Loc8.com Pty Ltd
www.loc8.com

PERSONAL BREATHALYSERS

The Wingmate range of personal breathalysers from Andatech is aimed at users wanting reliability and accuracy on a lower budget.

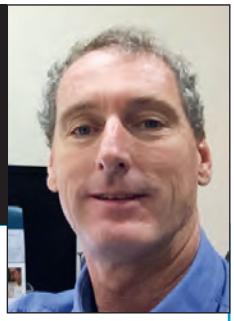
The range includes four models. Wingmate One is a disposable, single-use breathalyser sold in packs of 10; Wingmate is an entry-level semiconductor device that does not require mouthpieces; and Wingmate Pro and Wingmate Rover employ fuel cell technology similar to law enforcement and workplace breathalysers for accurate BAC results.

Wingmate One, Pro and Rover breathalysers are Australian Standards AS3547 certified, which means they have been tested and certified to meet industry standards as an alcohol breath-testing device.

Andatech Pty Ltd
www.andatech.com.au

IN CONVERSATION

IN CONVERSATION



Field Service Business editor Dannielle Furness spoke with Darren Andrews, Director at GB Electrical.

Field Service Business: GB Electrical works across a broad range of industry sectors and with many different types of equipment. What challenges does that pose in terms of managing a mobile team?

Darren Andrews: The challenges in running our operation are ever-changing. To utilise our mobile resources efficiently is the key to providing a responsive and high-quality service across varied business specialties. We are constantly challenged by client expectations for paperwork and data. Through the use of mobile service management systems, we are able to provide our employees with real-time job details and our administration can receive real-time feedback on what is happening in the field.

FSB: How many mobile staff do you have on the road and across what geographic region?

DA: We have approximately 40 field technicians and tradesman working across seven different business units. We operate right across the NSW Central Coast, Hunter and Port Stephens regions — it's a fairly extensive reach.

FSB: What types of technology and systems has GB Electrical implemented to overcome some of the challenges associated with running a team across multiple regions and in different industry types?

DA: We have been using a web-based service management system from AroFlo since 2006 and we worked closely with them in the development of the product. As far back as 2006, we recognised the need to find a mobile solution in order to reduce the burden associated with paperwork and to allow us to mange our workflow more efficiently. This was a time of rapid growth in our business and we struggled with the quantity of works that we had to manage, so we knew something had to be done. The AroFlo system delivered us the solution that we needed and allowed us to confidently continue to grow our business.

FSB: What improvements has this initiative delivered?

DA: The improvements to our business include improved resourcing efficiency and scheduling of works, access to real-time data, completely traceable work information and job history, tighter control over our inventory systems, productive quotation systems, flexible job management and invoicing. Our business has come to the forefront of technology in our service area and we have been able to promote this through our delivered efficiencies to our clients.

FSB: Was it difficult to get user buy-in and was there any resistance from the team?

DA: It is always difficult to bring in change to your business operations, and moving to a more automated form of field management is no different. We deliberately moved through the process in stages — we trialled the system using small teams at first so that others could see the positive change occurring. This made the process much smoother than a general rollout, as we worked out any issues that cropped up within a small group first before taking it out more broadly across the business.

FSB: Have you seen similar productivity gains in the back office?

DA: We operate at a faster pace now and it is hard to imagine how we could do that without a mobile service management system. The key to us is to manage the way we utilise the system in order to get the most efficient use out of it.

FSB: Did you experience any unexpected bonuses along the way?

DA: The main added benefit that we were not expecting was the ability that the system has given us to grow the business. Additionally, the flexibility of being able to look at any part of our works from anywhere at any time has been a real bonus.

FSB: What sort of improvements will you be looking at in the future?

DA: Future improvements in consideration include incorporating GPS tracking to our system so that we can remove the reliance on other third-party systems. We'll also investigate developing the ability to incorporate client forms so we can satisfy individual customer requirements. We'll continue to focus on making the system meet our customers' needs, rather than the other way around.

