Inside_Networks

THE NETWORK INFRASTRUCTURE E-M

H
fa

Coming of age

IT'S TIME TO TAKE A SERIOUS LOOK AT DCIM

Something in the air

WHY AIRFLOW CONTAINMENT IS THE MOST PRACTICAL FIRST STEP IN SUPPORTING HIGH DENSITY ENVIRONMENTS

AGAZINE WWW.INSIDENETWORKS.CO.UK

JUN
26

igh street ashion

IS TURNING EMPTY RETAIL UNITS AND COMMERCIAL BUILDINGS INTO EDGE AND SMALL SCALE DATA CENTRES FEASIBLE?

ESG REPORT 2026

ENVIRONMENTAL, SOCIAL & GOVERNANCE

The Right Partners Can Accelerate Your ESG Goals.

Discover How Siemon is Making Progress That Matters.

DOWNLOAD THE REPORT

Connecting the World to a Higher Standard

www.siemon.com/esg

EcoStruxure™ IT

Your AI Infrastructure Command Centre

Get with real-time insights to reduce waste, improve airflow, and lower operational costs with EcoStruxure IT DCIM, delivering smarter infrastructure by optimising energy usage and cooling performance.

se.com/uk

Schneider Electric™

Retail therapy

EDITOR
Rob Shepherd
07708 972170

SUB-EDITOR
Chris Marsland

ADVERTISING MANAGER
Kate Paxton
01603 610265

CREATIVE DIRECTOR
Vishnu Joory

TECHNOLOGY CONSULTANT
James Abrahams

CIRCULATION MANAGER
Debbie King

ACCOUNTS
Billy Gallop

Empty shops are now a common sight on many high streets and one idea gaining traction is to turn them into edge and micro data centres. At first glance it makes perfect sense, as these sites sit close to where people live and work, which is exactly what low latency services demand. Furthermore, many already have optical fibre connections, while reusing existing space avoids the carbon impact of starting from scratch.

But there are some significant obstacles to consider. Retail units weren't built for the power loads, cooling systems or structural demands of data centre infrastructure. Even if technically feasible, the benefits to local communities are modest, with few jobs created and potential pushback over energy use and noise.

We explore the idea in more depth in this month's Question Time. A specially selected panel of industry experts discuss how feasible is it to repurpose empty retail units and derelict buildings into edge and small scale data centres and what key challenges face those that attempt to do so.

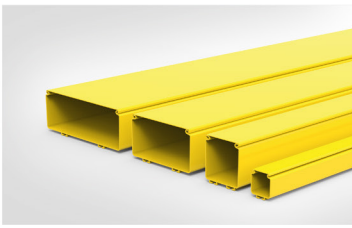
Data centre infrastructure management (DCIM) software has had a turbulent evolution but it is now gaining real traction. In this issue Herman Chan of Sunbird Software looks at the state of DCIM and the Gartner Hype Cycle, James Kirkwood at EkkoSense explains why a lack of real time visibility is simply too big a risk for most operators and Assaf Skolnik of RiT Tech tells us why it is time to rethink and strategise infrastructure management.

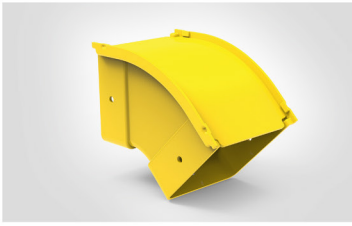
Containment and cable management play essential roles but they are often overlooked and don't always receive the attention they deserve. We put that right with two excellent articles. Michael Akinla of Panduit looks at how white cabinets are redefining efficiency in data centres, while Mike van der Donk of Legrand examines why containment should shape the next phase of data centre cooling.

I'm looking forward to welcoming industry colleagues to the Inside_ Networks 2026 Charity Golf Day on 20th May. A standout event in the network infrastructure calendar, the day raises vital funds for Macmillan Cancer Support and once again promises to be a lively and competitive occasion, with good humour and an opportunity to reconnect with familiar faces.

Rob Shepherd
Editor

HellermannTyton





NEW GigaDuct from HellermannTyton.

Complete fibre management for optimal data centre performance.

MADE TO CONNECT

IN-AT-GIGADUCT-811

Meta and CBRE aim to recruit and train thousands of technicians to build US data centres


Dina Powell McCormick

Meta and CBRE have announced LevelUp – a multiyear program to recruit and train thousands of optical fibre technicians to build Meta data centres in the US. CBRE will establish and run multiple training centres across the US and successful graduates will have the opportunity to put their skills to work at Meta construction sites.

This training program addresses the growing shortage of fibre technicians needed to build next generation data centre infrastructure. By preparing new, job ready technicians, it expands the skilled workforce, increases access to high quality career opportunities and creates a clear pathway for recent high school graduates.

'The future of the AI revolution depends on a highly skilled workforce – one that rises to the challenge of building and maintaining the complex systems that power innovation,' said Dina Powell McCormick, Meta's president and vice chairman. 'Meta is proud to invest in technician training to support our ambitious infrastructure goals.'

Contant stream of tech gripes leave IT departments struggling

More than half of IT professionals (53 per cent) at UK businesses say they are frequently called on by employees to resolve everyday tech issues. This is according to research from TOPdesk, conducted among 1,000 IT professionals.


Hannah Salt

52 per cent believe employees are mostly responsible for the disruptions they want IT to resolve but when employees can't sort them out quickly themselves, they become frustrated, with IT feeling the heat. The problem for many in IT is the lack of technical knowledge among employees and 64 per cent in IT think employees do not understand IT complexity. IT professionals are frustrated because they know that AI can help resolve many of these problems – 55 per cent believe the IT helpdesk is likely to benefit from AI automation, for example.

Hannah Salt, head of customer enablement at TOPdesk, said, 'Businesses need to recognise that investment in the right tools will enable employees to resolve many of the disruptions they face autonomously. This will repair fractured relationships, improve internal culture and leave IT more time for higher value work and increased collaboration.'

OCP Foundation launches Collaboration Acceleration Fund to advance open hardware innovation


George Tchaparian

The Open Compute Project (OCP) Foundation has launched its Collaboration Acceleration Fund. It is a new initiative designed to empower collaborative innovation across the open hardware ecosystem by supporting projects that cannot easily take shape outside of the OCP Community.

The Collaboration Acceleration Fund addresses a critical gap in the industry. Many high potential ideas require multi-stakeholder coordination, shared infrastructure and neutral governance – conditions uniquely enabled by the OCP Foundation. By providing both financial and programmatic support, the initiative aims to accelerate the development of impactful, community driven technologies aligned with OCP's mission.

'The Collaboration Acceleration Fund reinforces our commitment to enabling open innovation at scale,' said George Tchaparian, chief executive officer at the OCP Foundation. 'By lowering barriers to collaboration and supporting projects that benefit the broader ecosystem, we are ensuring that transformative ideas can move forward in a transparent and inclusive way.'

One in four cyber professionals face pressures over breach disclosures

27 per cent of UK IT and cyber professionals say they have felt pressure to cover up a security breach or data loss incident, according to research from Kocho. Surveying 501 CIOs, security analysts and IT professionals, the findings revealed that while 92 per cent of respondents think their boardrooms understand the day to day realities of cybersecurity, it's different when a breach occurs.

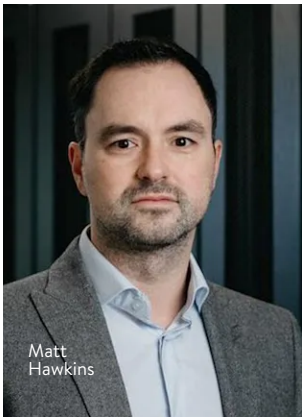

Hannah Birch

Despite efforts to improve information sharing and collective industry resilience, 20 per cent of survey respondents disclosed there still a culture of blame around breaches. 14 per cent of professionals revealed they were held personally responsible in their organisations.

Hannah Birch, CEO at Kocho, said, 'We must move away from viewing every cyberbreach as a sign of organisational or reputational failure. A breach should not automatically be seen evidence of negligence but the result of a coordinated, well-resourced criminal campaign. Therefore, we need a culture of openness, where leaders can share insights and experiences.'

One in five firms move AI overseas as power costs surge

Research from CUDO Compute has revealed that 20 per cent of British firms have already moved AI workloads out of the UK due to high power costs, exposing a growing disconnect between the UK's AI sovereignty ambitions and the practical realities of infrastructure and energy. The research, which polled over 700 senior AI decision makers in enterprises across the UK, US and Europe, highlights a growing tension shaping the UK's AI strategy.


Matt Hawkins

While 46 per cent of UK organisations say geopolitical instability is pushing them to keep AI workloads within home markets (compared to 36 per cent overall), 43 per cent say cost and performance still outweigh sovereignty when it comes to deployment decisions.

With energy costs dominating the national agenda, power pricing is a critical constraint on growth, with 33 per cent of UK organisations saying energy costs are limiting their ability to scale AI operations.

'AI sovereignty is being hotly discussed as a priority for UK organisations, but it only works if the infrastructure exists to support it,' said Matt Hawkins, CEO of CUDO Compute. 'What we are seeing is a growing tension between where businesses want to run AI and where they actually can.'

Wireless Broadband Alliance issues Wi-Fi security guidelines to advance trust, privacy and seamless global roaming

The Wireless Broadband Alliance (WBA) has released Wi-Fi security guidelines that define a new industry framework designed to strengthen security, privacy and trust across Wi-Fi networks. The guidelines address the growing need for carrier grade security that aligns with user expectations.


Tiago Rodrigues

The guidelines on securing Wi-Fi networks are designed to prevent connections to rogue and fake networks, protect data transmitted over the air, preserve user identity privacy without breaking compliance requirements, secure credentials end to end, harden the entire access network, secure AAA and roaming signalling, and add Layer-2 protections against lateral attacks. They also enforce security through federation and governance.

Tiago Rodrigues, president and CEO of the WBA, said, 'Wi-Fi underpins critical connectivity for consumers, enterprises and IoT at global scale. These guidelines show how proven standards and best practices can be applied consistently to deliver secure, privacy preserving and interoperable Wi-Fi experiences. By aligning security across devices and networks, Wi-Fi achieves parity with cellular in security capability and confidence.'

DCA and 1GigLabs join forces to launch new intelligence platform for data centre power strategy

As demand for digital infrastructure accelerates, driven by AI, cloud and high performance computing, access to power has become the primary constraint on deployment. In collaboration with DCA – Data Centre Alliance, 1GigLabs has launched Power Trends – a new intelligence platform providing DCA partners with exclusive access to critical insights on Europe's evolving power landscape.


Venessa Moffat

Power Trends brings fragmented datasets into a single, structured intelligence layer to support faster, more confident investment and site selection decisions. The platform combines live transmission system operator data with structured market intelligence and AI-driven analysis, providing a unified view of power availability, pricing, grid constraints and regulatory dynamics across 14 European markets.

Venessa Moffat, DCA's managing director, said, 'As power availability, constraint and policy dynamics become increasingly complex, the ability to translate energy system data into clear, actionable insight is critical. Power Trends strengthens the DCA's ability to equip members with intelligence they need to make informed, strategic decisions in a constrained environment.'

NEWS IN BRIEF

Conflow Power Group (CPG) has been named Frost & Sullivan's Global Company of the Year – the analyst's highest honour – for turning streetlights into solar powered AI computing nodes that generate revenue, cut crime and reduce dependence on data centres. The recognition places CPG among the top one per cent of companies globally recognised for visionary innovation, market leadership and customer impact.

Aligned Data Centers has closed a new $2.58bn credit facility to support the continued rapid expansion of its US data centre portfolio.

Vertiv has entered into an agreement to acquire ThermoKey. The acquisition is expected to expand Vertiv's thermal management portfolio and manufacturing capabilities, and strengthen its ability to deliver comprehensive solutions across the end to end thermal chain for AI factories and high density data centres.

The Cyber Scheme has launched an Accredited Company Programme to validate the credibility of organisations delivering cybersecurity services. Designed to professionalise and strengthen capability, accredited companies will be recognised for investing in verified skills, continuous professional development and delivering high standards of service.

Extending your reach

Bodyworn cameras from Axis Communications are a natural fit for Excel network infrastructure

In an increasingly connected world, the demand for integrated security solutions continues to grow. For Excel installers, known for their expertise in structured cabling and network infrastructure, this presents a significant opportunity to expand service offerings. Axis bodyworn cameras are emerging as a seamless extension of existing network projects, rather than a traditional security add-on, thanks to their intelligent endpoint design.

The power of the network you already deploy

Excel partners are masters in delivering robust and reliable structured cabling. What if that same expertise could unlock new potential in personal safety and operational efficiency?

