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Firms haemorrhaging $100k a year hoarding useless tech

A survey of 600 data centre experts spanning Europe, North America and Asia Pacific found two-in-five global firms waste over $100,000 per year hoarding outmoded IT equipment, because of security and compliance risks.

The results of *The High Cost of Cluttered Data Centres*, conducted by Blancco Technology Group in conjunction with Coleman Parks, further found that 74 per cent of UK companies said at least 26 per cent of all RMA drives located on their premises were still on there because they were unwilling to send them back to the relevant manufacturers. Furthermore, a quarter of those surveyed admitted that over half of their RMA drives are gathering dust for the same reason.

However, organisations gave a similar answer when asked why they had not returned hardware once the lease was up, with 63 per cent of UK businesses claiming manual/time-consuming processes. In addition, 49 per cent highlighted security and/or privacy concerns – the highest percentage points from all of the countries that took part in the survey. Although each country voiced their own priorities and concerns, UK firms were most worried about GDPR (43 per cent). This was followed by increasing automation across the data centre (41 per cent).

Fredrik Forslund, vice president enterprise and cloud erasure solutions at Blancco, said the industry is witnessing a raised level of awareness due to new laws and regulations, such as GDPR.

"For the most part this has had a positive effect since it will improve data privacy and protection in general," he told *Networking+*. "However, it also creates challenges for operational teams to carry out necessary process updates, which in the meantime can lead to increased stock piling of hardware."

The reluctance of firms to dispose of old tech is costing an average of more than $100,000 per year.

Forslund said it would be prudent for firms to deal with organisations that can securely process and erase hardware to minimize the negative effects of relinquishing data.

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Microsoft names end of support date for Windows 10 Mobile

Microsoft has published the date on which it will 'end support' for its troubled *Windows 10 Mobile* devices as 10th December 2019.

The computer technology giant, which all but admitted defeat in the ultra-competitive mobile phone market back in 2016, quietly updated its FAQ in mid-January and said December is when the devices will cease to receive new security updates as well as other staple features.

In an 'End of Support' document, Microsoft has instead recommended customers still using the devices to switch to *iOS* or *Android*. The page further notes that help ends on 11th June, and "security updates, non-security hotfixes, free assisted support options, or online technical content updates…" will end on 10th December 2019. Some applications will have access help for a further three months post the switch off date.

Microsoft has long struggled in the mobile market and in October 2016, global vice president of operating systems Joe Belfiore said *Windows Mobile* would stop receiving updates other than security-related ones and bug fixes.

He Tweeted: "We'll continue to support the platform.. bug fixes, security updates, etc. But building new features/hw [hardware] aren't the focus."

Microsoft also ended its support for *Windows Phone 8.1* in the summer of 2017, with many predicting *Windows 10 Mobile* would face a similar fate.

Wes Azad, director of Innopsis, the industry association for companies supplying network services to the public sector, said the handsets will become useless in the business market place. "The operators, customers, and handset vendors have all been tracking this for some time and the good news is that people have been planning for the switch being turned off for further support," he said.

Some reports claim Microsoft is creating a Surface foldable phone, which could be made available by the end of this year or in early 2020. ■

Hoarding old tech costing firms $100k

continued from page 1

Steve Hone, chief executive officer of Data Centre Alliance agreed: "Just because you deem your kit to be "end of life" does not mean it has to go straight to landfill or the crusher;" he said. "In fact, quite often, what you no longer want may be exactly what another business has been looking for and therefore it still has an intrinsic value which can be realised."

One such company that upcycles ageing technology is Techbuyer. Danny McShane, head of IT asset disposition at the company, said returning hardware to the manufacturer for reuse is one option but firms could be inclined to make money from old goods.

"A great alternative that comes with a cash return is to contact a secure ITAD company who will carry out data erasure to military standard and ensure the materials in them do not go to landfill," he said. "With a cash return on retired hardware plus the peace of mind of secure, environmentally friendly disposal, this is a great solution for data centres worldwide."

Nevertheless, the findings are a clear indicator of the extent to which companies worldwide feel powerless in their efforts to prevent reputational damage. Therefore, they would prefer to spend large sums of money storing often obsolete technology to protect themselves against misuse of data. ■

NFU survey: 16 per cent of farmers have access to superfast broadband

The National Farmers' Union (NFU) has found that just 16 per cent of members now have access to superfast broadband, albeit an increase of 12 per cent since 2015.

However, despite clear improvements to 4G services and increased access to superfast broadband, the results of the broadband and mobile survey still underlined the importance for improved coverage to help farmers and their businesses.

The latest NFU findings also found that 96 per cent had web access through a device. Of that figure, 89 per cent of respondents said broadband was an integral part of their day-to-day business.

In addition, it highlighted that a considerable number of the 812 farmers who took part (42 per cent) continue to experience the slowest download speeds of 2 Mbps or less, although this has fallen from 58 per cent in 2015.

Furthermore, just 17 per cent of those surveyed receive a reliable mobile signal in all outdoor locations – and 19 per cent in all indoor locations.

Still the survey did produce more positive news in that there was a significant increase in farmers accessing superfast download speeds of 24 Mbps or more over the past four years.

Stuart Roberts, vice president of the NFU, said slow broadband speeds and intermittent mobile coverage were barriers to improving farm productivity and fostering faith in digital technology.

"It's vital that government ensures rural businesses have access to the same reliable broadband and mobile connectivity as urban businesses so they can remain productive, competitive and innovative," he said. "The benefits that farmers receive from applying full connectivity are many; from optimising the use of inputs to decreasing farm costs and improving productivity as a result.

Andrew Glover, chair of the Internet Services Providers' Association (ISPA) told *Networking+* that in many rural locations it is important to consider alternative solutions to fixed broadband, including satellite and wireless connections.

"ISPA hopes that with the increasing support from the UK Government through the FTIR, the industry will be able to build on this progress to reach the rural areas that need it most," he said. ■

NetActuate increases service capacity with new data centre deployment in central London

NetActuate has launched services from a new data centre location in London to offer increased capacity for infrastructure and boost global network performance and reliability. The firm claims the new location improves its ability to provide "high performance, flexible and reliable services".

NetActuate's range of network infrastructure services include virtual servers, bare metal, IP transit and its *Anycast* platform. It describes the latter as a way to route network traffic that "dramatically increases" the speed and reliability of data, application and content delivery to users. "With *Anycast* routing, one IP address becomes reachable at multiple geographic locations," states NetActuate on its website.

The firm's new location is connected to a global network which, says NetActuate, provides clients with access to more than 3,100 peers and over 30 additional "world class" data centres around the world.

US-based NetActuate operates 32 enterprise-class, carrier-neutral data centre locations around the world. In Europe, these include Amsterdam, Bucharest, Frankfurt and Paris, as well as two London facilities that also include Telehouse.

The new UK location is operated by Volta Data Centres in central London. It has multi-factor security with fully redundant power and cooling. The facility also has two separate 33kV supplies, plus two independent grid substations for a total incoming feed capacity of 9.6 MVA. Customers in this location can also benefit from low-latency connectivity to LINX. ■

Volta claims to offer "industry-leading" power resilience in central London with a site that benefits from a total incoming feed capacity of 9.6 MVA.

IIC and OpenFog join forces

The Industrial Internet Consortium (IIC) and OpenFog Consortium have agreed in principle to combine.

The combined memberships will continue to drive the momentum of the industrial internet including the development and promotion of industry guidance and best practices for fog and edge computing. The organisations expect the details to be finalised in early 2019.

The move will bring OpenFog members into the IIC organisation at a time when their complementary areas of technology are emerging in the mainstream.

"This agreement will help accelerate the adoption of the IIoT, fog and edge computing," says IIC president Bill Hoffman. "The Industrial Internet Consortium, now incorporating OpenFog, will be the single largest organisation focused on IIoT, AI, fog and edge computing in the world. Between both of our organisations we have a remarkable global presence with members in more than 30 countries."

OpenFog chairman and president Matt Vasey, who is also director of AI and IoT business development at Microsoft, says: "It has increasingly become apparent that we share so much synergy with the efforts of the IIC that it just made sense to bring the two consortia together. ■

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KADIUM

THE WORLD ACCORDING TO...

Annie Andrews, head of technology at Microsoft recruitment partner, Curo Talent

Encouraging a DevOps culture

There's no magic pill, quick fix or easy answer to creating a successful cultural change – and transitioning to DevOps is no exception. DevOps isn't simply about deploying digital tools. For a successful strategy, organisations must encourage debate, enable visibility, and improve internal communications.

A common challenge of DevOps is ensuring both teams – development and operations – respect each other's thoughts and opinions. There have often been long baked-in divisions between these teams, both organisationally and culturally. Colleagues from both departments will come with past experiences and motivations which may be at odds with the mindset required to make DevOps a success.

To get around this, organisations should make the decision-making process simple and without hierarchy. Teams should be able to have an open and respectful debate and, fundamentally, everyone will be working towards the same objective. Information sharing tools can therefore make the decision-making process easier, as actual production and build metrics will be visible to all.

Data is not subjective. Ensuring visibility of live running statistics will therefore ensure that decisions are made based on actual performance information, rather than the personal opinions of workers in either team. This reassurance through visibility can improve team dynamics, as it reduces the feeling of risk and uncertainty.

In fact, when researchers at Google studied more than 180 engineering teams, they found that the most important factor in predicting one that was high performing was psychological safety – feeling safe when taking considered risks within the team. In a relatively new area of collaboration, like DevOps, this sentiment could not be more critical.

Cultural hesitations can also be made easier by publicising the success of projects that have been completed this way. Perhaps more importantly, organisations need to be clear about the benefits that DevOps is providing to specific teams. Some workers can be shortsighted and will have a natural bias to strategies that clearly complement their own efforts. Successful communication of the benefits of DevOps will differ between workers from development and operations, so organisations should consider this in their internal communications strategies.