GB Electrical
www.gbelectrical.com.au

MANAGING TECH TRANSFORMATION

Courtney Smith

For companies that manage field-based teams, there has been massive growth in the adoption of smartphones and mobile applications throughout 2015–16.

While it's great to see the industry embracing technology, too many implementations fall short because simple guidelines are not followed.

Within the last year, many companies have already 'buyed and tried' and are now seeking a post-purchase fix. In many cases, this is because of the following:

- Inadequate identification of requirements
- Poor fit of the chosen technology
- Poor communication channels between the company and the vendor/s
- Overpromised technology outcomes or inadequate company buy-in during the implementation process

I thought that we could help by offering some suggestions and sharing a few lessons learned, to potentially help others seeking to replace or upgrade current systems make better buying decisions and avoid buyer's remorse.

During this financial year, you may be thinking about implementing the following:

- An integrated management system (IMS)
- An ISO9001:2015 paperless solution
- A project management tool
- Electronic timesheets and payroll
- Maintenance, equipment or assets systems
- Moving your file storage to the cloud

You don't have to layer old processes on top of new technology.

There are many opportunities to improve your business and a range of great technology providers that can guide you. Just make sure you place your trust after considering these lessons.

Lesson #1 — Know your business

Perhaps the single best piece of advice I can offer is to be sure that you thoroughly understand your needs in advance of assessing a new technology or arranging a meeting with a vendor. This may seem obvious but, in our experience, businesses often rush into technology-buying decisions without reflecting on the people and change management process:

- What are our current and anticipated future business challenges?
- What are our current and anticipated future people challenges as part of undertaking this program?
- What risks do we face and how do we overcome them?
- Where is the upside and is it mea urable?

Lesson #2 — The cart goes behind the horse

All too often, we encounter situations where new technology drives process instead of the other way around. You need to understand what your optimal process looks like before you speak to technology vendors and your needs assessment should take into account the next 12–24 months. You don't have to layer old processes on top of new technology, potentially automating a bad process that will soon have to be fixed anyway. The role of technology is to enable a superior process, not the other way around.

Lesson #3 — The best salesperson doesn't necessarily sell the best product

This is a lesson several of our clients have learned the hard way. Technology salespeople may know their product inside and out, but rarely do they have experience running key roles within your industry. Exceptions do exist, but even the best-intentioned salesperson's knowledge is usually geared towards their technology offering. Always keep in mind that it's their job to tell you that their technology is the best for your needs, so healthy scepticism will make you a better buyer.

Lesson #4 — Don't rush

Technology deployments generally occur while organisations have a lot on the plate and time is often of the essence. That translates into a desire for companies to check technology off the list as quickly as possible. Rather than taking a 'let's get this over with' approach, we advise clients to take as much time as needed. Don't rush into adopting new technology without a well-thought-out strategy.

Lesson #5 — Band-aiding is not always a bad thing

It may seem contradictory to the point above, but we are also in favour of quick fixes. We often see areas for immediate improvement, whether in technology, practices or processes. Quick fixes can make a big impact and raise the stature of your function immediately. Implemented as pilots or trials, we call these 'point solutions' and they can allow companies to dip their toes and see if the technology can work for them.

Lesson #6 — Don't go it alone

Whenever possible, get an external perspective from someone with no sentimental or political attachment to what was done in the past.

We often hear 'that's the way it's always been done'. Get the advice of an outsider who is impartial and knowledgeable on current technologies — and can guide you to a good fit. Undertaking a gap analysis or trial can provide a stepping stone to a decision, without the risk associated with a larger deployment. Trials quickly identify who's on the page and the likelihood of the technology succeeding.

Lesson #7 — Measure, measure and measure

Put agreements into place early on in any technology project. These need to apply to the assessment and implementation phase and they should also be incorporated into your buying expectations. For example, if you are considering a new electronic timesheet system, what metrics do you really need to assess? What results are you achieving using your old processes and what impact on them should the new technology have? How will you accurately measure them so you get the real picture on how they are working?