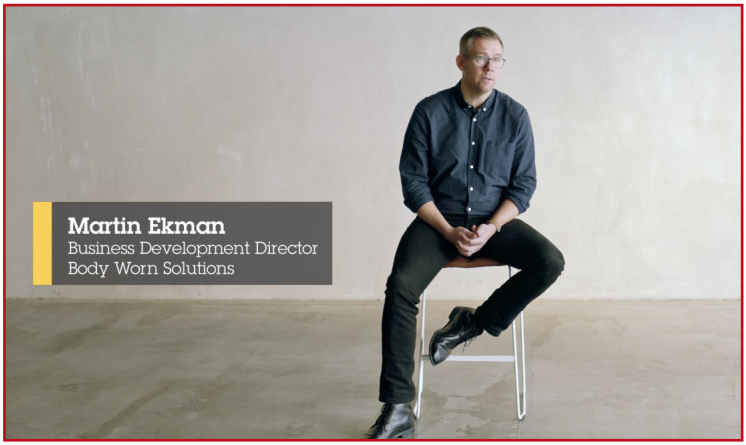
Bodyworn cameras from Axis are designed with this in mind. They act as another intelligent endpoint on the network, integrating naturally within an enterprise environment. Docking stations, controllers and storage all rely on standard Ethernet, switching and network design principles – the very foundation you expertly deploy every day. This approach eliminates the need for proprietary cabling or specialist installation requirements, simplifying deployment and management.

Seamless integration, simplified deployment

One of the most common questions revolves around the complexity of deploying bodyworn cameras. The short answer for cabling installers is if you already deliver structured cabling and network infrastructure, it is remarkably straightforward. Axis bodyworn systems are built for ease of integration and a typical deployment involves:

- Docking stations strategically placed in comms rooms or staff areas.
- Standard Ethernet connections linking back to the main network.
- Cameras docking automatically for charging, footage offload and updates.
- System management via a simple, intuitive web interface.

There is no need for unusual hardware, complex workflows or deviations from the proven cabling and network principles that



installers work with daily. This design ensures faster rollout and minimal disruption for end customers.

Expanding opportunities for Excel partners

For Excel partners, this natural integration translates into tangible business advantages:

- Natural project extension. Bodyworn solutions become an organic addition to your existing cabling and network projects.
- New conversations. Engage clients in discussions about workplace safety, training and compliance – areas increasingly prioritised across many sectors.
- Follow-on revenue. Create opportunities for additional services in switching, Wi-Fi, storage and ongoing support.
- Growing demand. Bodyworn cameras are gaining significant traction in retail, healthcare, transport and education to support frontline staff, offering a proactive approach to safety and accountability.

By confidently including Axis bodyworn cameras in cabling, network refresh or infrastructure upgrade projects, you can expand your portfolio without adding unnecessary delivery risk.

Discover the simplicity

Axis bodyworn cameras offer a significant strategic advantage, allowing you to leverage your existing skills and infrastructure to meet evolving client needs. They represent a smart, integrated way to boost project value and broaden your service capabilities.

To understand how Axis bodyworn cameras can complement your existing Excel and Mayflex projects, book a demonstration to learn more. Discover a simple deployment example and see the clear path to enhancing your offerings.

CLICK HERE to request a meeting or scan the QR code.

Talk to Mayflex for further details about Axis or Excel.

Contact us on 0800 75 75 65, **CLICK HERE** to send an email or to visit our website **CLICK HERE.**

www.mayflex.com

Achieving successful growth

Hi Rob

Digital transformation for small to medium sized enterprises (SMEs) is experiencing a significant surge, moving from experimental AI pilots to the adoption of agentic AI. According to Harri Digital, 35 per cent of SMEs are actively using AI, up from 25 per cent in 2024, with another 24 per cent planning to adopt it in the future.

While digital transformation is often framed as a technology challenge, for SMEs the main issues are delivery and execution. This is because the conversation tends to be clouded by hype, overcomplexity and enterprise scale thinking that doesn't reflect the realities of lean teams and tight margins. A more pragmatic approach is needed, focusing on digital transformation as a business discipline, not a technology arms race.

Here are four principles that, in my view, form the backbone of successful digital growth for modern SMEs:

- Building a clear digital roadmap

Too many digital initiatives begin with tools rather than outcomes. SMEs that succeed start by defining where the business is going, identifying elements such as new markets, higher volumes, improved margins and then mapping technology decisions directly to those goals. A digital roadmap should answer simple questions. What problem are we solving? What will success look like in 12 or 24 months? How will this support growth rather than distract from it?

Clarity is critical. A roadmap does not need to be exhaustive, but it must be intentional. When digital projects are tied to measurable business objectives, they are easier to prioritise, easier to fund and easier to course correct. Technology becomes an enabler of growth, not a parallel track running alongside it.

- Avoiding overengineering and unnecessary complexity

One of the biggest risks in SME digital transformation is trying to future proof everything from day one. This often results in overengineered systems that are expensive, slow to implement and difficult to use. Complexity is not a sign of maturity – it is often a drag on agility.

SMEs should favour solutions that are fit for purpose today and flexible enough for tomorrow. This means resisting the temptation to replicate enterprise scale processes and instead focusing on simplicity, usability and speed. If a system requires extensive customisation to work, that is usually a warning sign. The best digital tools fade into the background, allowing teams to focus on customers and growth rather than workarounds and maintenance.

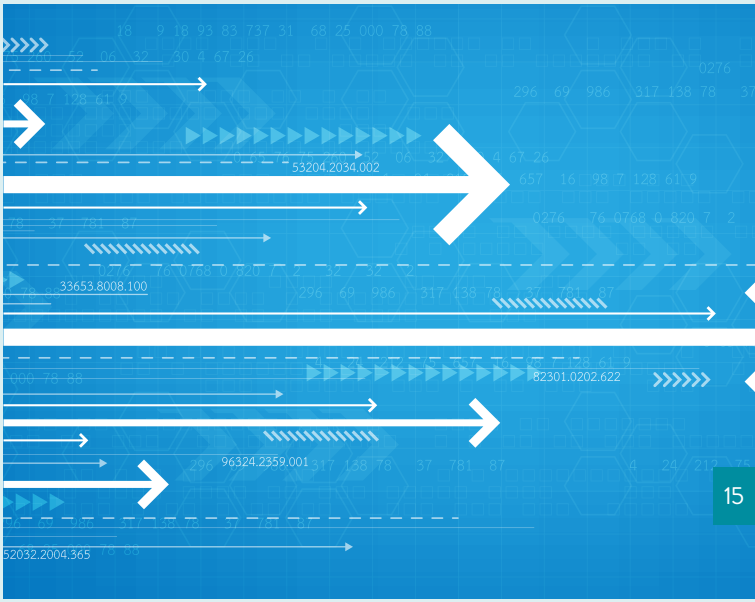
- Managing change with small teams

Unlike large organisations, SMEs cannot pause operations while transformation takes place. Change must happen alongside day to day work, often with the same people wearing multiple hats. This makes change management less about formal programmes and more about practical momentum.

Small, incremental improvements are far more effective than large, disruptive rollouts. When teams can see tangible benefits quickly, it means less manual

with digital transformation

work, better visibility, faster decisions and allows for adoption to follow naturally. Leadership plays a key role here by setting expectations, communicating clearly and recognising that digital change is as much about people and habits as it is about systems.



- Rethinking the enterprise resource planning (ERP) journey for modern SMEs

ERP has traditionally been associated with long projects and delayed returns, which has understandably made many SMEs cautious. But the needs of modern SMEs are different. Today's ERP journey should prioritise speed to value, intuitive design and immediate operational gains.

Rather than treating ERP as a once in a decade overhaul, SMEs should view it as a platform that evolves with the business. Early wins, such as improved cash visibility, streamlined processes or better reporting, build confidence and justify further investment. When an ERP platform delivers value from day one, it becomes a growth partner rather than a sunk cost.

Digital transformation for SMEs does not require grand gestures. It requires focus, restraint and a relentless connection between technology and business outcomes. When approached with clarity and pragmatism, it becomes less about systems and more about enabling sustainable, confident growth.

Morgan Browne
Enterpryze

Editor's comment

Some excellent advice from Morgan, particularly the point that any roadmap for digital transformation must be deliberate, well defined and closely aligned with clearly understood business objectives. If these goals are not established before any initiatives begin, SMEs risk wasting significant time, money and resources on efforts that lack direction, cohesion and measurable impact.

BUSINESS ISN'T GETTING ANY EASIER.

BUT WITH ECA ON YOUR SIDE, THE FUTURE LOOKS REFRESHINGLY SIMPLE.

As the UK's leading membership body for electrical contractors, we help businesses like yours prepare for whatever's next.

Become an ECA Member and unlock the tools you need to win contracts, grow stronger and get your voice heard.

Enjoy tailored support across your business for...

- Technical issues
- Safety, health and environment
- Employee relations
- Legal and business
- Education and skills

scan me

SECURE YOUR SUCCESS

Feasibility study

As demand for low latency computing grows, developers are starting to eye vacant shops and derelict buildings as potential edge and micro data centres. Inside_Networks has assembled a panel of industry experts discuss whether this adaptive reuse model is a viable solution or just a niche experiment

With the number of empty retail units growing by the week, the question is what can be done with them? One solution under discussion is whether they can be repurposed as edge and small scale data centres.

On paper, the model is attractive – edge facilities need to be closer to population centres to support latency sensitive services such as cloud gaming, AI inference and IoT applications. Vacant shops are often well located, already connected to optical fibre networks and available at lower capital cost than new build projects. Reusing existing structures can also reduce embodied carbon compared with constructing purpose built facilities.

However, retail units were never designed to support the high power densities and thermal loads associated with data centre infrastructure. Power, cooling, floor loading limits, ceiling heights and constrained footprints are all prohibitive issues. While smaller edge facilities may create local resilience and digital capacity, they offer limited direct employment and may also raise community concerns about energy use.

So to find out whether this idea is realistic or just fantasy, Inside_Networks has brought together a panel of industry experts to give us their views.

JOHN BOOTH
MANAGING DIRECTOR AT CARBON3IT

Not only is it technically and economically feasible to repurpose empty retail and derelict buildings into edge and small scale data centres, it's also inevitable. It's a return to on-premises and the expansion of telco digital infrastructure that has been in place since the start of the modern digital age.

The demise of the high street due to online shopping means expensive real estate in city centres can now be repurposed to provide local digital services. It can also be used to recover heat from the digital infrastructure, as indicated in the Department for Energy Security and Net Zero (DESNZ) Heat Zone initiatives.

Most sites will have enough power to provide one or two high density cabinets suitable for the deployment of AI small language models (SLMs) for 'behind the firewall' processing. These are likely to be using innovative liquid cooled, direct to chip or immersed compute solutions. An alternative option may be for the development of sovereign distributed cloud infrastructure solutions, powered by renewable energy and battery energy storage systems.

City centres tend to be well covered with digital network infrastructure, so obtaining access to high speed data circuits will not be a problem. Local authorities will be pleased to see buildings being brought back into use and, even though some of these sites will be unmanned, the attraction of low cost heat for buildings in the vicinity will be helpful to address rising energy bills. The main drawback will be to find a district heating operator and dealing with the disruption caused by the installation of the heat network.

I expect that the impending data centre National Planning Policy Framework and its associated detailed planning guidance will pave the way for more local digital infrastructure to be installed without too much in the way of regulatory compliance hurdles. I think that local communities would much rather have 'hidden' data centres in plain sight, contained within existing buildings and largely unnoticed than new distribution type warehouses on the edge of urban environments. This approach may also counter the largely speculative growth in data centre developments we're seeing now.

'LOCAL AUTHORITIES WILL BE PLEASED TO SEE BUILDINGS BEING BROUGHT BACK INTO USE AND, EVEN THOUGH SOME OF THESE SITES WILL BE UNMANNED, THE ATTRACTION OF LOW COST HEAT FOR BUILDINGS IN THE VICINITY WILL BE HELPFUL TO ADDRESS RISING ENERGY BILLS.'

ALAN STEWART-BROWN
VICE PRESIDENT EMEA AT OPENGEAR

From a technical perspective, such conversions can be feasible for low to moderate capacity deployments, ranging from tens of kW up to a few MW of IT load. Many retail buildings already benefit from existing grid connections, secure back of house areas and proximity to urban optical fibre networks. These characteristics can support edge workloads such as content delivery networks, private 5G aggregation points and localised cloud services.

However, feasibility depends on infrastructure constraints. Electrical capacity is often the primary limitation. Retail units are rarely designed to support the high and continuous power demands associated with data centres, meaning grid connection and internal electrical systems upgrades may be required. Cooling also poses challenges as data centres generate large amounts of heat and installing rooftop chillers, dry coolers or ventilation systems can be difficult in constrained urban environments.

Planning and regulatory considerations also shape viability. In England and Wales, converting a retail unit to a data centre will likely require planning permission or a change of use classification, depending on how the local authority interprets the development. Local councils may also scrutinise proposals where buildings become largely unoccupied, as data centres typically provide limited on-site employment, potentially conflicting with strategies aimed at revitalising town centres.