The goal of DevOps is to help deliver software quickly, robustly and efficiently. However, it is often misinterpreted as simply a need to deploy new technological tools to meet this goal. In practice, DevOps relies more on cultural acceptance than the integration of new tools. Of course, the organisational change can be supported by a collection of improved software development practices. But organisations cannot rely only on these tools. Ultimately, it starts with a change to people's mindsets.

Average cyber attack costs $1.7m

The average cost of a cyber attack has climbed to $1.1m (around £855,000), according to Radware. For those organisations that calculate rather than estimate the cost of an attack, that number increases to $1.7m (around £1.3m).

For its *2018-2019 Global Application and Network Security Report*, the cyber security and application delivery solutions specialist leveraged vendor-neutral survey data from 790 IT executives spanning several industries around the globe. It also utilised its own hands-on experience of handling today's leading threats as well as third-party service provider commentary.

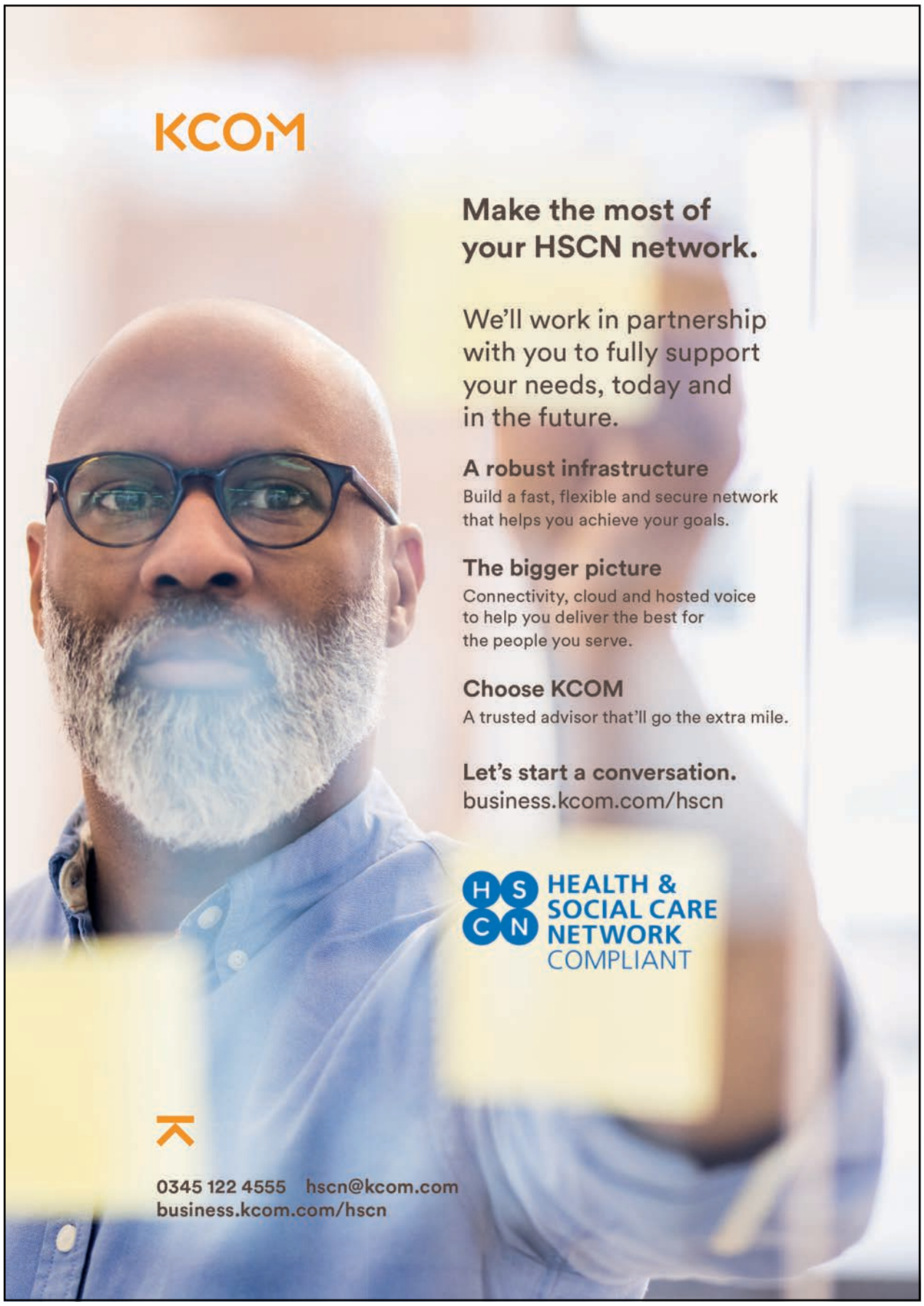
Radware discovered that while the cost of attack mitigation continues to rise, so does the number of organisations under attack. It says most have experienced some type of attack within the course of a year, with only seven per cent of respondents claiming not to have experienced an attack at all. Twenty one per cent reported daily attacks, representing a rise from 13 per cent last year.

The firm adds that not only are attacks becoming more frequent, they are also more effective: 78 per cent of those hit by a cyber attack experienced service degradation or a complete outage, compared to 68 per cent last year.

According to the study, the top impact of cyber attacks is operational/productivity loss (54 per cent) followed by negative customer experience (43 per cent). Forty-five per cent reported that the goal of the attacks they suffered was service disruption, while 35 per cent said the aim was data theft.

Jeff Curley, head of online and digital for Radware UK, Ireland and the Nordics, says: "This year, we've seen a real shift in the impact an attack has on a company financially and it's especially interesting that more companies are taking the time to calculate the loss, not just estimate it. That's not surprising given how volatile economies are at the moment.

"Understanding the impact of downtime on productivity as well as sales and consumer trust is essential to justify spending money on protecting the business in the future, and staying competitive." ■



Infracapital to buy stake in SSE

Infracapital, the infrastructure equity investment arm of M&G Prudential, has reached an agreement to buy a 50 per cent stake in SSE Enterprise Telecoms (SSE) for up to £380m. The sum comprises £215m to be paid on completion of the transaction which is expected by the end of June 2019, and up to £165m to be paid in instalments, subject to future performance. The transaction will create a shared ownership structure designed to accelerate SSE's plans for growth in the fibre sector. The company currently runs a 12,000km nationwide fibre network. SSE will retain the SSE Group as a key funder and anchor customer whilst gaining from Infracapital's claimed experience of driving rapid growth and its access to additional capital. ■

New ownership for IDEAL Networks

CBPE Capital has acquired a majority ownership position in testing specialist IDEAL Networks. CBPE is acquiring the business from its former parent, IDEAL Industries, and will be investing alongside the incumbent management team led by CEO Paul Walsh. Terms of the transaction have not been disclosed. According to Walsh, IDEAL's business will continue as normal across the world with no interruption of supply through it distribution partners. He adds: "What will change is our ability to respond even faster to market needs through innovation. We will see the company brand evolve over the coming years, but not straight away." ■

Corel acquires Parallels

Corel Corporation, the Canada headquartered company famed for *WinZip* and *CorelDRAW* graphics software, has acquired Parallels. Financial details of the transaction have not been disclosed. Corel says it plans "significant" investment into the Parallels business and that its sees "exceptional" opportunities for growth by leveraging the strengths of both companies' customer bases, partner networks and globally known brands. The firm adds that the combined companies deliver applications and services across multiple platforms, including *Windows*, *macOS*, *iOS*, *Android*, *Chromebooks*, *Linux*, *Raspberry Pi*, and the cloud. Corel now offers the complete Parallels product line which includes *Desktop for Mac*, *Toolbox for Windows and Mac*, *Access*, among others. ■

Redundant fibre used for rail terminal surveillance

A video surveillance system based on an AMG Systems-supplied Ethernet switch network is helping to protect the UK's first new inland rail freight hub for over a decade.

The iPort project near Doncaster offers six million square feet of space across 337 acres. The site is already home to large distribution facilities for companies such as Amazon and Lidl, and occupancy is set to expand in the coming years.

The newly developed iPort Rail terminal is located on its own 30-acre site within the campus. Tenants can directly approach the rail terminal using their own specialist vehicles on the facility's private roads.

Buckingham Group Contracting was responsible for the work on iPort Rail, and it worked with CCTV specialist Daemon Fire and Security to implement the video surveillance system for the perimeter.

The system features 32 Bosch cameras mounted on 18 Altron towers. The cameras are monitored and recorded using Bosch's video management system and analytics and are networked using equipment and expertise from AMG Systems.

Daemon and AMG designed a failsafe fibre optic ring system together, as Chris Tattersall, technical director at Daemon, explains: "From the gatehouse, there's a fibre optic cable which goes around every camera tower and loops back to the gatehouse. It's a redundant ring, so if they get a fault or deliberate cut, everything will carry on working.

The networked surveillance system features 32 Bosch cameras mounted on 18 Altron towers.

Tattersall adds that industrial PoE switches have been deployed in the towers so they can withstand the low temperatures that can occur during cold winters in the relatively open site. It's claimed the 20 managed switches used are able to operate in temperatures ranging from -40ºC to 75ºC.

Daemon's video surveillance project took around 10 weeks in total, including implementation and commissioning. It was handed over on time and installed on target. ■

Gateshead NHS Trust streamlines patient care with Yellowfin BI

Gateshead Health NHS Foundation Trust has deployed Yellowfin's business intelligence and analytics technology to help cut data processing delays and meet clinical targets.

As an NHS trust, Gateshead must work towards nationally mandated performance and KPI metrics. David Thompson, Information and Development Manager, says: "Our team would spend a significant amount of time preparing this information and supporting root-cause analysis when needed.

It was considered that the trust's existing tools, such as *Cognos* and *QlikView*, were not being used to their full potential. As a result, the organisation decided to move to Yellowfin BI. Beyond the data and analytics team, the vendor's business intelligence software is accessed by more than 100 staff members, and its content is consumed by hundreds of people beyond just those with a licence.