These lessons are grounded in common sense and, as we get towards the end of the calendar year, they have been learned the hard way by big, medium and small companies alike. Don't suffer from buyer's remorse; instead, learn from lessons of the past and you will be far more likely to find a technology that is the right fit for your organisation. So long as you follow the steps above, you'll give your organisation the best chance of managing the tech transformation process — well!

Vertical Matters
www.verticalmatters.com.au

DATA COLLECTION SOLUTION

The IKE4 field data collection unit from ikeGPS is a comprehensive solution that incorporates the latest mobile hardware and software technologies. It is used for measuring and locating utility poles for aerial fiber deployments, joint-use applications and construction of aerial outside plant.

The solution combines hardware, an Android app and cloud software service. The IKE4 device features a hardware design that utilises the latest mobile technologies to produce a high-performance and low-power field device using Google's Android mobile operating system. The app, IKE Field, contains specialised utility pole data collection and measurement tools for pole heights, wire spans, attachment, GPS location and other field data collection tools. Photos and data collected in the field are uploaded wirelessly to IKE Office, a cloud-based software service used to create and deploy custom data collection forms, measure heights of attachments from the photos captured by IKE Field, validate quality assurance and quality control processes, and store photos and corresponding data for long-term archiving and retrieval.

IKE Integration enables users to create reports and directly integrate data into applications or enterprise databases. Report output formats include JSON, KMZ , PDF and more. Direct integration includes SPIDA Software's SPIDACalc pole loading analysis solution and other third-party systems.

The 1.3 MP camera delivers clear and accurate pole measurements from every photo and the 4.8″ capacitive multi-touch screen offers outdoor screen readability. Wireless connectivity means that the device is always connected for uploading data straight from the field or in the office.

ikeGPS.COM
www.ikegps.com

MICRO/USB RECHARGEABLE BATTERIES

iWorld has secured exclusive ANZ distribution rights to the Smartools range of products, including portable mobile battery chargers and micro-USB rechargeable AA/AAA batteries.

The MC2 stick (2600 mAh) and MC5 CARD (5000 mAh) and MC10 CARD (10000 mAh) mobile rechargers feature 2.1 A fast output with smart detection and a USB charge cable made for all smartphones. Users can choose from a large range of contemporary designs.

The MicroBatt micro-USB rechargeable AA/AAA batteries remove the need for a bulky Ni-MH battery charger and allow users to simply plug the battery in via USB and charge while on the go.

iWorld
www.iworldonline.com.au

LED TAIL-LIGHTS
WHY TAKE THE RISK?

If you wouldn't mess with your computer motherboard, why would you consider adding LED tail-lights to a new light commercial vehicle?

Vehicle manufacturers are designing computerised modern cars and utility vehicles to be as smart and efficient as possible in order to reduce fuel consumption and emissions. This leads to a complex electrical circuit and charging system, which means that adding accessories to the electrical system is often fraught with risk.

Many new vehicle owners, however, are still looking to retrofit LED lights for light commercial vehicles. This is despite the fact that most modern vehicles do not have a compatible electrical system that allows a direct replacement of the OEM (original equipment manufacturer) tail-light assembly.

Many new vehicle owners consider LED tail-lights to be far superior to traditional bulbs — they last longer, burn brighter and use less power to operate, not to mention they are better for the environment.

LED lights are excellent when powered directly from the battery or in addition to an existing circuit; however, this is not the case when used to replace OEM tail-lights.The problem is that modern commercial vehicles are akin to a computer on wheels, which means that post-fitting LED lights — or other electrical items — is a bit like messing with the motherboard.

Manufacturers are making vehicle electrics more and more sophisticated using electronic switching, CAN bus (a message-based computer protocol for electrical wiring) and monitoring systems to control, protect and power the vehicle's electrical circuits. These systems detect a variation in the electrical current that can result in a 'fault' condition showing up on the dashboard and thereby help convey problems to the driver so they can be repaired.