Operational constraints further complicate implementation. Facilities must ensure physical security, fibre route diversity and maintenance access within buildings not originally designed for critical digital infrastructure.

For local communities the implications are mixed. Productive reuse of vacant buildings can support the digital economy and potentially increase local business rates revenue, however, it may also raise concerns around energy demand, noise from cooling equipment and generators, and the loss of active retail frontage.

Ultimately, repurposing retail properties for edge data centres is most viable where power availability, fibre connectivity and planning support align with the requirements of modern digital infrastructure.

‘ELECTRICAL CAPACITY IS OFTEN THE PRIMARY LIMITATION. RETAIL UNITS ARE RARELY DESIGNED TO SUPPORT THE HIGH AND CONTINUOUS POWER DEMANDS ASSOCIATED WITH DATA CENTRES, MEANING GRID CONNECTION AND INTERNAL ELECTRICAL SYSTEMS UPGRADES MAY BE REQUIRED.’

RICHARD CLIFFORD

VICE PRESIDENT SALES & SOLUTIONS EMEA AT SALUTE MISSION CRITICAL

Infrastructure readiness is typically the decisive factor in determining whether vacant retail units or derelict buildings can be repurposed. Edge computing's strength lies in its proximity to population centres, so disused urban sites are therefore an attractive option due to their existing optical fibre networks and central locations.

Despite the clear potential of underused real estate, most buildings within these areas lack the baseline power density, thermal management and operational resilience that modern digital infrastructure demands. Retrofitting to meet current standards typically introduces significant complexity and cost, with constraints around electrical capacity, structural loading and integration of specialised mechanical systems that often require extensive upgrades.

So, while repurposing derelict buildings is a viable option on the surface, the commercial rationale tends to erode rapidly if foundational infrastructure cannot reliably support mission critical workloads.

Cooling requirements add further complexity, as buildings that weren't originally designed for technical environments commonly lack the space or configurations necessary for modern thermal management. Regulatory complexity also further aggravates these infrastructure issues.

Planning permissions, zoning classifications and building regulations don't always align with the requirements of digital infrastructure, particularly in sites previously designated for retail or mixed use purposes. Operators can expect increased scrutiny from local authorities, especially in cases where energy consumption, noise or structural modifications may have an impact on surrounding communities.

Requirements for secure environments, rigorous access control and specialist technical personnel must be met within structures that were not originally intended for such use. Maintaining reliability and safety standards in these settings demands a broad approach to both facility adaptation and ongoing management.

With careful strategic planning, the redevelopment of disused spaces can bring new digital infrastructure closer to local environments where they're needed most. The most successful projects are the ones that match stakeholders' interests while simultaneously adhering to operational requirements.

'WITH CAREFUL STRATEGIC PLANNING, THE REDEVELOPMENT OF DISUSED SPACES CAN BRING NEW DIGITAL INFRASTRUCTURE CLOSER TO LOCAL ENVIRONMENTS WHERE THEY'RE NEEDED MOST.'

The 2AM Troubleshooting Call

That Could Have Been Prevented

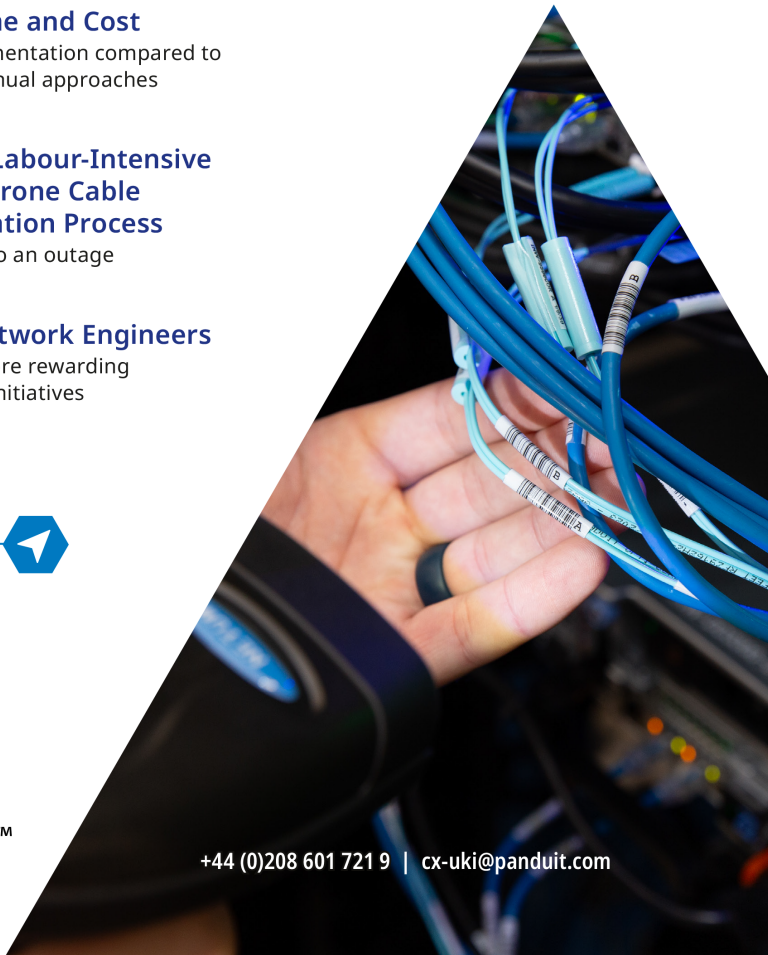
Outdated cable documentation turns routine maintenance into all-hands emergencies because nobody knows what is plugged in where. ***Rapid*ID™ eliminates the guessing game:** pre-labelled patch cords with barcode scanning deliver real-time accuracy.

RAPIDID™

Reduce Time and Cost
of cable documentation compared to traditional manual approaches

Automate Labour-Intensive and Error-Prone Cable Documentation Process
that can lead to an outage

Free Up Network Engineers
to focus on more rewarding and strategic initiatives



For more information, visit
panduit.com/rapidid

PANDUIT™

+44 (0)208 601 721 9 | cx-uki@panduit.com

SIMON HARRIS
HEAD OF CRITICAL INFRASTRUCTURE AT BCS CONSULTANCY

The concept is feasible in certain contexts but faces significant infrastructure, regulatory and operational constraints.

Edge data centres are well suited to adaptive reuse of existing buildings, particularly in dense urban areas where new development space is limited. Converting existing structures can reduce embodied carbon and construction waste compared with new builds, making reuse an attractive sustainability option. Some estimates suggest that reuse can cut embodied carbon emissions by amounts by more than 50 per cent compared with new construction.

However, most retail or office buildings were not designed for the heavy equipment loads of computing infrastructure. IT racks, cooling equipment and back-up power systems require structural provision, upgraded electrical systems and use case specific space planning. Many repurposed sites have low ceiling heights or unconventional layouts that complicate airflow and cooling design.

Power availability is the most critical challenge. Retail buildings typically have electrical capacity far below what small data centres require. Significant utility power upgrades, substation augmentation and high voltage connections may become necessary. In many regions grid constraints are slowing new data centre development with extended utility connection timelines, although new construction would face an equivalent challenge.

Regulatory frameworks also present obstacles. Local planning rules may require approvals when converting retail or mixed use properties. Operators must comply with strict fire safety, environmental and security standards that existing buildings may not easily accommodate.

Edge facilities must balance small physical footprints with high power densities. This is particularly the case with those sites running AI inference workloads, an application increasingly suited to edge locations. Cooling noise, generator installations and visual impacts may trigger community concerns. Yet there are also potential local benefits. Repurposed facilities can revitalise derelict property, attract digital infrastructure investment and potentially reuse waste heat.

Repurposing retail and derelict buildings into edge data centres is technically viable and economically attractive in very specific locations. However, feasibility ultimately depends less on the availability of empty buildings and more on infrastructure readiness, regulatory flexibility and integration with local energy systems.

> ‘REPURPOSED FACILITIES CAN REVITALISE DERELICT PROPERTY, ATTRACT DIGITAL INFRASTRUCTURE INVESTMENT AND POTENTIALLY REUSE WASTE HEAT.’

CHRIS WELLFAIR

PROJECTS DIRECTOR AT SECURE IT ENVIRONMENTS

Repurposing empty retail units and derelict buildings into edge or small scale data centres is viable and an attractive use for unutilised units, but there are important considerations. The real question is not whether the shell is cheap or available, it is whether the location can support the two things that matter most – power and optical fibre.

From a technical perspective, many smaller edge environments do not need a purpose built data centre building. Modern micro data centre and modular 'room within a room' approaches can be deployed in constrained spaces, provided the fundamentals are right – floor loading, ceiling heights, cooling paths, noise control, fire protection and physical security. That flexibility means a redundant retail or office shell can work, and in some cases a self-contained unit inside the building may be more practical than adapting the whole structure.

Economically, re-use can look attractive because the shell may be cheaper than a new build and the programme can be shorter. But those savings disappear quickly if the site needs major electrical reinforcement, new diverse fibre routes, structural upgrades or planning mitigation for generator and cooling noise.

Lease terms also matter. A short or restrictive lease, limited landlord consent for heavy plant, rooftop equipment or external works and uncertainty around future occupation can all undermine the business case. For this type of conversion, secure long-term control of the asset is often as important as the cost of acquiring it.

Local context must also be taken seriously. Retail and town centre locations may offer proximity to users and established utility routes but they can bring higher exposure to theft, vandalism and unauthorised access. That raises both capital and operational requirements for perimeter protection, access control and ongoing monitoring.

In practice, power availability is usually the deal maker or deal breaker. Fibre is the second gate. Ofcom reports full-fibre availability to 78 per cent of UK small to medium sized enterprises (SMEs) as of July 2025. However, availability on paper is not the same as resilient, diverse connectivity into a specific building.

So yes, these conversions can make sense, but only where power, fibre, lease control and site risk have all been proven. Everything else is secondary.

'RETAIL AND TOWN CENTRE LOCATIONS MAY OFFER PROXIMITY TO USERS AND ESTABLISHED UTILITY ROUTES BUT THEY CAN BRING HIGHER EXPOSURE TO THEFT, VANDALISM AND UNAUTHORISED ACCESS.'

BEN CRANHAM

CHIEF OPERATING OFFICER AT PULSANT

The rapid growth of AI, cloud repatriation and data sovereignty is driving a sharp increase in demand for data centre capacity. One emerging response to this is the repurposing of vacant retail outlets, warehouses and derelict industrial buildings into small scale or edge data centres.

On the surface, these structures appear well suited to the role. Many retail parks and distribution warehouses offer three important attributes – space, strong transport connectivity and proximity to economic and technological hubs. And reusing existing buildings can also reduce upfront expenditure, development timelines and environmental impact when compared with constructing purpose built facilities.

However, transforming retail or logistics spaces into data centres presents its own challenges regarding power availability, technical issues and regulatory hurdles. Data centres require substantial and reliable electrical capacity, yet many sites originally designed for retail or light industrial use were never intended to support such energy intensive operations. In some regions, grid connections may be constrained or require expensive upgrades.

Cooling infrastructure can represent another obstacle. High density computing environments generate significant heat, requiring sophisticated cooling systems that older buildings may struggle to accommodate without extensive modification. Structural considerations can also arise, including floor load capacity, fire protection standards and enhanced security requirements.

Planning and regulatory frameworks associated with change of use may also add complexity. New planning consent might be required, particularly if facilities are located near residential areas. Concerns around noise from cooling equipment, increased energy consumption and visual impact can affect local communities if not carefully managed.

Despite these barriers, successful conversions offer several potential advantages. Repurposing underused buildings can reduce the environmental impact associated with new construction by extending the life of existing structures and limiting the need for new materials. At the same time, the reuse of regional retail and warehouse properties may become an important component of evolving digital infrastructure, delivering both sustainability gains while improving resilience and reducing latency for businesses and public services outside traditional hubs.

‘DATA CENTRES REQUIRE SUBSTANTIAL AND RELIABLE ELECTRICAL CAPACITY, YET MANY SITES ORIGINALLY DESIGNED FOR RETAIL OR LIGHT INDUSTRIAL USE WERE NEVER INTENDED TO SUPPORT SUCH ENERGY INTENSIVE OPERATIONS.’

How to Reduce Polarity Issues in Your Infrastructure

Polarity can be a complex and often overlooked aspect of data center fiber infrastructure, particularly as networks become more advanced.

Using real-world examples—from LC links to MPO/MTP systems—this technical bulletin explains polarity across duplex and parallel optics and shows how the right combination of trunks, adapters, cassettes, and patch cords supports clean, standards-aligned connectivity.