Thompson says Yellowfin has removed a "huge" amount of administrative work for the analytics team. He estimates that it has saved the team around six to eight days of data processing per month, and improved the visibility across the business into KPIs and performance metrics.

The adoption of Yellowfin has also helped the chief clinical information officer to track and manage clinical metrics such as 'Patient Flow'. The firm this ensures patients are being seen as quickly as possible, and that ancillary services like nutrition or physiotherapy are being delivered effectively so that patients can be discharged as quickly and as safely as possible. ■

Connecting the NHS – Real World Networks, p8

TNP to advise public sector in Scotland

Public sector network specialist TNP (The Networking People) has been awarded a place on a new network advice Dynamic Purchasing System (DPS) established by the Scottish government. The system aims to give organisations, including local authorities, health trusts, universities and colleges, and easier access to a full range of technical network advice.

The DPS is said to build on the success of the Network Enablement Services Framework originally created by the Scottish government in 2014 to maximise efficiency and collaboration by embedding sustainable procurement for public sector network services.

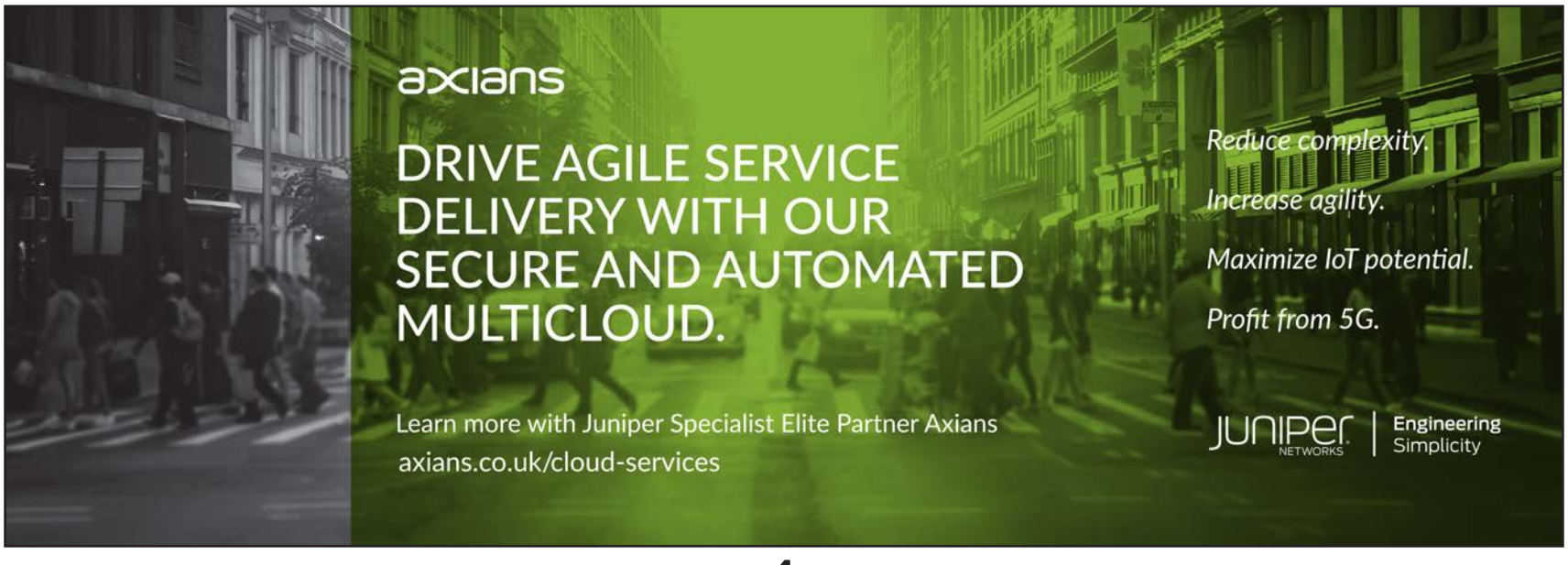
The new electronic process is designed to further streamline procurement of advice for organisations seeking to develop, enhance and secure their network infrastructure. TNP commercial director Chris Wade says: "Existing public sector network configurations often don't provide the flexible and resilient infrastructure they need, so we can provide expert advice and guidance to ensure that improvements are cost effective and fit for purpose."

Wade claims TNP has extensive experience within the public sector across the UK and is familiar with Scotland's specific requirements having worked on a number of projects including creating networks in the Highlands and Islands (*see News, May 2014 issue*).

Contracts will be awarded via call-offs issued through the DPS by Scottish public sector organisations inviting tenders for in-scope services. These may include: advice in relation to network security, integration or upgrades; IoT integration; audit and analysis of network services; infrastructure project management; and migration of existing services implementation.

It can also encompass added value elements such as network monitoring, health checks and security services, along with network support for staff moves. ■

Commercial director Chris Wade says TNP's public sector experience shows that better network performance is often achieved by using the client's existing infrastructure.



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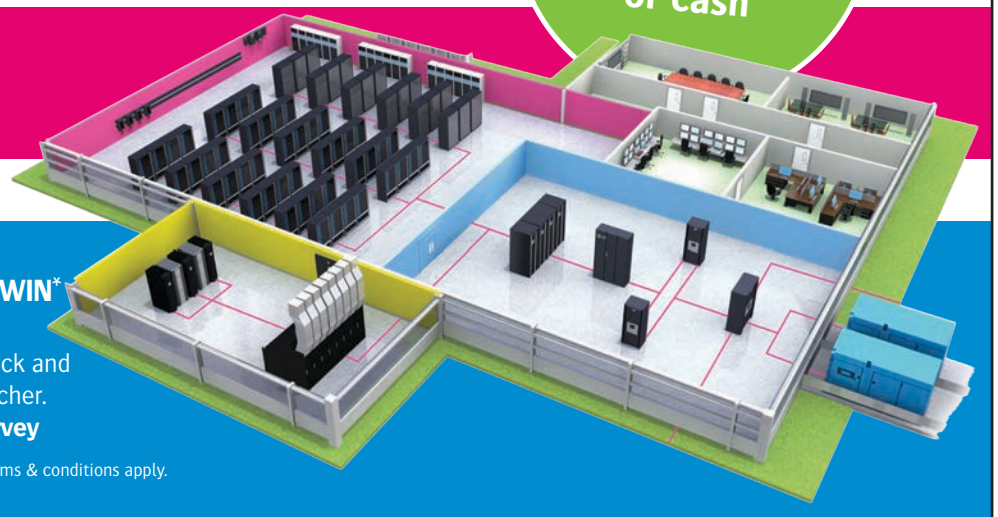

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UK's first cloud-based police control room system

G4S has awarded Motorola Solutions a 10-year contract to deliver the UK's first cloud-based, integrated *CommandCentral Control Room Solution* (*CRS*).

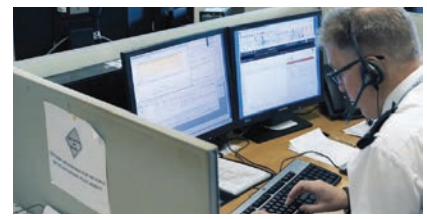
Lincolnshire Police will use the platform to benefit from a continuous workflow experience. It's claimed the solution will enable control room operators to handle calls faster, make more informed decisions, allocate resources more efficiently as well as coordinate seamlessly with other support organisations.

Motorola says its *CRS* provides a unified and "highly scalable" platform that integrates multiple control room functions, including integrated communications control system, contact management, computer-aided dispatch, mapping and call logging.

The company adds that as the first cloud-based system of its kind used by a UK police force, *CRS* will also "significantly simplify" management for Lincolnshire Police's IT team. For example, the 'as-a-service' scalability and flexibility benefits of cloud mean it is no longer necessary to pre-determine how many fixed positions or how much data capacity is required, says Motorola. Furthermore, it says there is no need for a dedicated backup in the case of a site failure. This helps Lincolnshire Police reduce costs and increase operational flexibility.

"Our drive to provide cutting-edge technology to the force is about making sure we provide the most efficient and effective service to the people of Lincolnshire," says Marc Jones, police and crime commissioner for Lincolnshire Police. "The new command and control system is one important step in that journey and will allow the chief to get assistance to those in need quicker than ever before – and armed with the right information to handle the situation."

As well as deploying Motorola's *CRS*, Lincolnshire Police is also a current user of the company's *Pronto* suite of mobile workforce applications that digitise all frontline operational workflows. This is integrated with the control room platform, which means that officers using *Pronto* can now also gain direct access to command and control, and the Police National Computer from the field.



The cloud-based solution aims to simplify management and reduce costs while increasing operational efficiency for Lincolnshire Police.

The solution also sets Lincolnshire up to use the enhanced data capabilities of the Emergency Services Network (ESN), although this has now been delayed (*see News, Oct 2018 issue*). ■

Cost of cloud maintenance higher than expected for most businesses

More than six in 10 organisations believe that the actual costs of maintaining cloud technologies are higher than they expected, according to research by SoftwareONE.

In an independently conducted survey, the software and cloud portfolio management polled 250 IT and business decision-makers from a variety of UK organisations with at least 500 employees. Respondents were taken from a wide variety of different organisations including IT, tech and telecoms, retail, distribution and transport, finance, public sector, among others.

Sixty-two per cent of respondents said that the price of keeping resources in the cloud was greater than anticipated. SoftwareONE says this suggests that despite the benefits cloud brings, businesses can run into difficulties if they do not have the technology, licensing agreements and ongoing monitoring procedures in place to effectively manage and optimise cloud-based software and applications within their wider IT estate.

The study also found that 36 per cent of businesses feel that XaaS offerings have increased in complexity over the past two years, with an additional 33 per cent believing that the level of complexity has remained unchanged in this time.

When viewed alongside the unexpected management costs associated with the cloud, SoftwareONE reckons it becomes clear that cloud deployments are "fraught" with challenges if businesses do not have the means to administer the various elements of their implementations effectively.