Due to the low current draw of LED tail-lights, this fault condition can appear when installed on a circuit not designed for this type of light. On an indicator light circuit, the fault appears as a fast flash.To overcome it, it is necessary to fit a load resistor that matches the original light globe wattage at the same time as the LED lights are fitted.

> **Never fit LED tail-lights if you need to modify the base vehicle electrical circuit.**

Resistors used in this manner, however, are an inefficient use of energy. They do not perform any physical action and can overheat and melt insulation, causing short circuits and possible fire hazards. As the size of the load resistor matches the replaced globe, there is no saving in energy.

Load resistors are needed on indicator lights and, depending on the base vehicle, perhaps on tail, stop and reversing lights as well.

Without a load resistor, the indicator light circuit will continue to flash fast, and this fast flash feature is an Australian Design Rules requirement. In a normal circuit, it occurs when there is a globe failure and acts as a warning to the driver to take action. This feature no longer operates when a load resistor is fitted, which means the installation is no longer ADR-compliant.

But what is more alarming is that the modifications needed may negatively affect the vehicle's safety features.

If left on too long, or incorrectly sized, the load resistor's temperature can melt insulation, cause short circuits and create a fire hazard.

There are special load resistors designed for LED light circuits which, when correctly installed, minimise the maximum temperature of the resistor. If you are considering converting your fleet vehicles' tail-lights to LED, consider these facts first:

- Most modern vehicles do not have a compatible electrical system to allow a direct replacement of the OEM tail light assembly.
- You need to fit load resistors on each indicator light and possibly stop, tail and reversing lights as well.
- These load resistors need special mounting to ensure the component does not overheat and cause potential fire hazards.
- The indicator light circuit is no longer compliant with Australian Design Rules in that there will not be a warning to the driver if a globe has failed in the circuit.
- You may have to change the OEM tail-light connector.
- Each extra connection increases the risk of a fault and reduces reliability.
- Vehicle manufacturers will not support non-OEM tail lights, creating potential service, warranty and parts issues.
- The cost of installation is high and creates waste as the existing OEM tail-light assembly is scrapped.
- There is no energy saving.
- The physical installation of LED tail-lights requires changes to the OEM system, including:replacement of the light assembly, replacement tail-light connectors, installing load resistors which have to be correctly mounted to prevent overheating and up to 16 additional electrical connections.

All this is on top of standard fit-out costs by the body builder/auto electrician, none of which is supported by the vehicle manufacturers. Dealer networks at times are reluctant to assist with non-OEM installations, making repairs difficult.

While on the surface, LED tail-lights seem like the optimum choice for fleet vehicles, post-fitting them carries costs and risks that far outweigh any perceived benefits. They can compromise the modern electrics and the 'fix' of a load resistor can introduce new problems, not to mention compromising the vehicle's manufacturer's warranty. Put simply, never fit LED tail-lights if you need to modify the base vehicle electrical circuit — and this includes changing OEM connectors and fitting load resistors.

XL Service Bodies
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ELIMINATING INEFFICIENCIES

Bis Industries (Underground Division) is a leading provider of underground equipment services, supplying critical mining equipment to the resources industry. As part of the company's equipment hire service, each piece of equipment must go through a pre- and post-hire inspection. The results are then used to create a scope of work for any necessary repairs and on-charging to the customer if required.

In the past, Bis Industries personnel had to manually input inspection results into a spreadsheet, upload photos taken during the assessment and then email this information to an external workshop. The workshop then analysed the information, priced the job accordingly and waited for approval from Bis Industries before commencing any required repair works on the asset.

Gathering information using these paper-based manual processes took time and significantly slowed the repair and accounting processes, in some cases meaning that damage charges were not invoiced for up to three months.