Expert Insight for Smarter Data Center Design

- Clear explanations of fiber polarity across duplex and parallel optics, including LC and MPO/MTP
- Practical, standards-based guidance on MPO/MTP methods, adapters, cassettes, and patch cords
- Future-ready Molex MTP strategies to simplify high-speed migration and reduce risk

Download Now

molex

Why easier, faster RJ-45 matters more than ever

The latest RJ-45 module approach from R&M is designed to enhance practicality and simplif

In today's LAN projects, performance is just part of the story. The challenges are broader and affect planning, purchasing and installation. Working with too many product variants can slow specification and countless part numbers can complicate procurement. An excess of separate components on-site can make the termination process a frustrating, time-consuming exercise. For installers, planners and buyers alike, this can cause delays, rework and unnecessary cost.

Rather than adding yet another layer of complexity, the latest RJ-45 module approach from R&M is designed to make things more practical.

One for all

When connection modules vary too widely in format and mounting requirements, planners spend more time checking compatibility. Meanwhile, purchasing teams have to manage more stock keeping units (SKUs) and warehouse stock. R&M's answer is a harmonised RJ-45 portfolio built around a universal design.

By reducing the number of variants to a more focused offering, the approach makes it faster to choose the right module for the application. For specifiers, that means less searching through catalogues. For buyers, it means fewer part numbers to handle. For warehouses, it means lower complexity. The result is a smoother route from design to delivery.

Efficiency drive

Another common issue is installation efficiency. Traditional module termination can involve several separate steps, specialist tools and small loose parts that are all too easy to drop, lose or fit incorrectly. On busy jobs, those seconds and mistakes add up quickly.

R&M addresses this with Easy Lock quick-mounting technology. Wire guiding, conductor connection and housing closure are brought together in a single, tool-free step. In practice, that means faster termination, less handling and a simpler workflow on-site. For contractors under pressure to deliver on time, that matters.

Right first time

The design is not only about speed – it's also about getting the job right first time. The more separate actions and parts an installer needs to manage, the greater the chance of error.

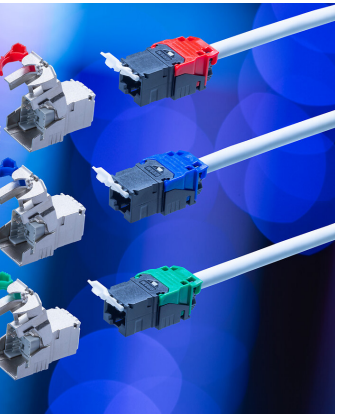
In R&M's harmonised RJ-45 portfolio, colour coding supports accurate termination. Strain relief helps protect transmission performance by reducing the impact of cable movement, while dust protection supports cleaner, safer patching environments.

Compatibility is another area in which projects can lose momentum. If modules require extra

connectivity

R&M

fy installation



adaptors or special handling to fit into outlets and patch panels, installation becomes overly complicated. Modernised RJ-45 modules fit all network outlets and patch panels in the R&Mfreenet system without additional adaptors, simplifying rollout across structured LAN environments. Separate adaptors are available for third-party products where needed, giving planners more flexibility without making the core system more cumbersome.

Reliable performance

Performance, of course, remains essential. As networks support ever-higher traffic demands across offices, buildings and IT environments, connectivity must remain dependable.

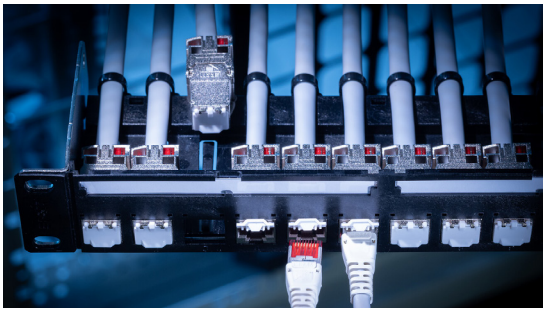
The Cat.6A EL 4.0 range is designed for applications up to 10 Gigabit Ethernet. In the unshielded Cat.6A version, metal fibres in the plastic housing help reduce alien crosstalk, addressing a known cause of signal degradation. The ISO module range provides additional system margins and supports transmission rates of up to 40Gb/s.

Packaging has a direct impact on-site efficiency and sustainability. Moving away from plastic towards paper bags and recycled cardboard reduces packaging waste and makes modules quicker to access on-site.

Problem solver

In short, R&M's new harmonised RJ-45 portfolio is designed to solve real problems by making planning simpler, installation faster, performance more reliable and logistics less burdensome. R&Mfreenet EL4.0 RJ-45 connection modules offer a standardised, scalable approach to structured cabling for office building and enterprise networks. The EL 4.0 portfolio supports Cat.5e, Cat.6 and Cat.6A, ensuring dependable data transmission speeds of up to 10GBASE-T.

CLICK HERE to find out more.
www.rdm.com



Legrand strengthens its commitment to open data centre architectures

Legrand is reinforcing its commitment to open, scalable data centre architectures through its expanding portfolio aligned with Open Compute Project (OCP) standards. Leveraging best in class engineering and custom design, the company is helping organisations simplify OCP adoption to achieve greater flexibility, scalability and faster deployment.

As demand for AI and high performance computing continues to grow, data centre operators are rethinking traditional design approaches to support higher power densities and evolving workload requirements. OCP architectures enable more efficient energy use, simplified scalability and streamlined integration.

'Legrand is helping customers move beyond traditional vendor constraints and deploy infrastructure designed for adaptability, efficiency and long-term growth,' said Marc Marazzi, vice president at Legrand Data Center Solutions Europe. 'Our OCP-aligned portfolio integrates seamlessly with our broader ecosystem of power distribution, intelligent rack management and cooling technologies to support increasing density requirements.'

Black & White Engineering makes senior technology appointments to support next phase of growth

Black & White Engineering has appointed Charlie Bater as chief technical officer (CTO) and Paul Cook as global director of technology and innovation. Their appointments support Black & White's continued growth across international markets, where the business now operates across 24 locations with a team of more than 1,000 people globally.

Bater takes on the CTO role, having joined the business eight years ago and most recently serving as global data centre director. Cook brings experience spanning critical infrastructure, hyperscale data centres and complex integrated environments, having worked internationally.

Bater said, 'Stepping into the CTO role is an incredible opportunity. Having grown with the business over the past seven years, I've seen firsthand the strength of our people and the ambition that drives Black & White.' Cook added, 'The opportunity is to build a technology and innovation capability that is practical and supports how projects are delivered day to day, while also ensuring that buildings are designed to provide operational insight and enable effective performance over their lifecycle.'

Mayflex wins two Distributor of the Year Awards

Mayflex has been recognised with two Distributor of the Year awards at the Motorola Solutions Executive Partner Forum. Mayflex was awarded Distributor of the Year – Top Avigilon Unity Sales UK & Europe and Distributor of the Year – Top Avigilon Alta Sales UK & Europe.

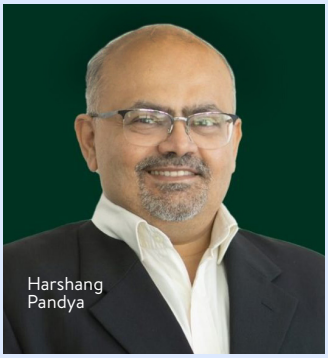
The awards recognise Mayflex's outstanding performance in both on premise and cloud based security solutions, as well as its continued commitment to supporting partners throughout the transition to next generation security technologies. Mayflex has a longstanding partnership with Motorola Solutions and Avigilon and Pelco and continues to play a key role in helping UK and Middle East partners design, deploy and support Avigilon Unity and the rapidly expanding Avigilon Alta cloud platform.

L-R left to right – Francesco Bellavia, Chris Anderson and Ross McLetchie

Ross McLetchie, sales director at Mayflex, commented, 'We are delighted to receive both awards. Motorola Solutions is a strategic focus for Mayflex and these wins reflect not only our sales performance, but the depth of expertise and level of support we provide to our partners.'

AEM Precision Cable Test is now AEM Networks

AEM's Precision Cable Test business is now operating as AEM Networks. The move marks the evolution of the business into a new growth phase, focused on expanding its product portfolio to address testing needs for networks in an increasingly AI-driven digital economy.


Harshang Pandya

A structural shift in the industry network infrastructure is becoming more software defined, distributed and performance sensitive. AI workloads are increasing demands on bandwidth, latency and reliability. Deployment cycles are shortening, while governance, traceability and audit expectations continue to rise.

'The way networks are built and operated has changed, driven by AI and increasingly data intensive environments,' said Harshang Pandya, general manager of AEM Networks. 'The way they are tested must evolve accordingly. AEM Networks will serve the customers with our industry leading test solutions and efficient test workflow.'

Vantage Data Centers strengthens global leadership team

Vantage Data Centers has appointed Emma Jeffries as global chief people officer and Michael Fränkle as chief operating officer EMEA, further strengthening its leadership bench as the company scales to meet rising customer demand for hyperscale and AI capacity worldwide.


Emma Jeffries


Michael Fränkle

Based in Denver, Jeffries will lead Vantage's global human resources function, including talent acquisition, leadership development, organisational design and total rewards. Fränkle, based in Frankfurt, will oversee operations, reliability engineering and customer experience across Vantage's Europe and Africa footprint.

Sureel Choksi, president and chief executive officer at Vantage, said, 'Emma will advance the company's talent, culture and operating model to support rapid global expansion and the increasing complexity of hyperscale and AI infrastructure deployments. Michael brings decades of experience running and modernising mission critical infrastructure. His disciplined approach to operations will be key to delivering the reliability, consistency and customer experience required for AI and cloud workloads.'

CHANNEL UPDATE IN BRIEF

Rackspace Technology has announced the appointments of Paul Soligon as senior vice president of operations and Marco Tesini as senior vice president of international for the company's private cloud business unit.

Vertiv has announced four new or expanding manufacturing facilities in the Americas, growing the company's production capacity for infrastructure solutions, power management and integrated cabinets.

Hitachi Solutions has appointed Roger Lvin as chief executive officer and president. Lvin is a proven global transformation leader with more than 20 years of experience in building high performance organisations and scaling technology led consulting businesses.

Daikin Rental Solutions has announced a major expansion of its UK rental fleet, combining new high capacity cooling systems, low carbon heating solutions, process cooling equipment and UK manufactured air handling units.

Apex B2B has launched following an investment of £1.3mn, targeting wholesalers, distributors and manufacturers seeking to modernise their digital infrastructure and improve operational efficiency.

Lightening the load

Michael Akinla of Panduit looks at how white cabinets are redefining efficiency in data centres

For decades, black server cabinets have been the unchallenged default across data centres, telecom rooms and technical spaces. Their ubiquity has rarely been questioned, largely due to cabinet colour being traditionally viewed as an aesthetic choice rather than an operational one. However, as energy efficiency, sustainability and operational performance climb higher on the agenda, even seemingly minor design decisions are being re-evaluated. Among these, the colour of the rack itself is emerging as a surprisingly impactful factor.

PHYSICS OF REFLECTANCE

A growing body of evidence now suggests that white server cabinets offer measurable advantages over their black counterparts – not in terms of cooling performance, as is sometimes claimed, but in lighting efficiency, visibility and overall operational cost. When properly integrated into lighting design strategies, white cabinets can deliver both capital and operational savings while improving working conditions in increasingly dense and complex environments.

At the heart of the argument for white cabinets is a simple physical principle – reflectance. Dark surfaces absorb light, while lighter surfaces reflect it. In a data centre environment, characterised by long rows of cabinets, narrow aisles and repetitive vertical surfaces, this difference becomes amplified.

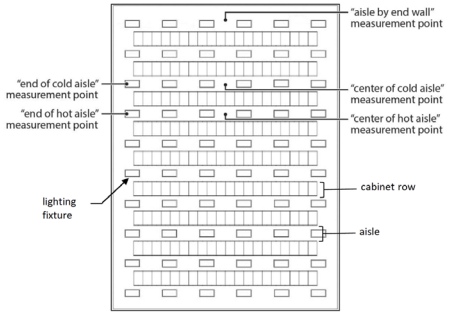
White cabinets reflect a significantly higher proportion of incident light back into the room. This reflected light increases overall illuminance levels without requiring additional energy input. By contrast, black cabinets absorb most of the light that falls on them, effectively reducing the usable light within the space.

This distinction is not marginal. Modelling conducted on a 5,000ft² data centre showed that switching from black to white cabinets increased illuminance by approximately 56 per cent in the centres of hot and cold aisles, and by around 32 per cent in other monitored areas. These

‘In a sector where innovation often focuses on high cost, high complexity solutions, the case for white cabinets is refreshingly straightforward.’

are substantial gains, large enough to fundamentally change how lighting systems can be designed.

Figure 1: Layout in Modelled Data Centre



FINANCIAL TIMES

The practical implication of higher reflectance is straightforward – if a space is naturally brighter due to reflected light, fewer luminaires are needed to achieve the same target lighting level. This is where white cabinets begin to deliver tangible financial benefits.