Zak Virdi, the company's UK MD, says: "It's clear that the rapid growth in cloud services and options – while providing an exceptional level of choice to businesses – is also leading to organisations struggling to fully maximise cloud investments while keeping expenditure as low as possible."

To illustrate this point further, 44 per cent of those surveyed said budget restraints often push their organisation towards choosing second or third choice technology options, rather than the one they felt was ideal for them. Moreover, 38 per cent said that the management of licences and subscriptions for both cloud deployments and on-premise software pose a "significant degree of complexity". ■

THE IoT CONNECTION News & developments from the world of the Internet of Things. This month, we look at mobility.

Ordnance Survey and Mobileye to deliver roadside infrastructure data

Ordnance Survey and Mobileye have teamed-up to deliver high precision road network location data to enable a fully connected digital Britain.

The mapping agency says its "world-leading" geospatial and technology expertise will be paired with Mobileye's automotive camera-based mapping capabilities to offer a new, accurate location information service to customers from many markets, including the energy and infrastructure sector.

The partners say the data will also support the successful rollout of technologies for new market segments, including 5G, intelligent mobility and connected autonomous vehicles.

Part of Intel, Mobileye specialises in the development of computer vision and machine learning, data analysis, localisation and mapping for advanced driver assistance systems and autonomous vehicles. The company says its products are also able to detect roadway markings, identify and read traffic signs, provide mapping for autonomous driving, and more.

Using Mobileye's technology, vehicles will gather large volumes of location data on road networks and roadside infrastructure. The collected data – which includes lamp posts, manhole covers and road markings – is then cross-referenced with existing geospatial datasets, such as Ordnance Survey *MasterMap*. This will then help develop accurate maps of Britain's roads and surrounding infrastructure with what's described as "amazing" detail and precision.

By enabling a stronger view into overground and underground assets, the partners say companies can more efficiently plan and manage maintenance needs, service upgrades or other necessary work.

Professor Amnon Shashua, president and CEO of Mobileye, says: "Using maps to improve operations between businesses and cities will bring us closer to the realisation of smart cities and safer roads."

According to Ordnance Survey CEO Neil Ackroyd, detailed and accurate geospatial data is essential for the success of projects such as 5G, IoT and connected and autonomous vehicles. He believes that new rich data that will be created will be key to how vehicles, infrastructure, people, etc., will communicate in the digital age. For example, it's claimed utility companies are set to benefit from the data as it will enable them to maintain the precise location of their assets on the ground.

The high-speed race to achieving successful autonomous driving

Manufacturers and suppliers in the automotive industry are in a high-speed competitive race to progress their capabilities in autonomous driving. Processing and storing huge amounts of data to safely support the necessary programmes needed to run autonomous vehicles is a hurdle for the industry as a whole. At the centre of this challenge is the critical role of the network and requirement for secure, reliable, low latency connectivity.

Tagging is one of the best ways to prepare autonomous vehicles for potential situations they may encounter on the road. This entails tagging objects using specialised technical videos and images for specific driving scenarios. The driving software then uses these tagged images to learn how to recognise these objects under different conditions.

This is important for autonomous vehicles, particularly when it comes to safety. For example, let's say we tag objects in a video of a deer located 50 metres away from a moving vehicle and record the vehicle's reaction. This video can then be used to teach the autonomous vehicle what decision to make in this particular situation, based on what it 'sees'. Machine learning technologies are teaching the vehicle how to behave on the road.

There are an infinite number of situations a vehicle could encounter. This is why the data generated is currently evaluated and categorised using big data analytics and high-performance computing. In order to make autonomous vehicles work for the masses, this data has to be transported quickly and efficiently for processing.

Tom Major, director of sales engineering at GTT, explains the importance of cloud networking and 'Big Data' in the race to cross the finish line first.

Currently, development processes for autonomous driving are taking place in data centres located worldwide. It has become clear that companies driving innovation in this space need data network infrastructure capabilities that are reliable and fast enough to share the processed information that autonomous vehicles need to function safely.

With applications like autonomous driving, which require a dynamic network infrastructure, it's important to work with network service providers experienced in managed solutions that can offer options tailored to specific performance, latency, security and reliability requirements for each use case. This can range from small latency-sensitive data transfers up to high volume bulk data transfer. Therefore, the ability of the service provider to deliver low latency services, as well as more dynamic SD-WANs, ensures that your data is routed fast and efficiently.

Whilst we won't be spotting autonomous vehicles parked on our streets just yet, fast and secure connectivity will play a large role in supporting a safe and seamless experience.

We're getting better all the time

How IT networking technologies are helping NHS organisations deliver higher quality patient care.

Raphael has finger on the pulse with unified comms

Established in 1983, the Raphael Hospital is said to be the largest independent neurological care provider in England, with more than 500 staff and a turnover of £35m.

As well as its original hospital in Hildenborough, Kent, and a second site in Brighton, the hospital recently expanded its service with the acquisition of Glenside Manor Healthcare Services in Farnborough and Salisbury. As part of this expansion, it wanted a new communications platform to ensure a uniform experience for workers and patients.

Historically, Raphael's communications had revolved around ADSL connections and deskphones. This had been sufficient to keep care and administrative staff connected at the original location.

However, with the Glenside acquisition greatly increasing the size and geographic range of the organisation, it became clear that a more cost-effective option that would allow staff to communicate more efficiently and effectively was needed.

Jack Wise, business and comms lead at Raphael, says: "Given the scale of the acquisition, one of our primary aims was to ensure we could unite as a single business and prevent any culture clash. We needed to be certain that, wherever in the UK or even beyond our workers were, they could communicate with one another effectively and immediately."

On the advice of its technology partner, Fluent Technologies, the hospital opted for 3CX's unified communications (UC) platform. Wise says the switchover went as smoothly as his team could have hoped: "Since 3CX's platform is entirely software-based, it was a matter of logging onto the platform and pressing a few buttons. In all, the switchover was completed with only 20 minutes of downtime – it took longer to collect our old ISDN phones than it did to get 3CX running smoothly."

As a result of all the benefits that UC brings, care staff are now more efficient and can concentrate more of their time on their key roles of patient safety and care. And not only does Raphael now have full UC between all of its UK locations, it has also recorded a 62.5 per cent saving compared to the cost of its previous ADSL services.

Wise adds that the biggest unexpected benefit of 3CX's system has been its simplicity. "Administrators, doctors and nurses don't need any extra training to use the technology – they can simply pick up a device and use it the same as any other application. Similarly, adding new workers and new locations is even simpler than the initial implementation.

"As a result, we can communicate with our clinicians wherever they are in the world, meaning our patients are assured of the best possible care. We are planning to use 3CX in our expansion into new regions, such as Germany."

Carelink provides crucial support for medical software

Edinburgh-based Clevermed is using hosted infrastructure services and connectivity to the Health and Social Care Network (HSCN) to provide NHS trusts with access to its specialist medical software.

The company's products include *BadgerNet Maternity* which provides real-time recording of all clinical events wherever they occur. It is said to be in use by more than 23 NHS trusts and health boards, recording around 120,000 pregnancies every year. Clevermed also offers *BadgerNet NeoNatal*. It creates a single record of care for all babies within neonatal services and is currently claimed to be in use at more than 250 hospitals throughout the UK, New Zealand and Australia.

Providing a single record of care solution for patients across all connected hospitals, Clevermed needed its software applications to be hosted securely and reliably.

In 2012, it chose to work with managed application hosting provider Carelink which was one of the first companies providing connectivity to HSCN.

Jane Stephenson, programme manager at Clevermed, says: "Our software, hosted by Carelink and connected to HSCN, effectively replaces the function of patients carrying paper notes between appointments. The full software application is available to medical staff in any location and, with permission, patients can also access a controlled, summary record themselves via an *Android* or *iPhone* app."

Since 2012, Clevermed has scaled its servers and hardware to cope with increasing demand. This has evolved from hybrid architecture using dedicated storage arrays combined with shared cloud servers, to a higher performing private cloud platform which incorporates the clustering and SAN technologies.

Furthermore, the number of trusts, clinicians and patents using the service over the last few years has increased ten fold in the case of maternity services.

In the future, care records might include video files, scans or other images. At the moment, for example, 4D pregnancy scans are hosted locally by each individual hospital because of costs. But as storage costs reduce, it's highly possible these could also be stored centrally on the Carelink infrastructure.

Vital signs poor for Imperial College Healthcare's SAN

Imperial College Healthcare NHS, has deployed Tintri's flash storage systems as a central piece in its virtualisation strategy. Since deployment, it's claimed the health trust has seen notable benefits including increased storage performance and capacity, as well as a reduction of downtime and administration.

Imperial College Healthcare NHS was formed in 2007 by the merger of Hammersmith Hospitals NHS Trust and St Mary's NHS Trust with Imperial College London Faculty of Medicine. It is one of four major trauma centres in London, managing five hospitals in the capital. The trust is said to be one of the largest in England, employing close to 10,000 people and treating more than a million patients each year.

Imperial College had begun the process of virtualising its server infrastructure but its enterprise SAN was not meeting performance and capacity requirements. IT staff were constantly tuning storage to maintain performance, drawing them away from higher impact projects. With around 1,500 VMs, this represented a significant resource overhead.

After considering a number of alternative resolutions, the IT team at Imperial College deployed three Tintri systems. It's claimed that immediately, the time spent managing storage dropped to near zero.

Tintri's platforms supported the trust's workloads across both VMware and Hyper-V, shrinking the storage footprint. Furthermore, Tintri says its VM-level quality of service controls allowed critical virtual machines to "perform flawlessly at all hours of the day". As a result, Imperial College was able to re-deploy its SAN storage to focus on physical servers and file servers while Tintri managed the virtual estate.

Yusuf Mangera, technical architect at Imperial College Healthcare, says: "The results have been remarkable. We haven't had to look into any performance related problems at all. Tintri just works to the point where people have forgotten that the appliances even exist."