Without a central database detailing asset maintenance history and other information, Bis personnel, their workshops and their customers had limited visibility into the current condition of assets, as well as information on the scope of work for repairs. It also delayed the resolution process and, in some cases, meant that customers had refused to pay for repairs to fix damages incurred while the equipment was on their site.

Bis Industries recognised these inefficiencies and decided to digitise its paper-based field service operations using DSI Global's Digital Supply Chain Platform (DSCP).

DSCP allows users to quickly design mobile apps via a rapid application development platform, featuring a drag-and-drop interface with re-usable components.

Bis Industries built a mobile app to integrate with the back-end system, Oracle JD Edwards, that facilitated creation of a scope of work, which could be used to garner customer sign-off on required repairs at the time of inspection.

Deployed on ruggedised tablets, the app allows inspectors to apply Take-5 safety assessments, manage checklists, add photos and transmit in real time to the back-end system. Crucially in the case of Bis Industries, the app works 100% in offline mode for underground inspections and syncs seamlessly once above ground in connected mode.

During the post-hire inspection, the user can see all pre-hire condition details and images within the app. This allows the user to easily ascertain if the equipment has been damaged since it went to the customer site.

If the post-hire inspection is completed on-site, any incurred damage can be quickly identified and the customer can sign off immediately, minimising repair claim resolution issues.

The DSI mobile app has delivered many benefits to Bis Industries. Since deployment, manual processing and double-handling has been eliminated and the time to prepare a scope of work has been drastically reduced. Claim resolution and invoicing turnaround has been improved, ensuring that repairs are charged out as required and avoiding costly accounting disputes. Asset management and utilisation has been streamlined through the reduction of lead times to move equipment through workshops and back out to hire.

The information from the DSI app is shared with Bis Industries mechanics, as well as suppliers and customers. Through the automation of previously manual processes, personnel are now able to concentrate on resolving mechanical issues, rather than sitting in front of a computer, delivering efficiencies and cost savings across the board.

DSI Global
www.dsiglobal.com

TALK FROM THE TOP

The recent IFS Digital Transformation Survey of decision-makers in 20+ countries took me by surprise — only 50% of Australia/NZ respondents had a clear strategy for digital transformation.

It wasn't that 50% seemed low. I was surprised that it was less than any other region surveyed, including ASEAN, Benelux, Brazil, China, Finland, Poland, Scandinavia and the US. The average global figure was 60% and in Scandinavia 66%.

I thought that in the industries surveyed — mostly industrial manufacturing, construction, retail, oil and gas, automotive, energy and utilities — Australia/NZ was relatively technologically advanced. Even though our tech industry is not big, Australia has a reputation as one of the world's most advanced users of technology.

The survey made me rethink this assumption. While IFS is seeing tremendous innovation in many local industries, the question is: Is it enough to remain globally competitive in this era of disruptive change?

My concerns increased when I saw how respondents rated the importance of different disruptive technologies in driving digital transformation. There was only one that Australia/NZ respondents rated higher than the global average.

Locals rated cloud computing 60 out of 100, compared with a global average of 59, but in every other category the figures were down. We rated the Internet of Things 53, vs 59 globally; machine learning 44, vs 53; and wearable technology 38, vs 48. It seems that a lower proportion of Australian/NZ companies have seriously evaluated these disruptive technologies in relation to their digital transformation strategies.

What should we do about it? Firstly, we can't take the performance of any of our industries for granted, no matter how sophisticated we may think it is. And secondly, we need to work together at the national, industry and enterprise level to develop innovation strategies that enable digital transformation.

The recent Australian election campaign was a missed opportunity to debate these issues, in my opinion, and the innovation debate has been far too narrowly focused. I support efforts to kick-start new innovation-based industries and growth in start-ups. But strategies with an immediate impact in helping existing Australian enterprises to innovate and compete globally are even more urgently required.

Rob Stummer is Managing Director, Australia and New Zealand for global enterprise applications company IFS. He holds several degrees, including a Masters from Melbourne University.

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