In the same modelled scenarios, lighting systems designed around white cabinets achieved a 25 per cent reduction in lighting electrical load in both baseline and cold aisle containment configurations. In vertical exhaust duct (VED) environments, the savings rose to 35 per cent. These reductions translate directly into lower energy consumption and reduced operating costs over time.

The savings are not limited to operational expenditure. As fewer luminaires are required, upfront installation costs also decrease. In practical terms, white cabinet deployments required 20 fewer fixtures in standard configurations and up to 28 fewer in VED scenarios. At typical installation costs, this equates to thousands of pounds in capital expenditure savings.

Lighting may represent a relatively small proportion of total data centre energy consumption but the cumulative effect is still meaningful. Estimates suggest that improved lighting efficiency enabled by white cabinets can deliver overall facility energy savings in the range of 1.5-3 per cent. In large scale or hyperscale environments, that margin is far from trivial.

SMARTER LIGHTING

Importantly, these savings are not automatic, they depend on intentional design. Simply replacing black cabinets with white ones without adjusting the lighting layout will increase brightness, but it will not deliver energy or cost benefits.

The real advantage comes when lighting systems are actively designed to take advantage of higher reflectance. By reducing fixture count and optimising placement, designers can maintain required lux levels while lowering both power consumption and installation complexity.

This principle becomes even more relevant in contained

Figure 2: Energy load Reduction

Scenario	Lighting load with dark cabinets	Lighting load with white cabinets	Reported lighting saving	Fixture reduction
Baseline hot aisle/cold aisle	5,120W	3,840W	25%	20
Cold aisle containment	7,168W	5,376W	25%	20
Vertical exhaust duct configuration	5,120W	3,328W	35%	28

environments. While containment systems can alter how light behaves, sometimes reducing brightness within enclosed aisles, white cabinets continue to outperform black alternatives. In cold aisle containment scenarios, for example, white cabinets still delivered significantly higher illuminance despite the inherent challenges of enclosed spaces.

In VED configurations, the effect is even more pronounced. White cabinets combined with ducting systems produced dramatically higher light levels in hot aisles, highlighting their ability to improve visibility even in more complex airflow managed designs.

SEEING IS BELIEVING

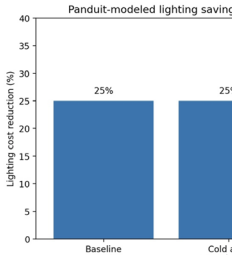
Beyond energy efficiency, white cabinets offer a less quantifiable but equally important benefit – improved working conditions. Data centres and technical rooms are operational environments where visibility matters. Technicians regularly perform tasks such as tracing cables, reading labels and inspecting connections. In rows of black cabinets, these tasks can be hindered by low contrast and shadowed areas, particularly in tightly packed aisles.

White cabinets help mitigate these challenges by reflecting light into darker areas, creating a brighter and more uniform visual environment. This improved visibility can reduce errors, speed-up maintenance tasks and enhance overall operational efficiency.

The benefits extend beyond large data centres. In intelligent buildings, where technical spaces such as telecom closets, building management system (BMS) rooms and edge computing hubs are often smaller and less consistently occupied, white cabinets can significantly improve usability. These environments frequently rely on modest lighting schemes, making reflectance even more valuable.

In such settings, white cabinets also support the adoption of sensor based or task based lighting strategies. Motion activated or door triggered lighting systems become more effective when ambient reflectance is higher, allowing facilities to avoid over-lighting spaces that are only used intermittently.

Figure 3: Lighting Savings

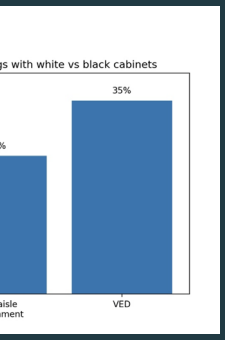


A BALANCED VIEW

While the case for white cabinets is compelling, it is important to separate evidence based benefits from common misconceptions. One persistent claim is that white cabinets improve cooling efficiency but current evidence does not support this. Thermal performance in data centres is driven by airflow management, containment strategies and equipment design – not by cabinet colour alone.

Similarly, the visibility improvements inside the cabinet itself are more limited than often assumed. When ambient lighting is reduced to capture energy savings, the increase in internal cabinet brightness drops significantly, from around 80 per cent to approximately 16 per cent. This means that task lighting remains essential for detailed work, regardless of cabinet colour.

There is also a design consideration around glare. Environments dominated by highly reflective surfaces can create visual discomfort if not properly balanced. Effective lighting design must account for this, ensuring that reflectance is used strategically rather than excessively.



SHIFT WORK

The broader significance of white cabinets lies in what they represent – a shift towards more holistic, system level thinking in infrastructure design. In the past, lighting, racks and operational workflows were often considered separately. Today, the trend is towards integrated design, where every component contributes to overall efficiency and usability.

White cabinets exemplify this approach. They are not a standalone solution, but a multiplier effect. When combined with intelligent lighting design, containment strategies and smart controls, they enable a more efficient and adaptable environment.

For designers and operators, the lesson is clear – cabinet colour should no longer be treated as a purely aesthetic decision. It is a functional parameter – one that influences energy consumption, capital costs and operational effectiveness.

As the industry continues to prioritise sustainability and cost efficiency, incremental improvements are becoming increasingly valuable. White cabinets reduce lighting load, lower fixture requirements, improve visibility and help create smarter lighting strategies. Crucially, they do all of this without introducing complexity or compromising existing infrastructure practices.

SENSE CHECK

In a sector where innovation often focuses on high cost, high complexity solutions, the case for white cabinets is refreshingly straightforward. By leveraging a basic physical principle, reflectance, they unlock efficiencies that are both practical and scalable. The result is not just a brighter data centre, but a more efficient, more maintainable and, ultimately, more intelligent one. As organisations continue to optimise every aspect of their digital infrastructure, the question is no longer whether cabinet colour matters, it is whether continuing to default to black still makes sense. ■

MICHAEL AKINLA

Michael Akinla is business manager central Europe north at Panduit. He brings over 20 years' experience in the deployment of Panduit's most complex solutions and has extensive experience in working with several large global accounts to bring about significant improvements in terms of higher bandwidth deployments, reduced Power Usage Effectiveness (PUE) ratings and lower total cost of ownership.

Designing fibre pathways for chan not just capacity

Elevate's Yellow Fibre Duct gives data centre control as optical fibre volumes grow and ne

As optical fibre density in data centres continues to accelerate, pathway congestion is emerging as a persistent and often underestimated challenge. While pathway congestion is frequently dismissed as a housekeeping issue, its real impact is far more significant, restricting access, increasing risk during live moves, adds and changes (MACs), and accelerating lifecycle costs through rework and remediation.

A growing disconnect

In many environments, pathways become functionally congested long before their physical capacity is reached. This disconnect arises because usable capacity is determined not only by cross sectional area but by factors such as bend radius envelopes, entry and exit geometry, bundle packing inefficiencies and the need for safe hands on access. A duct that appears 'not full' may already be operating at the limit of what can be safely maintained.

'What we see time and again is that congestion isn't caused by one bad decision - it's the cumulative result of change happening faster than the pathways were designed to cope with,' says Ian McKiernan, technical pre-sales manager at Elevate – Future Faster. **'Once access and bend radius control are lost, every subsequent change becomes higher risk.'**

Why congestion happens

Congestion is compounded by change velocity. In high activity areas, fibre routing is rarely static. New services, technology refreshes and parallel project work introduce frequent routing changes, each consuming space and increasing pressure at critical transitions. As utilisation increases, technicians are forced to work closer to minimum bend radius limits or disturb live fibres, increasing both performance risk and operational complexity.

Traditional design approaches often exacerbate the issue by treating pathway capacity as a one-time sizing exercise, designed to meet an assumed fibre count rather than an ongoing rate of change. Designing to maximum fill may appear efficient on day one, but it leaves little tolerance for growth, remediation or parallel installation – all of which are inevitable in live data centre environments.

A modular response to uncertainty

Forecasting fibre demand over 5-10 years is inherently imprecise. Growth rates, technology refresh cycles and service models rarely align to single point forecasts. In response, modularity has become a key engineering principle in pathway design, allowing capacity

nge,

e operators and designers greater
twork changes become more frequent

ELEVATE
Future Faster

to expand incrementally as demand materialises, rather than relying on speculative overprovisioning.

Elevate's Yellow Fibre Duct has been developed with this reality in mind. Rather than functioning as a single purpose product, the system operates as a modular pathway platform, combining consistent geometry, multiple width options and a comprehensive accessory range to support structured routing, expansion and long-term governance.

Standardised straight sections and purpose designed bends, tees and junctions define fibre geometry at every transition, protecting minimum bend radius and removing ambiguity during installation and maintenance. Multiple duct widths with a consistent height profile enable repeatable design rules and staged expansion without disturbing existing live services.

Supporting governance and lifecycle control

Material selection also plays a critical role in pathway performance. Manufactured from flame retardant, low smoke zero halogen (LSZH) materials and meeting UL94 V 0 flammability requirements, Elevate Yellow Fibre Duct supports fire safety objectives in high density technical environments while providing a defensible specification basis for consultants and procurement teams.

More importantly, the system supports governance over time. Clear routing geometry, defined drop off points and modular expansion options make it easier to document pathways, enforce standards and prevent the accumulation of ad hoc exits that so often lead to localised congestion hotspots.

Designing for the rate of change

Ultimately, the difference between a pathway that remains manageable and one that becomes a constraint is not the number of fibres installed at handover, but how effectively the design anticipated the pace of change that follows. Designing for headroom, access and adaptability is not inefficiency – it is a deliberate strategy to reduce lifecycle risk.

By combining conservative capacity planning, modular expansion and engineered routing, Elevate's Yellow Fibre Duct enables data centre operators and designers to maintain control as fibre counts and change activity increase.

In an environment where uncertainty is inevitable, pathways designed for change – not just capacity – provide the resilience required to support long-term performance.

Read all about it

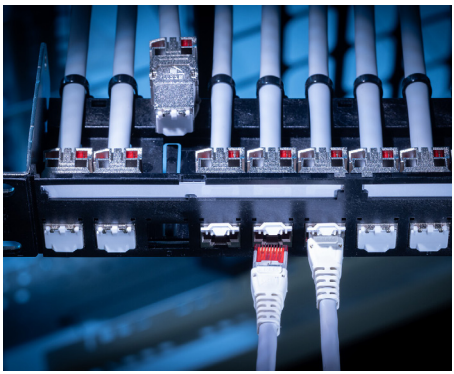
For more information about Elevate's Yellow Fibre Duct and to read Elevate's Congestion in Data Centres white paper **CLICK HERE,** or to contact Elevate's DC team **CLICK HERE.**

www.elevate.excel-networking.com

R&M

Next generation RJ-45 modules from R&M

R&M's new RJ-45 modules make LAN planning and installation easier, faster and more sustainable. The harmonised Cat.6A, Cat.6 and Cat.5e EL4.0 portfolio reduces variants to help planners, buyers and installers select the right solution more quickly while cutting stock keeping unit (SKU) complexity across purchasing and warehousing.



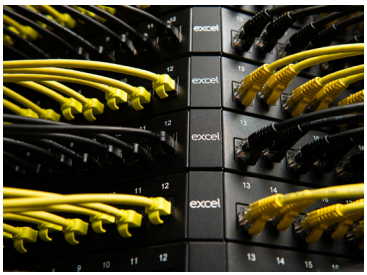
Designed with R&M's Easy Lock quick mounting technology, the modules combine wire guiding, conductor connection and housing closure in a single tool-free step, reducing installation time to as little as 1-2 minutes per module. Integrated strain relief, colour coding and an attached dust cover cap minimise loose parts, support cleaner patching and help reduce errors on-site.

Available in shielded and unshielded versions, the modules support LAN applications up to 10 Gigabit Ethernet and fit all R&Mfreenet outlets and patch panels. With recycled cardboard and paper packaging, they also help reduce plastic waste. The result is a streamlined, installation ready solution for network deployments.

CLICK HERE to find out more.
www.rdm.com

Excel Networking Solutions

Excel Networking Solutions patch panels – designed for simpler, cleaner cable management



Effective cable management starts at the patch panel, and Excel's copper patch panel and frame range is designed to make structured cabling easier to install, manage and maintain. With options including 0.5U panels, flat and angled panels, keystone jack panels and unloaded frames, Excel provides the flexibility to suit everything from high density data centre racks to enterprise comms rooms.

Features such as angled patch panels and V style panels help relieve cable strain and maintain correct bend radius, supporting better cable routing and reducing congestion at the rear of the rack. Integrated cable management and rear strain relief points allow cables to be dressed neatly, improving airflow and making moves, adds and changes far more straightforward.