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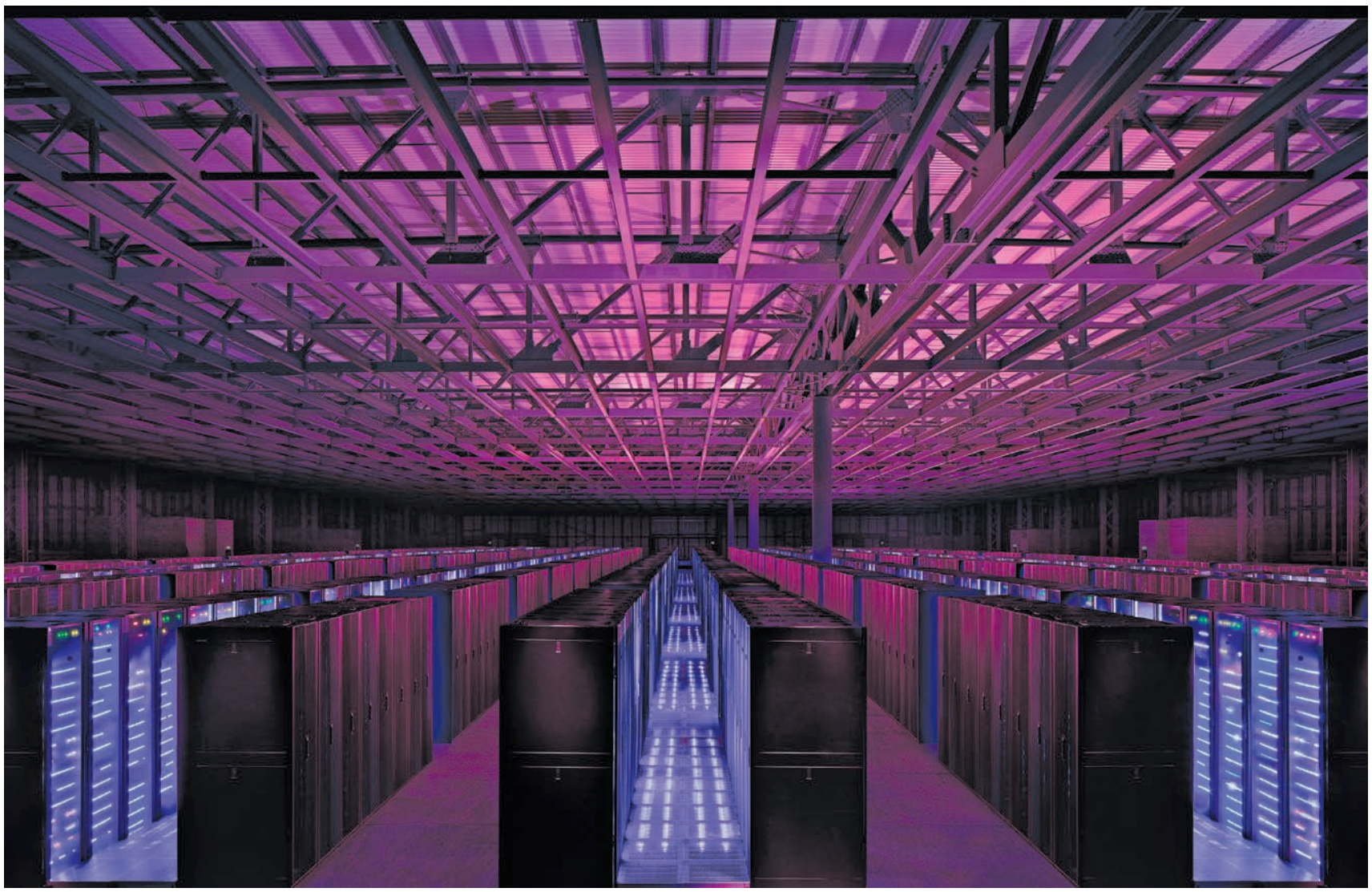


Next Generation Data claims it was Europe's first data centre to source all its power from renewables.

Corridors of power

The IoT, 5G, 'Industry 4.0'… As demand for data continues to skyrocket, RAHIEL NASIR wonders whether the energy efficiency challenges for data centre operators are set to worsen, especially as we move into the hyperscale era.

The environmental impact of data centres has been well documented over the years. But are they actually getting 'greener'?

"We're seeing a growing divide between increasingly larger hyperscale centres supporting the latest cloud technologies, and much smaller Edge locations where the picture is much less clear," says Dr. Stu Redshaw, CTO at data centre energy optimisation specialist EkkoSense. "It's fair to say that, given the huge volume of IT loads being processed, the larger centres have less of an environmental impact than their predecessors."

Lex Coors is likely to support this view. He's the chief data centre technology and engineering officer at Netherlands-based Interxion which is one of the world's largest data centre operators and currently runs 50 facilities in Europe."If we look at the hyperscale companies in the US, there is a push towards establishing off-grid and greener sustainable energy sources, such as wind and solar. In Europe, sustainable energy sources are lower in cost than traditional 'grey' power energy sources. Due to the rise in popularity of sustainable energy sources, the cost per kWh has been going up, but the trend towards sustainability remains. As a result, data centres are increasingly committed to getting 'greener' when it comes to improved energy efficiency and the use of alternative energy sources."

Coors claims Interxion has two unique design examples where the company has tapped nature, rather than the grid, to offset energy expenditures.

"In Copenhagen, we've taken advantage of the local subterranean geology to build two reservoirs. There, water is naturally cooled by the Earth and pumped from one reservoir to the other through a heat exchanger in the data centre. At our centre in Stockholm, a seawater cooling system pumps cold seawater through the HVAC system but unlike typical water-cooling systems, Interxion runs the same seawater through multiple data centres, saving even more energy and reducing energy costs by 80 per cent at the campus."

Rik Williams, data centre operations manager at Node4, agrees that the use of such adiabatic cooling solutions in dealing with higher operating temperatures represent the biggest moves in data centre infrastructure. He says: "For hyperscale and cloud providers, the use of more energy efficient servers and storage is improving the services that can be delivered for a set amount of power. So overall, businesses are now getting a lot more performance per KWh."

However, according to data centre design and build firm Secure I.T. Environments, while there are many specifications that look for efficiencies at maximum design, it is also important to look at the greater potential of efficiencies at part load conditions. "[This is] hugely overlooked in the industry," says company owner Chris Wellfair. "Our experience tells us that data centres never get to their maximum design load.

Wellfair continues by saying that he is also seeing a greater desire amongst clients to source products with greater efficiency. "The more eco-friendly customers have a greater appetite to spend more capex to achieve greater opex, based on a robust business payback model. So yes, data centres are getting greener as clients either spend on more enhanced products or by default as manufacturers are forced to innovate and become more efficient to maintain their market share."

SPIE UK works with data centres across Europe to help them manage their operations and energy efficiency with a claimed emphasis on green technology. The company's data centre director Peter Westwood says indications from industry surveys suggest an increase in using green service providers over the last three years, approaching a 10 per cent improvement. He also points out that while free cooling solutions have increased, many existing centres continue with more traditional cooling solutions.

However, Westwood says the key issue in the coming years is that data centres are likely to increase global energy consumption by a factor of four.

"With global population expansion leading to more people going online, and more nations striving for more technology-based societies, it is inevitable that global power consumption will increase by up to 300 per cent by 2024.

"Data centres already consume about three per cent of global power and the global exchange of data is more than doubling every four years. With this, data centres as we currently know them could reach more than 20 per cent of global power usage by 2025."

Westwood goes on to warn that if current trends continue, data centres could account for 14 per cent of global emissions by 2040.

The greening of the Fourth Industrial Revolution

So as we head into the so-called 'Fourth Industrial Revolution' (a.k.a. 'Industry 4.0'), fuelled by tech innovations that will be predicated on 5G, the Internet of Things, machine learning, etc., how will data centre operators continue to keep their cool?

"Whilst the management of the data centre gets harder as the resources increase, the actual basics of achieving efficiency remain the same," says Wellfair. "Equally, one of the key characteristics of 5G, IoT and other technologies, is that they are designed to be more efficient than the generation before. In the case of IoT, these devices are all about energy efficiency, as many operate in isolated locations, or their physical size is so restricted that power consumption has to be minimised."

EkkoSense's Redshaw also sounds a note of optimism when he says that, if anything, anticipated additional load demands on data centres should help to increase the need for centres to become more energy efficient. He reckons thermal optimisation has a key role to play here, particularly as making existing data centre cooling more efficient will help unlock additional capacity without the requirement for expensive new cooling infrastructure.

Redshaw also expects the shift towards hyperscale to ease the overall energy efficiency problem thanks to increased cloud and data centre optimisation. Node4's Williams is likely to support this view when he says that it's "relatively easy" to be energy efficient in large data centres hosting hyperscale cloud platforms because you can site them in optimal locations (if latency is not overly critical).

Carlini adds his voice to this aspect of the discussion when he says that one trend Schneider has witnessed is a desire among hyperscale operators to move medium voltage power closer to the IT load. "Technically that makes sense; there is less copper wiring needed and circuit breakers can be smaller, but the problem is that even with medium voltages you are talking about 10kV and it is extremely dangerous to place such equipment in close proximity to people, so there are safety concerns that must be addressed."

He says another technology beginning to gain traction as a means of reducing IT power consumption is liquid cooling. "This is not a particularly new technology and it has been deployed in HPC (high-performance computing) environments for some time. But it provides great efficiency benefits, as water and other liquids are more effective cooling media than air. However, there is a trade-off to be made in terms of maintenance and serviceability. Hyperscale data centre operators have become extremely efficient at servicing IT equipment and replacing malfunctioning parts with the minimum of downtime, but having servers immersed in liquid complicates that process.

"Nonetheless, as procedures become more efficient over time we expect that liquid-cooling of data centres, especially large hyperscale facilities, will become a major part of the drive towards greater efficiency."

Interestingly, the growing size of data centres is not an issue when it comes to future cooling needs. Both EkkoSense and Node4 believe it is Edge computing that will actually present a greater problem.

Redshaw says: "The energy efficiency challenge will actually evidence itself at the other end of the spectrum – the edge of the IT estate – as processing power divides into small modules at the point of use. This is not only difficult to monitor from a thermal and power perspective but is also complex to manage as part of an end-to-end data centre estate."

Williams concurs: "The challenge is for services using edge data centres to minimise latency and bandwidth, as we may begin to see more small scale and inefficient data centres in urban areas which can reduce the overall energy efficiency of the solution."

Is PUE enough?

When measuring a data centre's energy efficiency, does the oft-used PUE (power usage effectiveness) rating provide the best gauge?

"PUE is of course still a useful metric to determine the overall electrical efficiency of a data centre, but it does little to address the issue of overall power consumption," says Carlini. "Other metrics have been tried such as CUE (carbon usage efficiency) and WUE (water usage efficiency) but they have not proved as popular as PUE, which remains the most effective way to benchmark data centres of any size against comparable installations."

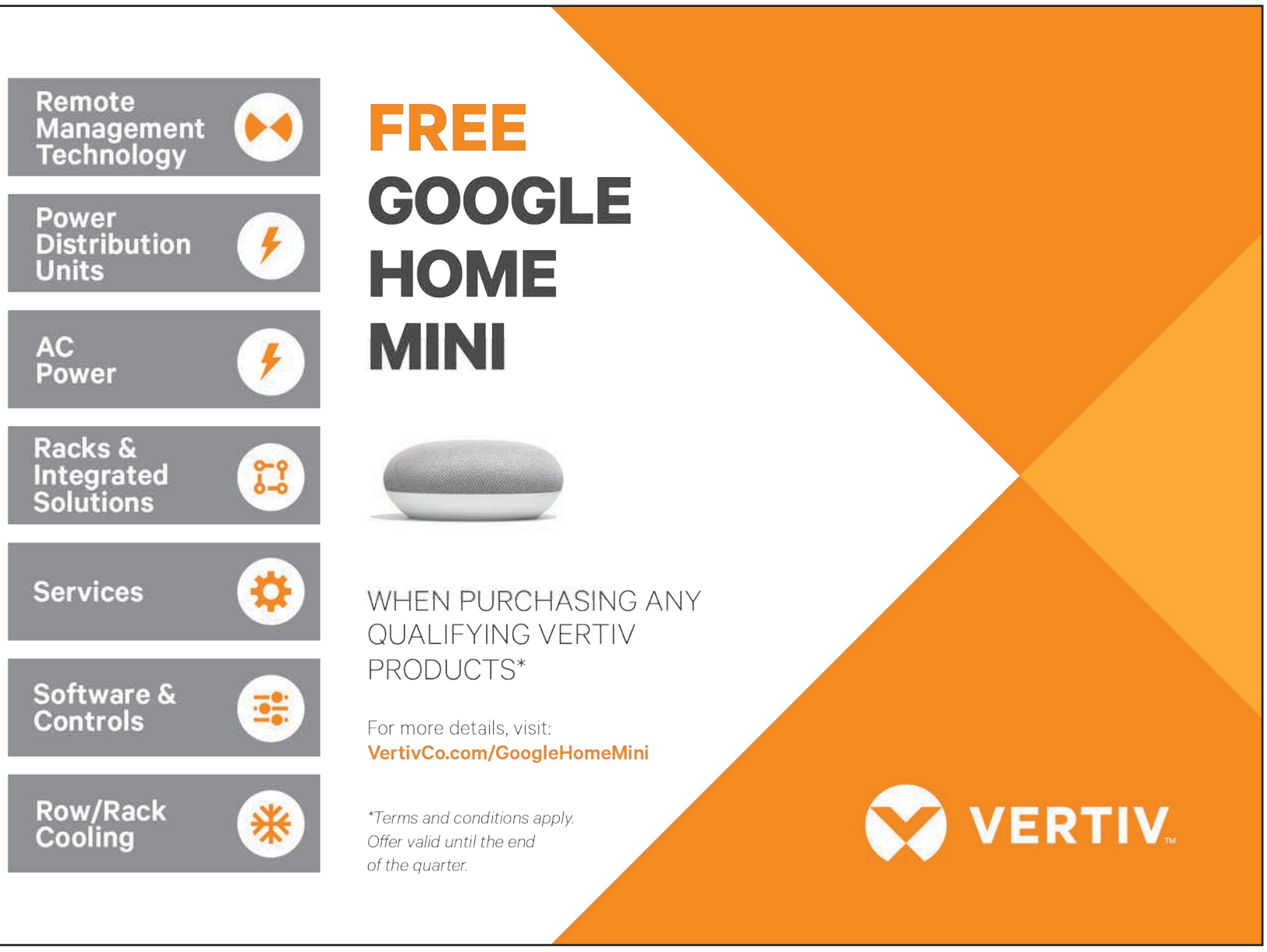
Many of the commentators we spoke to agreed that PUE is not a measure for sustainability. For instance, Redshaw says it's never enough just to calculate a PUE score and consider yourself 'green' if you've achieved an impressive PUE rating. "What's more relevant is whether you actually have a strategy to improve and reduce your PUE rating. If that's in place, you should be well on your way to continuously improving your data centre performance across all metrics, including PUE."

"You probably need to avoid getting sucked into expensive and over-complex DCIM investments."

Dr. Stu Redshaw, CTO, EkkoSense

Furthermore, others such as Williams, point out that the "classic PUE" will need to be adjusted to take better account of the energy saved by using water with adiabatic cooling, and to factor in onsite generation through solar and wind power.

Wellfair also supports this view: "Unfortunately, the industry has only



developed PUE as a metric to measure data centre efficiency, and the diversity of cooling products can skew this figure to the advantage of some providers.

"PUE is only a 'point in time' measurement. Therefore, caution should be exercised when comparing claims on tenders that are very low. Secure I.T. Environments will often offer competitive energy leading solutions for projects but with an option for the enhanced and more energy efficient solution. This way a client can decide to spend more to ensure greener credentials, or pick the more common solution accepted in the industry.

"In providing this, we offer an 'annualised' PUE figure which shows an average of winter, summer and two seasons of mixed conditions. This demonstrates an open and honest approach for the whole year's performance."

Interxion's Coors also points that regulations vary considerably region by region. For example, he says that in the Netherlands, and more specifically the Amsterdam area, regulations are fairly rigid. "Government organisations only give a permit for the construction and operation of data centres once it can be proven that the design has a maximum PUE of 1.2. In other countries, the rules are not as strict."

"We expect that liquid-cooling of data centres will become a major part of the drive towards greater efficiency."

Steven Carlini,
VP innovation and data centre IT division, CTO office Schneider Electric

Meanwhile, Next Generation Data (NGD) claims it was Europe's first data centre to source all its power from renewables. This is said to support what's described as the company's "industry leading" PUE credentials – in 2014, NGD announced what was said at the time to be the first PUE rating of 1.0. In addition to this, commercial director Simon Bearne says NGD also has BSI ISO 14001 and UK Government Climate Change Agreement (CCA) certifications, making it exempt from carbon taxes. "Being 100 per cent renewable used to be unusual. But we've reached a point where the preference is for renewable energy, and it's more of a problem to a customer if they can't get it. We haven't given customers a choice of anything but renewable energy, and given the levels of power consumed in data centres, we think it's the right route to have taken."

If you can't stand the heat…

Going forward, what are the solutions and products data centre managers need in order to stay on top of energy efficiency challenges?

In one word, it's all about cooling.

Coors says: "When it comes to staying on top of energy efficiency challenges, it is important to take into consideration the different design approaches available for cooling systems. The most expensive solution is chilled water (PUE of approximately 1.18) while the lowest cost solution is direct air (PUE of approximately 1.1). Choosing between one over the other is typically dependent on a mix of customer demands regarding price and sustainability requirements."

"Cooling and real-time energy monitoring and management are critical to data centre resilience and uptime as well as in determining a facility's overall PUE," says Bearne. "With cooling typically accounting for 40 per cent or more of a data centre's total energy bill, the more that can

"Our experience tells us that data centres never get to their maximum design load."

Chris Wellfair,
Secure I.T. Environments

be done to optimise and reduce cooling the better from cost, environmental and legislative perspectives."

On the subject of regulations, one particular significant development last month was the announcement that ASHRAE's TC 9.9 *Data Centre Environmental Guidelines* has now been incorporated into the EU's Regulation for servers and data storage products. As Redshaw explains, this means that for European firms, ASHRAE's recommendations are now defined within a regulation and can no longer just be considered as guidelines. He says: "This EU regulation will start taking effect in March 2020, with final implementation on 1 January 2023. So over the next few years, we'll see the data centre energy efficiency guidelines established by ASHRAE TC 9.9 become the *de facto* standard for EU data centres. With today's inevitable Brexit uncertainties, it's perhaps reassuring that there are now common data centre environmental guidelines across both Europe and the US."

NGD's Bearne continues by saying that when it comes to cooling, there are various options and alternatives available: "Some [are] only within the grasp of modern purpose-built rather than legacy facilities, including the harnessing of climatically cooler locations that favour direct air and evaporative techniques; installing intelligent predictive cooling systems; using water, liquid or nano-cooling technologies; as well as prerequisite aisle containment techniques.

"Faced with these challenges, best practice dictates that data centre and facilities professionals will increasingly need to apply real-time Big Data analysis and monitoring techniques for optimising cooling systems plant and maintaining appropriate operating temperatures for IT assets, and all without fear of compromising performance and uptime."

He adds that central to this, and in order to maximising overall data centre energy efficiencies and PUE, are integrated energy monitoring and management platforms capable of integrating the building management system, PDUs and SCADA. "An advanced system will save many thousands of pounds through reduced power costs and by minimising the environmental impact while helping to ensure maximum uptime through predictive maintenance."