CLICK HERE to see the full range of panels available and find out how Excel can meet and exceed your cable management requirements.
www.excel-networking.com

Cable Management Warehouse (CMW)

In the fast moving world of data communications, maintaining optical fibre performance and protection is critical. Available from CMW, HellermannTyton's GigaDuct system provides a purpose built approach to managing fibre within data centre environments, helping teams maintain organisation and reliability at scale.

GigaDuct is a robust, modular fibre raceway designed to create dedicated routing pathways. By separating and structuring cable runs, it reduces congestion, limits bend stress on fibres and supports more efficient installation and ongoing maintenance.

Working with CMW, customers can access specialist design support to plan and implement effective containment layouts using HellermannTyton's GigaDuct system. CMW holds stock, enabling faster availability alongside technical guidance throughout project delivery.

To discuss requirements, contact HellermannTyton product specialist Irene Wort on 01234 848030 or **CLICK HERE** to visit the CMW website.

www.cmwltd.co.uk

Elevate

Elevate Yellow Fibre Duct – controlling congestion in high density environments

As optical fibre density increases in data centre environments, traditional pathway management approaches are struggling to maintain accessibility and control. Congested routes restrict bend radius compliance, complicate moves, adds and changes, and drive higher operational risk long before physical capacity limits are reached.

Elevate's Yellow Fibre Duct addresses these challenges. The modular duct system introduces structured, clearly defined fibre pathways that support separation, visibility and controlled routing in high change environments. Purpose designed bends, tees and routing accessories protect minimum bend radius at every transition point, reducing the risk of fibre damage during installation and ongoing maintenance.

Multiple duct widths with consistent geometry enable conservative utilisation targets and modular expansion, allowing pathway capacity to grow in step with demand, rather than forcing reactive remediation. Manufactured from low smoke zero halogen (LSZH), flame retardant materials and engineered for overhead routing, Elevate Yellow Fibre Duct helps data centre operators and designers maintain accessibility, governance and long- term performance.

CLICK HERE to discover more about Elevate's Yellow Fibre Duct.
elevate.excel-networking.com

Panduit

The FlexCore optical distribution frame (ODF) from Panduit offers a versatile and secure front access cabling system that also provides improved protection for critical optical fibre connections.

It utilises innovative cable management and simple, intuitive cable routing. With standard locking doors and optional locks on each enclosure, the FlexCore ODF solution enables multi-tiered security – an important addition for multiple client access.

The system manages up to 3,168 fibres per frame and provides multiple configurations using just three modular building blocks. This allows for design customisation and scalability, while optimising both product availability and system density.

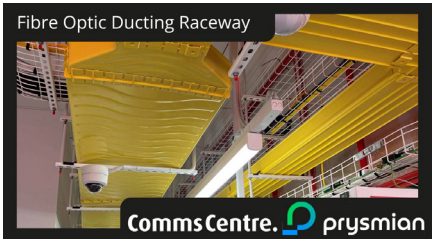
Compared to typical data centre cabinets, the FlexCore ODF can reduce floorspace in a data centre by 50 per cent. In addition, with side panels and doors with locks, the FlexCore ODF solution allows the system to be completely enclosed and secure.

CLICK HERE for more information.
www.panduit.com

Comms Centre

Prysmian fibre duct – a legacy of cable protection

Warren & Brown, now part of Prysmian Group, is a trusted name in cable management across Australia and beyond. Available from Comms Centre, the company's Fibre Ducting Raceway System is engineered specifically for the protection and routing of fibre optic cables, usually ≤5mm outer diameter (O/D) but larger cables can be accommodated depending on the spill-out options.



Self-extinguishing and halogen free, the ducting is certified to UL94V-0 specifications for 100, 220 and 300mm sizes, and to UL94V-1 specifications for 30 and 50mm sizes – making it a safe choice for sensitive environments.

Designed to withstand mechanical stress, moisture ingress and UV exposure, these ducts provide a robust pathway for fibre cables in both underground and above ground installations. Smooth internal walls minimise friction during cable pulling and support future network upgrades.

Since Prysmian's acquisition, the product line has benefited from enhanced global research and development, ensuring continued innovation and compliance with evolving industry standards.

CLICK HERE to find out more, call 01634 291191 or to send an email **CLICK HERE.**

www.commscentre.com

Taking the heat out of the situation

Mike van der Donk of Legrand examines why containment should shape the next phase of data centre cooling

AI workloads are pushing data centres into unfamiliar territory. Rack densities that once averaged 10-15kW are increasingly exceeding 50kW and, in ultra-high density environments, reaching 100-200kW+. This shift is fundamentally changing how facilities manage heat, with cooling strategies that have performed reliably for years now approaching their practical limits.

BRIDGING THE GAP

These high density deployments are driving a growing interest in liquid cooling. While adoption is increasing, many operators face technical, financial and operational barriers to immediate implementation including capital costs, facility upgrades and changes to maintenance practices. Moving too quickly can introduce additional complexity and potential risks to resilience and uptime.

Containment provides an effective way to bridge the gap between traditional air cooling and future liquid cooling adoption as computing demands continue to evolve. By improving airflow management and cooling efficiency, containment enables data centres to support higher densities without requiring significant infrastructure changes, offering a practical pathway toward more advanced cooling strategies over time.

> 'Containment bridges the gap between high and ultra-high densities, offering a strategic, immediately impactful solution without major infrastructure changes.'

SOMETHING IN THE AIR

In conventional air cooled environments, mixing hot exhaust air with conditioned supply air forces the cooling equipment to work harder than necessary. Operators often compensate by lowering room temperatures across the entire facility to protect the hottest racks, increasing energy usage and operating expenses.

Containment physically separates hot and cold air with barriers like doors or panels, making airflow controlled and predictable. Cooling systems operate near their design parameters, improving performance while reducing energy demand. This controlled setting delivers several measurable benefits and as densities increase, and these incremental improvements become increasingly important:

- Improved cooling efficiency as return air temperatures increase, allowing cooling units to operate more effectively.
- Reduced energy consumption through

optimised airflow and less overcooling.
- Extended lifespan of equipment due to lower thermal stress and elimination of localised hotspots.
- Higher operational reliability through more stable temperatures across racks and rows.

HOT VERSUS COLD

There are two types of aisle containment options, each suited to different facility configurations.

Hot aisle containment channels hot exhaust air from the rear of server racks and directs it toward cooling systems, often via an overhead ceiling plenum. By sealing the hot aisle from the rest of the room, hot and cold air is prevented from mixing, allowing cooling systems to operate more efficiently. This method is typically used in slab or concrete floor environments and supports higher return air temperatures, improving overall system efficiency while maintaining comfortable working conditions for technicians.

Cold aisle containment creates an enclosed corridor in front of server racks, ensuring conditioned cold air is directed to equipment intakes. Isolating the supply airflow prevents mixing with hot exhaust air and helps maintain consistent inlet temperatures across the IT load. This method is well suited to raised floor environments.

Both options can also be chosen using in-row coolers. The optimal choice depends on airflow design, ceiling height, density goals and operational practices. Both containment strategies can be adopted with minimal disruption, making them suitable for both retrofits and new projects.

TRANSITIONAL ROLE

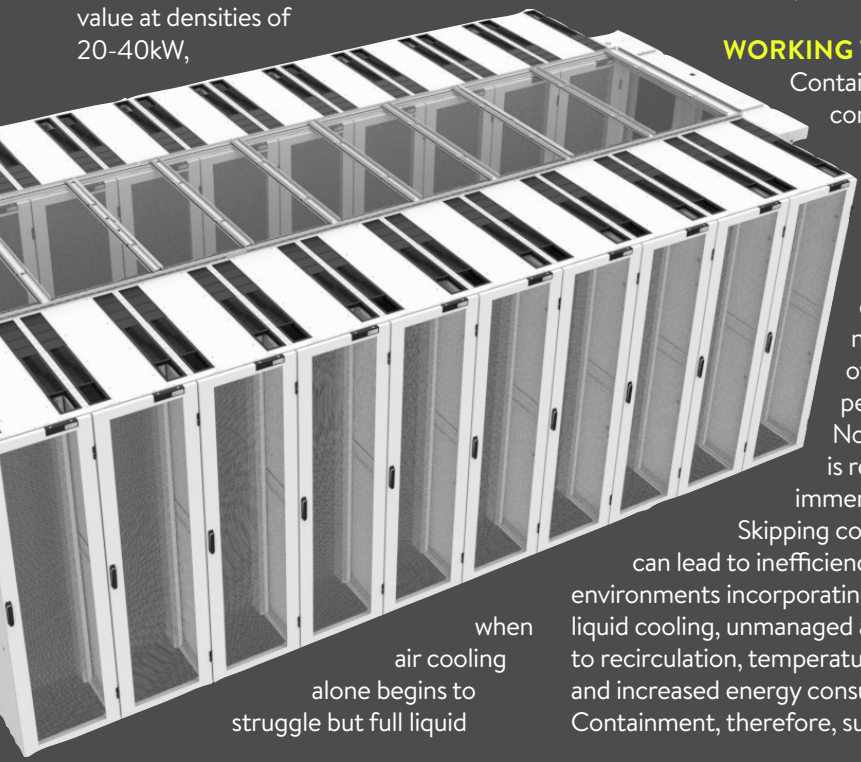
As computing requirements evolve, most

‘Containment delivers the greatest value at densities of 20-40kW, when air cooling alone begins to struggle but full liquid cooling may not yet be necessary. It supports the gradual step from air cooled to liquid cooled environments.’

data centres move through a series of cooling stages. Traditional room based air conditioning performs well at lower densities but becomes less effective as workloads intensify.

Containment delivers the greatest value at densities of 20-40kW, when air cooling alone begins to struggle but full liquid cooling may not yet be necessary. It supports the gradual step from air cooled to liquid cooled environments. By stabilising airflow and improving thermal predictability, containment extends the lifespan of air based systems and prepares facilities for hybrid cooling strategies. Beyond this stage, operators may adopt:

- Rear door heat exchangers (RDHx). These are suited to high density racks (25-150kW) and are efficient and retrofit friendly.
- Direct to chip liquid cooling. This is designed for very high densities (50-100kW+). It removes heat at source with high efficiency, although free air cooling is still required.
- Immersion cooling. This supports ultra-high densities (100-250kW+) and maximises thermal performance.



WORKING TOGETHER

Containment complements these technologies by ensuring residual heat from air cooled equipment does not compromise overall system performance. No containment is required for full immersion cooling.

Skipping containment can lead to inefficiencies. Even in environments incorporating direct to chip liquid cooling, unmanaged airflow can lead to recirculation, temperature variation and increased energy consumption. Containment, therefore, supports both

current performance requirements and long-term scalability.

STRATEGIC DIRECTION

Containment bridges the gap between high and ultra-high densities, offering a strategic, immediately impactful solution without major infrastructure changes. Its incremental deployment – by row, room or zone – aligns investments with growth and supports continuous, reliable operations. Best practice considerations include:

- Designing with future density requirements in mind, particularly as AI workloads expand.
- Selecting a containment strategy aligned with facility layout and operational workflows.
- Considering hybrid cooling approaches that combine containment alongside RDHx or targeted liquid assisted solutions.
- Encouraging collaboration between facilities, IT and operations teams early in the design phase.
- Using environmental monitoring data to validate and refine airflow performance after deployment.

COOLING EVOLUTION

While liquid cooling will play an important role in supporting next generation infrastructure, most facilities will adopt it gradually. Containment provides a practical and scalable way to improve cooling performance today while preparing for future cooling architectures. By optimising airflow and stabilising thermal conditions, operators gain valuable time to plan, test and deploy new technologies without impairing reliability. Containment is not merely a transition solution – it is the strategic cornerstone for future ready, resilient and efficient data centres prepared for ongoing AI-driven transformation. ■

MIKE VAN DER DONK

Mike van der Donk is category manager at Legrand Data Center Solutions in Europe. He specialises in managing and developing data centre product portfolios, with a strong focus on white space solutions, specifically cabinet and containment systems. He works closely with cross functional teams and partners to translate market needs into scalable, high quality solutions that support modern data centre environments.

Love thy neighbour?

In this month's Knowledge Bank, where tech is demystified, Carrie Goetz examines how NIMBYism is proving to be quite a problem for new data centre development

Not in my back yard (NIMBY) is at the forefront of a lot of conversations about data centres. While some concerns are self-inflicted, others are baseless and often one-sided. So, how do we convince others that we are, in fact, nice neighbours?

POWER UP

At the start of a data centre conceptualisation, owners are looking for the magic trifecta of power, communications and land. These days, power is quite the chase.

We do consume a lot of power. Today, AI is estimated to use 450-500TWh annually or about two per cent of the global energy consumption – enough to power about 41.7 million homes. Power consumption is the first argument against data centres. But is this fair?