This is arguably where specialists such as EkkoSense come in. "You need to have a network of sensors to monitor how your data centre is actually performing – ideally in real-time," advises Redshaw. "A software solution that allows you to visualise this performance, and then improve the real-time management of all your data centre's cooling, power and space aspects is invaluable.

"And you also need access to data centre optimisation expertise to make sure you're making the right decisions when it comes to maximising performance. Get all this right and you'll be well on your way to staying on top of your energy efficiency challenges."

SPIE's Westwood agrees that the cooling system is one of the key areas that can make a data centre much more efficient. But he also points out that there are many other areas of design that need consideration together with new technologies such as immersed liquid cooling, Open Compute Program projects, solar farms, powers cells, and software systems to manage efficiency through data centre infrastructure

A different view of data centre energy management: Secure I.T. Environments says despite renewable energy and more efficient cooling systems, the most important element will be greater use of analytical tools and cloud-based management software.

management. "Data centre concepts are changing, and the boundaries of current technology are being stretched. To stay on top of the energy challenge is both a short- and long-term consideration, where creative and competent engineers will be the key ingredient in the data centre managers toolkit."

Secure I.T. Environments' Wellfair also says that while there is currently great emphasis on renewable energy and more efficient IT equipment and cooling systems, the most important element will be the increased use of analytical tools and cloud-based data centre management software. He reckons that as hyperscale data centres become larger and contain ever greater numbers of products and components, manual operation and management of such facilities will require greater use of analytics, automation and machine learning to ensure efficiency.

"Fortunately, the cost of embedding sensors within critical infrastructure has come down, resulting in much greater numbers of metering points which generate higher volumes of data," says Wellfair. "Furthermore, management tools have improved greatly both in terms of capability and ease of use. Early DCIM tools were complex to install and maintain; today's cloud-based systems are much more flexible, allowing the user to monitor the data centre, or a number of distributed data centres across the network efficiently, in real-time."

Carlini also admits that whilst traditional DCIM is still an excellent tool for managing on-premise data centres – citing an example where a DCIM deployment at a UK university yielded an energy saving worth £125,000 per annum – cloud-based Data Centre management as a Service (DmaaS) systems enable today's businesses to gain greater visibility into a portfolio of facilities across an entire network. "This is an advanced software management solution that will only be viable through the cloud, and as hyperscale facilities continue to grow in number with more edge solutions being deployed to support them, DMaaS becomes a far superior choice to deliver a tangible ROI for today's operators."

Redshaw is clearly no great fan of data centre infrastructure management systems. When asked what are the pitfalls to avoid when it comes to choosing cooling solutions, he says: "You probably need to avoid getting sucked into expensive and over-complex DCIM investments. Far too often, these approaches tend to be much too complex and expensive for most data centres.

"Similarly, I wouldn't rush into CFD (computational fluid dynamics) projects as this often just result in less than objective airflow recommendations that don't necessarily leave you any further forward in your efficiency journey."

According to Redshaw, IT managers need to remember that what they are trying to achieve is the elimination of thermal risk and running their data centres efficiently.

"Where there's any uncertainty, organisations typically resort to over-cooling their data centres, and in efficiency terms, that's an expensive and wasteful approach. We're convinced that effective thermal optimisation means you really don't need to do this; you'll save around 25 per cent of your data centre cooling costs if you get it right."

For Node4's Williams, one of the biggest pitfalls is rushing for the most 'efficient' solution with a view to saving opex on power without understanding any of the other 'hidden' costs, such as water consumption and treatment.

And on the subject of water, when it comes to choosing energy efficient solutions, Coors advises against selecting a design that cannot work without water for adiabatic or open water tower cooling. "Droughts around the world, or the potential for water to be banned or extremely expensive, means that all data centres should be designed so that they can function in the absence of water if needed.

"Another pitfall to avoid is designing a data centre with direct outside air for cooling, built around city centres. These designs typically have the potential of gaseous contamination –something that should be avoided at all costs."

…stay in the kitchen

In conclusion, SPIE's Westwood says the data centre industry remains extremely active, with hyperscale operators driving PUE down to between 1.0 and 1.2 with new developments and greener designs utilising large solar farms, perfect

"Data centres as we currently know them could reach more than 20 per cent of global power usage by 2025."

Peter Westwood,
Data centre director,
SPIE UK

climates and new IT technologies. However, he says these new technologies will take time to demonstrate benefits for other operators and legacy sites with older technologies.

"Data centre owners and operators have often been keen to develop new or improved energy and engineered solutions and to maximise the efficiency of floor space. As such, creative engineering with the ability to provide robust proof of concept is essential."

But in any event, data centre energy efficiency needn't be seen as a cost that data centres have to bear. As Redshaw states, when done right, monitoring, managing and maximising data centre performance leads directly to reduced data centre cooling costs and increased capacity. "At the same time, organisations will benefit from the reduced risk that comes from having a thermally optimised data centre. What's not to like?" ■

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Making great cable connections

We round up some of the latest network cabling solutions. Plus, PAUL HUNTER offers advice on how to make sure data cables are installed correctly and work effectively for years to come.

Having visited many sites over the years, initially as an electrician and now as a BICSI RCDD, I have seen some dubious installation practices. Here are a few essential guidelines to help ensure professional and trouble-free deployments:

Storage: Cables should be protected from environmental influences, i.e. kept dry and within acceptable temperature ranges (refer to the manufacturer's data sheet).

Standards, guidelines and warranties: Always follow local country (and EU) regulations and guidelines specific to the materials being installed. Always follow the manufacturer's guidelines (usually supplied with products or on the web). Make sure your installer warranty certification is up-to-date for on-site staff.

Open installation, wall openings, cable trays, etc.: Lay data cables in separate or divided channels from power cables and always cross at 90° using a bridge. Never exceed the recommended fill capacity (refer to manufacturers manual). Edges of walls and openings should be checked for snagging hazards prior to installation. Cables bundles should be held in place using Velcro ties to avoid crushing and overheating, as it can have a negative effect on the transmission characteristics of the cable.

Bend radius: This should comply with cabling standards; EN50173 states it should always be greater than eight times the outer diameter of the cable during installation (unless otherwise specified on the manufacturer's data sheet). The radius of the containment used to route the cables should also comply. Waterfall fittings, for cable basket and bend radius control corners for trunking, are some accessories that can ensure bend radius is maintained.

Cable pulling: Refer to the manufacturer's product data sheets for recommended tensile strength/pulling force details. Always pull cables directly from the drum or box; for reels, and always use suitable equipment that will ensure free rotation of the reel.

Paul Hunter is technical director at iDaC Solutions.

Bittree describes the *DSFB124NL* series as its next-generation patch panel enclosures. The media infrastructure specialist claims the feed-through, slide-out enclosure solution is ideal for customers managing interconnections and cross-connections within IT closets and data centres, as well as in TV and radio facilities, commercial AV architectures, etc.

The first products in the series include the *DSFB124NL-ST* which is designed to accommodate high-density, simplex ST-to-ST connections, while the *DSFB124NL-LC* has duplex LC-to-LC connections. Bittree say both support single and multi-mode fibre applications, while a compact 1RU form factor enables high-density 24-position patching – an important benefit in facilities with limited rack space.

Unlike its previous-generation enclosures, the company says the new series includes steel gliding rails for easier access to connections, instead of the friction-based trays of the past. It reckons the gliding trays offer a "huge" benefit for smooth movement with steady-locking positions simplifying access between ports as technicians move, add or make changes to the fibre network.

The enclosure comes with grommets, cable strain reliefs and bend radius guides, along with knock-out positions available on all four sides to help with any demanding installation, says Bittree.

It adds that the products are built using a cold-rolled steel construction with a durable black powder-coat finish, ensuring a highly durable and reliable product design. The fold-down, clear-red acrylic front and rear doors additionally enables visual inspection of the patch interface to monitor connections and performance.

Excel Networking says it's now offering a range of "high-quality, high-performance" PON (passive optical network) solutions for fibre connectivity and distribution.

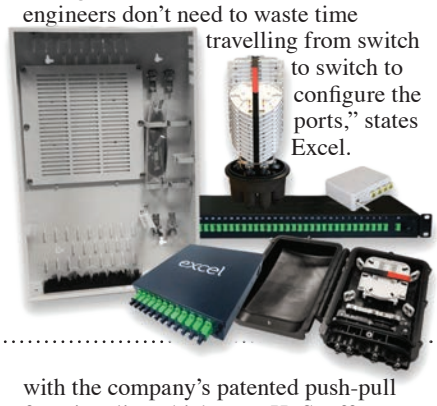
The line-up includes the *Environ* enclosures which feature consolidated points of connection that will fit into utility spaces and cable routes. Excel says this removes the need for additional space to be allocated throughout the building infrastructure, such as secondary equipment rooms.

According to the company, PON solutions have several advantages when it comes to cost and space savings, reducing overall total cost of ownership.

For instance, it says a reliance on PLC splitters in the mid span of the network removes the need for aggregation switches. Excel adds that with a PLC splitter occupying considerably less footprint than an aggregation switch, the associated housing equipment is reduced also.

Furthermore, the company says the nature of a PON solution is passive, meaning the costs associated with power and cooling systems is taken out of the equation which results in increased opex savings and increased return on investment.

"With absolute central management from the OLT to all ONTs, further savings can be achieved by reduced labour costs; as everything is centrally managed, skilled and trained network engineers don't need to waste time travelling from switch to switch to configure the ports," states Excel.



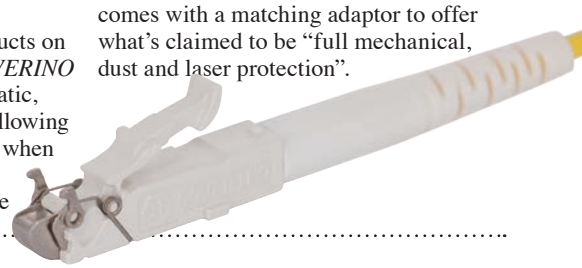
HUBER+SUHNER (H+S) claims to have launched the world's safest LC fibre optic connector for FTTH access.