EFFICIENCY DRIVE

Data centre professionals work around the clock to become more energy efficient. The industry does have a problem with stranded power, however. Stranded power is power dedicated/spoken for that isn't used. We deserve some scrutiny here, as we have some work to do.

Some solutions are noteworthy. There are companies that test every server configuration, allowing companies to select the most efficient hardware for workloads. The Open Compute Project (OCP) is perfecting server and rack designs to support more efficient high performance computing. We have data centre infrastructure management (DCIM) packages with increasing functionality to help manage our ecosystems.

But, to date, no one has solved stranded power. AI shows promise through machine level understanding at a granular level that humans would find overly daunting. Using our systems' capabilities to increase efficiencies is a fascinating science (and career).

GENERATION GAME

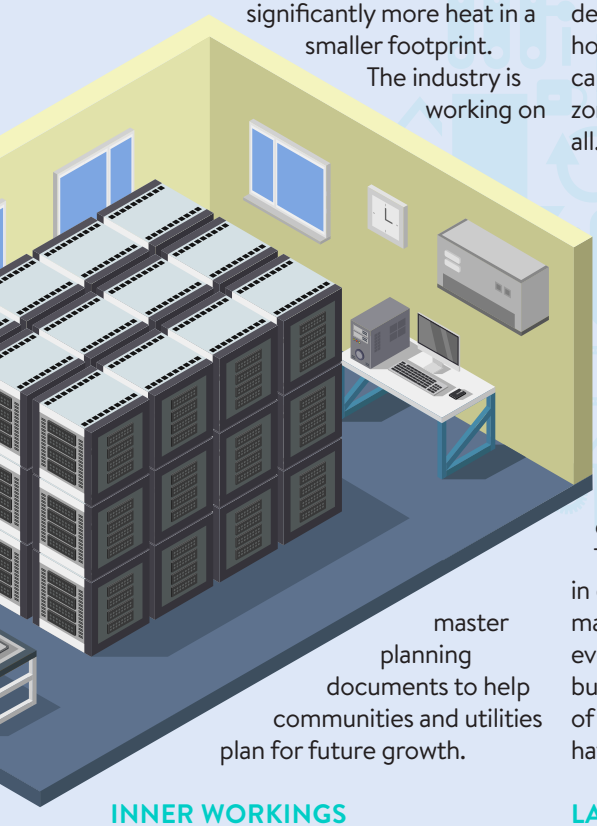
Another often overlooked nuance is the number of data centres that can generate their own power. Facilities powered in island mode may not touch the grid at all, and other facilities may supply power to the grid. Thermal storage and heat reuse are additional offsets. Data centres built near natural gas production pads decrease transmission losses.

What people don't realise is that about 50 per cent of a traditional data centre's total cost of ownership is power. Even if companies aren't working to address power consumption from an environmental stewardship standpoint, they most certainly are addressing power efficiency out of

economic necessity. Efficiency work is ongoing – from the materials we use to how we compute. Consumers of tech share some responsibility too. How much of your computing is truly necessary?

Water is another point of contention. There are areas where you cannot get a permit to build a facility that uses water due to resource scarcity. There is a misconception that water is the only way to reject heat. Immersion, direct to chip and other technologies allow us to remove significantly more heat in a smaller footprint.

The industry is working on master planning documents to help communities and utilities plan for future growth.



INNER WORKINGS

Infrastructure is another key element of new data centre builds. The place will not work if it isn't internet connected. When carriers bring services to a data centre, the entire city generally benefits in a few ways.

They have central office and infrastructure upgrades that everyone can avail themselves of and the resultant overall internet services around the data centre improve. Latency will likely decrease as additional points of presence and internet backhaul improve and content delivery services are likely to be multiple hops closer. At the very least, adding capacity creates multiple competition zones for consumers, improving access for all.

LEARNING CURVE

Another area that benefits from having data centres locally is education. The operators, construction businesses, product suppliers, maintenance professionals, security and a myriad of other supporting businesses all need talent. Apprenticeships are being created to help skilled tradespersons know how to apply their skills to mission critical facilities.

There is a misnomer that no one 'works' in data centres after construction. Workers may not show up at the physical facility every day but there are scores of local businesses that support the operation. All of that support means that local companies have a demand for new talent.

LAST BUT NOT LEAST

Not all data centres are alike. A data centre can be a phenomenal asset to a location and its residents. However, each facility should be carefully planned with community and utility leaders, just like any other major commercial operation. ■

Joining the dots

Operating at the cutting edge of digital transformation, Kelly Tedesco and Dave Stonehouse aim to deliver secure and scalable infrastructure via innovative technology solutions. Rob Shepherd spoke to them about their careers and experiences along the way

RS: Tell us a bit about yourself – who are you and what do you do?

KT: I'm in my thirteenth year with NG Bailey, having joined in a group strategy role before moving into the NG Bailey IT Services division, where I'm managing director. My background is firmly in service based industries, understanding clients' needs and designing solutions that allow them to focus on what matters most to their organisations.

DS: I started my career as an apprentice in 1984 and worked through engineering, networks, global infrastructure roles and technology development. I've deployed systems in numerous countries and worked across everything from data centres to unified communications as a service (UCaaS) and operational technology (OT). I joined NG Bailey 12 years ago to bring deeper technical insight into bids and solutions, and now lead technical strategy and research and development (R&D) for the NG Bailey IT Services business.

RS: What first drew you to the IT services sector?

KT: I came into the sector by accident and I'm not a technical specialist by background. My strengths lie in business leadership and understanding what customers need, then ensuring our teams have the skills and tools to deliver those outcomes. Over the years I've developed a solid understanding of core technologies but my focus remains on orchestrating the business around great service and strong customer relationships.

DS: It's more than a job for me – I love understanding how things work and how technology offers solutions. That curiosity has taken me to over 50 countries in my career and lot of good experience operationally, so I understand technology, how to deploy it, where to

deploy it and how to design it.

RS: How has your perspective on the industry evolved since taking on your current roles?

KT: Historically, our work was seen as low level cabling on construction sites – very much at the end of the chain. Digital transformation has completely changed that. Today, infrastructure is critical – if organisations don't get their foundational cabling, topology and connectivity right, nothing else works. With cloud adoption, cybersecurity requirements and the rise of AI, resilient infrastructure is now central to national and business performance.

DS: Data centres are a perfect example. What was once a niche, back end function is now public facing and mission critical. Everyone relies on fast, reliable data access. High density compute, cloud services, gaming, streaming, AI – all of that creates enormous infrastructure demands. Skills that were once niche are now essential and the technology we deploy has shifted from basic connectivity to sophisticated, high capacity systems.

> 'Today, infrastructure is critical – if organisations don't get their foundational cabling, topology and connectivity right, nothing else works.'

RS: Is NG Bailey now delivering more end to end solutions?

DS: Absolutely. We begin by understanding a client's business objective, what problems are they trying to solve, what the user expects from their technology and how failure impacts them. Once that's clear, we design the right infrastructure to make it all work reliably from end to end.

KT: And with government investment, especially in national digital infrastructure, organisations need partners that can deliver at scale. Being part of NG Bailey gives us the strength, financial credibility and capability to support major critical infrastructure projects across telco, public sector and enterprise environments.

RS: What excites you about the sector right now?

KT: The UK's renewed focus on digital infrastructure is driving real progress. Organisations are under enormous pressure to become more efficient and digitalisation is at the heart of achieving that. Once a client has a solid infrastructure foundation, we can work with them on innovative new technologies that transform how they operate. Our teams love being at the forefront of that change.

DS: For me, it's the continuous evolution. After four decades in the industry, seeing the leap from traditional networks to AI driven, high density, next generation environments is still exciting. Whether it's immersive cooling, ribbon fibre or power, the pace keeps you engaged and pushes engineering boundaries in positive ways.

RS: Which emerging technologies will shape your clients' environments most over the next few years?

KT: AI is the obvious one. The whole industry is learning how to use it responsibly and effectively. Across NG Bailey we're investing in expertise, partnering with major vendors and analysing what's

‘The culture has shifted dramatically from the old networking and social norms that historically acted as barriers. Flexible working, wellbeing focused policies and modern attitudes to family life have opened doors that weren’t always there.’

genuinely valuable versus what’s simply noise. Structured data, governance and focused use cases will be key, not rolling out licences without understanding the business benefit.

DS: From a technical perspective, AI requires enormous compute power, sustainable cooling and connectivity. Data centres need redesigned electrical networks, liquid cooling solutions and new cable technologies that can operate in extreme environments. On the customer side, AI will transform communication platforms, especially in contact centres, improving consistency, responsiveness and user experience. But ethical and regulatory considerations must develop alongside the technology.

RS: How do you stay ahead in such a fast moving industry?

KT: That’s a major part of Dave’s remit. He and the team work constantly with vendors, distributors and manufacturers to understand what’s coming, attend industry events and evaluate emerging technologies. But we’re careful – not everything new belongs in the business. Our new product introduction process ensures anything we adopt is commercially viable, low risk, supportable and valuable for customers.

DS: Most of us do this because we love the technology, so horizon scanning comes naturally. The real challenge isn’t finding new tech, it’s filtering it. Not every shiny product has a market and not every customer request is the right solution. We always start by asking the customer what they are trying to achieve. Then we apply the right technology from our portfolio or identify where genuine change is needed.

RS: How do you view the role of women in IT services today?

KT: I see real progress. Our leadership team is diverse, our apprenticeships are attracting more women and I’m meeting more female leaders than ever. The culture has shifted dramatically from the old networking and social norms that historically acted as barriers. Flexible working, wellbeing focused policies and modern attitudes to family life have opened doors that weren’t always there.

‘The real challenge isn’t finding new tech, it’s filtering it. Not every shiny product has a market and not every customer request is the right solution.’

DS: When I started, you rarely saw women in engineering roles. That’s changed completely. The consumer tech boom made technology

accessible to everyone and now we see a much better balance across the sector. Senior leadership, particularly in telecoms, is increasingly diverse, and that's improving culture, empathy and working environments across the board.

RS: If you could change one thing about the industry, what would it be?

KT: Not the industry itself, but how organisations respond to constant change. IT evolves at pace and we need to balance agility with clarity, adopting the right innovations at the right time, not change for its own sake.

DS: Global tech companies have enormous influence and customers can become locked into ecosystems with limited flexibility. Greater governance and competition would help control costs and create a healthier technology market.

RS: What is the best piece of advice you've received during your career?

KT: Stop, breathe, think. Taking a moment before reacting prevents missteps and ensures decisions are considered, not rushed.

DS: Always do your best work. You'll face opinions, criticism and noise, but if you think decisions through and commit to doing what's right, you stay focused, resilient and effective.■

Quick clicks

Your one click guide to the very best industry events, webinars, electronic literature, white papers, blogs and videos

Power Infrastructure Requirements For AI-Based Data Centers is a white paper from **EPI.**
CLICK HERE to request a copy.

Enteligent has published a white paper titled 800VDC to 50VDC Power Delivery Architecture: Completing The DC-Native Power Stack For AI-Scale Data Centers. It examines how data centres can improve electrical efficiency and power density by adopting high voltage direct current (HVDC) distribution paired with rack level DC power conversion.
CLICK HERE to download a copy.

No More Guesswork: The Truth About Extended Reach Network Cabling Solutions is blog by Mike Boisseau of **Siemon.**
CLICK HERE to read it.

Data Centre Dispatchable Capacity: A Major Opportunity For Europe's Energy Transition is a white paper from **AVK** and **Wärtsilä Energy** that examines how data centre microgrids can reduce grid infrastructure spending, emissions and wasted energy, while providing a balanced path for the transition to zero carbon.
CLICK HERE to download a copy.

Scaling AI-Enabled Digital Twins Across The Data Center Lifecycle With OpenUSD is a white paper from **Schneider Electric.**
CLICK HERE to download a copy.

De-Risking High Performance Data Centres With Dynamic Simulation is a white paper from **IES** that examines how AI workloads, rising cooling demand and grid constraints are reshaping data centre design.
CLICK HERE to read it.

The Science Of Fiber Cleanliness: Microscopic Issues With Macro Impact is a blog by Charlie Colias of **AFL.**
CLICK HERE to read it.

Sign of the times

Herman Chan of Sunbird Software takes a look at the state of data centre infrastructure management (DCIM) and the Gartner Hype Cycle

DCIM software has matured over the past decade. Deployments are faster, interfaces are easier to use, integrations are deeper and organisations are seeing real results. According to Gartner, DCIM software has reached an inflection point in the Hype Cycle – the Plateau of Productivity. This is recognition that DCIM software has gone mainstream, adoption is accelerating and proven solutions are delivering measurable value. That's why, if DCIM software is not yet in your plans, now is the time to take a serious look.