The *COVERINO LC* has been developed to provide what the manufacturer says is "optimal handling" for users to easily install. The new connector is fully compatible with standard LC connectors according to IEC 61754-20.

Compared to other similar products on the market today, H+S says the *COVERINO LC* additionally features an automatic, spring-loaded shutter mechanism allowing for the "highest" safety protection when the connector is unplugged.

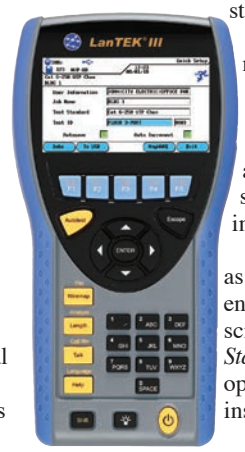
The connector is also compatible with the company's patented push-pull functionality which, says H+S, offers ease of installation even in high-density environments.

The firm adds that the *COVERINO LC* also has a "simple and easy" to use latch mechanism to ensure connectivity can be made with one hand. Furthermore, it comes with a matching adaptor to offer what's claimed to be "full mechanical, dust and laser protection".



In an effort to support fast and straightforward cable certification, **IDEAL Networks** has updated its *LanTEK III* cable certifier with a new *Quick Setup* feature. Designed to support busy cable installers, the new feature is said to enable almost all configuration and testing to be performed on just one straightforward screen.

IDEAL says the *LanTEK III* can be used to test the performance of cable and connectors in installed LAN cabling systems, and to ensure that components and cable meet relevant standards. With the new *Quick Setup* operational mode, the company says the most commonly used functions appear on a single screen, making tester configuration faster and simpler. Details that can be updated from the *Quick Setup* screen include the user, customer, job, test standard and test name/number.



As a result, IDEAL says the new mode eliminates the need to navigate through different menus and options before starting to test or troubleshoot, and therefore simplifies and speeds up the process for installers.

Users can choose *Quick Setup* as the default operating mode, entering directly from the home screen at the touch of a button. *Standard Setup* is still an available operating mode for those installers who prefer it.

AI and cloud among most desired tech for UK workers

An organisation which actively invests in new and worthwhile technology will significantly contribute towards making their human resource feel better valued. That's according to training and qualification provider Knowledge Academy which has been analysing independent research studies in an effort to understand the influence workplace technology is having on employee performance and satisfaction.

After studying the findings from research carried out by B2B digital services provider Econocom, Knowledge Academy found that 43 per cent of staff felt more valued by their employers introducing more useful tech into the workplace. Thirty-eight per cent said that this increases the motivation to work harder.

The biggest performance-related gains employees think they will achieve from having the latest work-related technology is improved productivity (55 per cent), greater flexibility (54 per cent) and more mobility (32 per cent).

Knowledge Academy also analysed a study from business software and services firm Advanced. It surveyed more than 1,000 UK employees in professional occupations to discover the technology they would most like to see in their daily working life.

This revealed that the two technology resources that are most desired by workers are cloud services (35 per cent) and AI (also 35 per cent). Thirty one per cent are also keen to utilise predictive analytics techniques such as data mining and machine learning to analyse historical information/data and predict what might happen in the future.

In contrast, Knowledge Academy found that AR ranked as the least appealing technology, with only 17 per cent of employees wanting to harness it in their job each day.

While 18 per cent are happy for 'robots' (i.e. configured software) to automate the tasks and responsibilities they believe are mundane, the Advanced report also said that 65 per cent of workers are willing to work alongside robotic technology if it leads to the reduction of manual processes. Additionally, 34% of British employees would consider a robot with the right business intelligence, to be better at decision making than their respective boss/bosses or senior management.

Excel training awarded BICSI education credits

Excel Networking Solutions' cabling partner certification course has been recognised for four BICSI continuing education credits (CECs).

Excel says its partner programme comprises organisations that are experienced providers of design, installation and testing services for its entire range of passive copper, conventional, pre-terminated and high density MTP optical fibre solutions. A pre-requisite of partner status is training under the *Excel Cabling Partner* (*ECP*) certification course.

The course is run online by Excel. Alternatively, engineers can opt to take part in a two-day face-to-face course which is run by Excel's independent training partner, CNet Training.

"Our ECPs undertake extensive training to maintain their partner status and keep up to date with the latest advances in industry technology," says Excel technical manager Paul Cave. "Our customers' understanding of this training is verified through an examination process to demonstrate knowledge of the Excel system and how to design, install and test the infrastructure in accordance with Excel guidelines, best practice and, above all, standards compliance."

Cave adds that ECPs are required to retake the training course every two years to ensure they maintain their partner status.

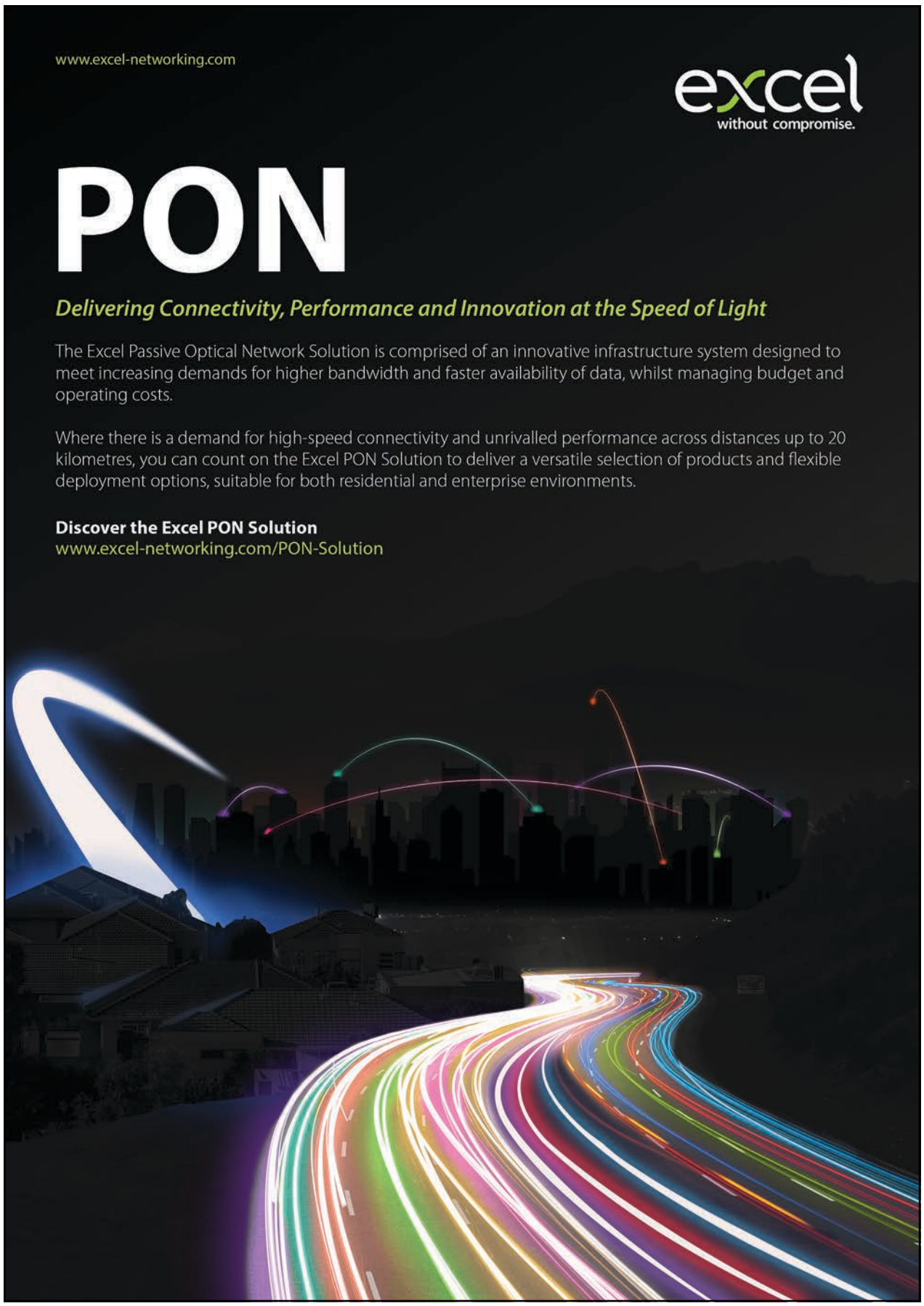
BICSI is the worldwide association for cabling design and installation professionals. The organisation is claimed to be the global leader in ICT education and certification, supporting the advancement of the community.

IN BRIEF...

■ Rainbird has announced a programme to help businesses develop the AI skills needed to automate processes within their organisation. According to the London-based AI specialist, its *University Certification Programme* is based on a unique platform that is modelled on human expertise rather than the "elusive" data-driven matrixes that underpin machine learning. Rainbird claims the platform replicates the human judgement process and is designed to handle uncertainty and ambiguity just like a human. The firm hopes its programme will help ease the skills gap in AI and data science. *www.rainbird.ai*

■ Informa Telecoms Academy has developed a 5G Readiness Workshop to help provide senior management with a "solid" foundation to meet challenges and develop opportunities that 5G, connected innovation and smart technology bring. It says delegates will also learn how to develop ideas, evaluate best practice, and explore ways to maximise opportunities, with a "full appreciation of how 5G will support value creation going forward". *telecomstechacademy.com*

■ IT and telecoms bosses who give out bonuses in December are less likely to see staff being poached or looking elsewhere. That's according to a survey of 1,096 UK employees carried out by bonus and incentives provider One4all Rewards. Fifty-seven per cent of ICT workers said a bonus or gift from their boss would prevent them from looking for a new job; 54 per cent said they would be less likely to accept a new job if the same had happened. The study said workers are most likely to look for a new job in January. *One4allRewards.co.uk*



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