STATE OF PLAY

The Gartner Hype Cycle tracks how technologies mature from early innovation through inflated expectations, disillusionment and, eventually, to sustained productivity. It is used by organisations to assess and reduce the risk of adopting new technologies.

DCIM software's trajectory through the hype cycle began about 15 years ago. First generation tools struggled with long deployment cycles, poor usability and limited integration capabilities. Early adopters found a significant gap between vendor hype and the reality of slow, difficult tools. DCIM software fell into the Trough of Disillusionment and many vendors that couldn't close that gap didn't survive.

Over the past decade, modern DCIM platforms have addressed those shortcomings. Deployments became faster and interfaces became more intuitive, while out of the box connectors and open application programming interfaces (APIs) enabled easier integration with adjacent tools. As successful customers evangelised their results, DCIM software climbed the Slope of Enlightenment.

'Today, Gartner's placement of DCIM software in the Plateau of Productivity confirms that DCIM has earned its place as a proven, mainstream tool for data centre operations.'

UP TO DATE

Today, Gartner's placement of DCIM software in the Plateau of Productivity confirms that it has earned its place as a proven, mainstream tool for data centre operations.

Uptime Institute offers a complementary view. Rather than seeing DCIM software as a standalone product, Uptime Institute frames it within a broader concept called data center management and control (DCM-C) – a framework in which multiple specialised tools work together across complex environments. In that model, DCIM software serves as the central hub connecting facility systems, IT operations tools and business platforms.

DRIVING FORCES

At a certain point, the complexity of managing distributed infrastructure outgrows the tools most teams are still relying on. Spreadsheet updates take too much time, manual processes break down and inaccurate data leads to increased risk.

That's what DCIM software was built to solve. And that's why adoption has accelerated as environments have become harder to manage and the C-suite is recognising the importance of data centres in supporting their mission critical corporate operations. More organisations are deploying DCIM software to:

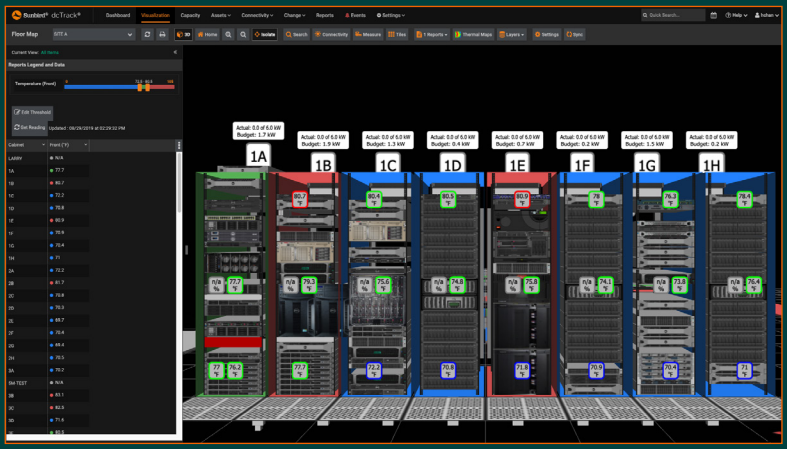
- Maintain an accurate asset inventory across all sites, including remote edge sites and intermediate distribution frame (IDF) closets, plus manage the lifecycle of those assets.
- Visualise sites with 3D digital twin modelling to support remote management.
- Make informed capacity planning decisions to reduce overprovisioning or stranded capacity of space, power and cooling.
- Automate repetitive tasks such as updating rack elevations, generating reports and processing move, add and change requests.
- Monitor power and environmental conditions with threshold alerts for early issue detection.
- Map relationships and dependencies for faster troubleshooting and impact analysis.
- Consolidate key information from multi-vendor tools into a single pane of glass.

The business case for DCIM software is now well documented and what drives these results is visibility. DCIM software surfaces what manual tracking misses – stranded capacity, inaccurate asset records and operational inefficiencies.

SINGLE LIFE

The most mature DCIM software deployments go beyond a standalone implementation. Organisations are integrating DCIM software with their multi-vendor toolset to create a single pane of glass – one intuitive graphical user interface (GUI) with one enterprise class relational database for all users.

Common integration points with



DCIM software include configuration management database (CMDB) and ticketing systems, server and network management tools, public and private cloud platforms, colocation monitoring tools, observability platforms and DevOps tools. When DCIM software serves as the single pane of glass and single source of truth, assets automatically stay synchronised across systems, workflows cross team boundaries without manual handoffs, while leadership has access to real-time dashboards rather than static reports.

CASE IN POINT

Published case studies of real-world deployments illustrate what this looks like in practice.

The World Bank integrated DCIM software with ServiceNow to automate provisioning throughout the asset lifecycle, from purchasing through deployment. ServiceNow, in turn, is integrated with SAP, creating an end to end automated workflow. Assets flow from purchase orders in SAP into ServiceNow, and from there into DCIM software with cabinet locations, installation status and lifecycle events synchronised to the other systems without manual effort.

eBay used DCIM software APIs to integrate DCIM software with ServiceNow to synchronise 600 daily activities across systems. Moves, adds, changes and decommissions that are documented in ServiceNow automatically flow to the DCIM tool, eliminating the double manual data entry that had previously been required to keep both platforms up to date.

Brussels University Hospital integrated DCIM software with Dell OpenManage Enterprise to automatically pull key asset and configuration data into DCIM. With DCIM software as the single pane of glass, it eliminated manual look-ups and gained the ability to launch a server console with a single click from its asset record in the DCIM tool.

These integrations were built using out of the box connectors and documented APIs available in modern DCIM software. It reflects how far DCIM's integration capabilities have come.

WHAT YOU SHOULD LOOK FOR

The time is now to deploy DCIM software but selecting the right vendor for your

organisation is critical. When evaluating vendors, focus on:

- Ease of deployment and use. Prioritise platforms that are fast to deploy, easy to use and browser based and mobile ready.
- Completeness of functionality. For a comprehensive solution, look for coverage across asset, capacity, change, energy, environment, power, visualisation, security business intelligence and analytics, and connectivity.
- Openness and integration. Fully documented RESTful APIs and out of the box connectors are essential. The platform should fit into your existing tool ecosystem, not require you to rebuild around it.
- Vendor focus. A pure play DCIM vendor will invest more consistently in the platform than one managing it as a secondary product line.
- Customer results and references. Ask for documented case studies and peer references in environments like yours.
- Quality of support. Look for strong customer satisfaction data, responsive technical teams and service level agreement commitments.
- User engagement and community. The best vendors treat customers as partners and are focused on their success. Look for active user groups, customer workshops and opportunities to provide input on the product roadmap.

THE TIME IS NOW

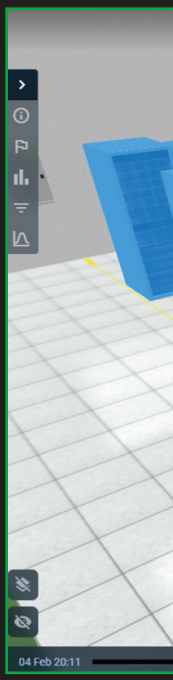
Organisations that have switched to modern DCIM software are already operating more efficiently, making better capacity decisions and achieving real cost savings. The question is no longer whether DCIM software can deliver, but how much longer it makes sense to manage your data centres without it. ■

HERMAN CHAN

Herman Chan is president and CEO of Sunbird Software. Prior to this role he was the DCIM general manager and vice president of marketing at Raritan for over 15 years.

Disruptive influence

With millions being invested in AI data centres, James Kirkwood of EkkoSense explains why a lack of real time visibility is simply too big a risk for most operators



The data centre sector is clearly undergoing unprecedented change. S&P Global reported a record $61bn investment in global data centre markets last year, while JLL expects global data centre capacity to double between now and 2030.

SPEED OF CHANGE

With data centres evolving faster than ever before – adding new AI workloads, introducing graphics processing unit (GPU) as a service and deploying advanced liquid cooling capabilities – operators face significant challenges. However, while recognising increased demand for AI computing services, operations teams are also having to balance their growth requirements against capacity and space limitations, as well as power sourcing and energy usage issues.

Given all this, there's never been a greater need for operations teams to know exactly what's going on across their data centre estates in real time. However, despite huge investments in infrastructure, they increasingly find they simply don't have access to the kind of information and insight they need to make informed decisions.

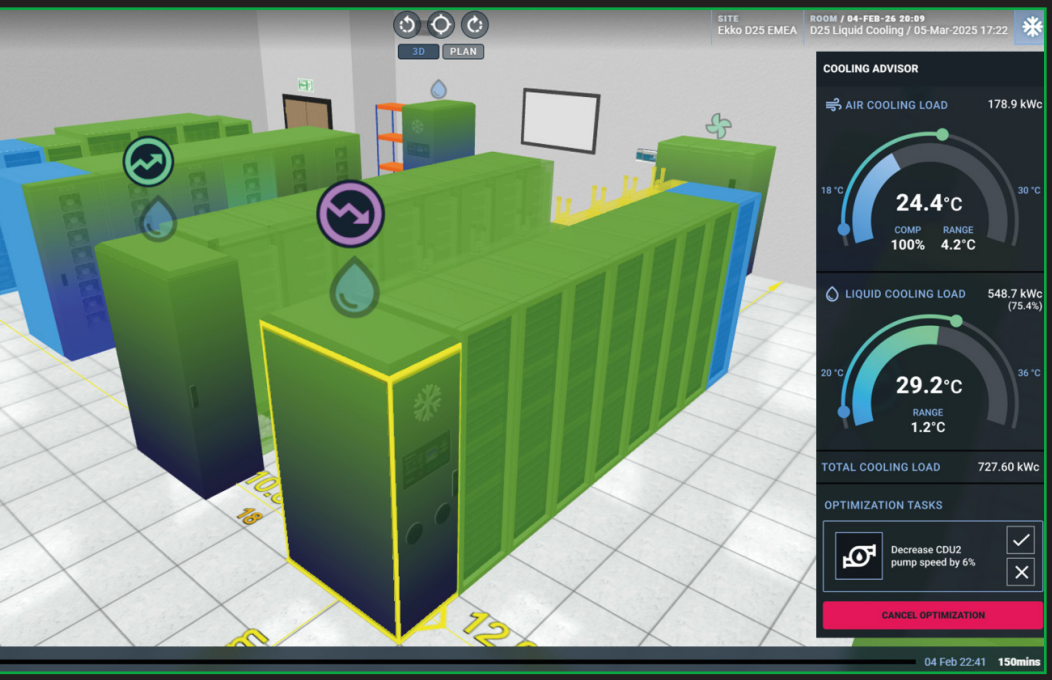
REALITY CHECK

While data centre investment is growing, the reality is that many of today's solutions simply can't keep up. Consequently, many current legacy equipment and monitoring capabilities invariably fall short of GPU and liquid cooling needs.

> 'The next generation of AI-powered optimisation functionality will prove critical as data centre operations teams move from simply responding to incidents to enabling the real time management of the whole facility's health.'

Existing building management system (BMS) and data centre infrastructure management (DCIM) platforms cannot forecast power and cooling bottlenecks effectively to find stranded capacity. A lack of real time insight means that traditional tools generally lack the kind of holistic insights needed to maximise power inputs and optimise energy use.

Even though legacy systems may



capture volumes of operational data, it can be hard for operations teams to access this quickly so that they can put it to work. That's even more prevalent across larger estates, where there's often the added complexity of multiple incompatible mechanical and electrical (M&E) systems running in parallel.

OPERATIONAL INSIGHT

We hear repeatedly from global data centre operators that, despite spending millions on traditional DCIM, BMS, electrical power monitoring systems (EPMS) and energy management systems (EMS), they still don't get the real time operational insights they need to effectively manage their sites on a daily basis.

These traditional systems are, of course, excellent at providing core infrastructure control and alerting. However, this is entirely different to having unique data driven insights about operational performance to manage and optimise the broader data centre environment.

Indeed, we see countless examples in large operators where traditional systems have proved worthless in identifying seemingly small changes in M&E plant behaviour. It's these kinds of issues that need to be picked up and resolved before they turn into site impacting issues. Not surprisingly, operations teams need as much early warning as possible so they can take corrective action by moving workloads and avoiding costly downtime.

ABSOLUTE VISIBILITY

Unlike traditional data centre workloads, high density AI environments are potentially much more volatile. Power demand shifts quickly, thermal conditions change in real time and small issues can escalate fast if they're not seen and resolved early. For organisations running or planning AI at scale, having clear real time

operational insight is now essential.

Running AI workloads is clearly complex, with the need for much tighter operational tolerances and much faster responses. Previously, with air cooling, for example, you could open the doors if something was wrong or deploy temporary additional fans and cooling units. But with high density deployments and liquid cooling the tolerance window is getting tighter. This places an increased burden on data centre operations teams – with an associated requirement for more effective managing and monitoring of operations that necessitate much quicker intervention.

SCALE OF CHANGE

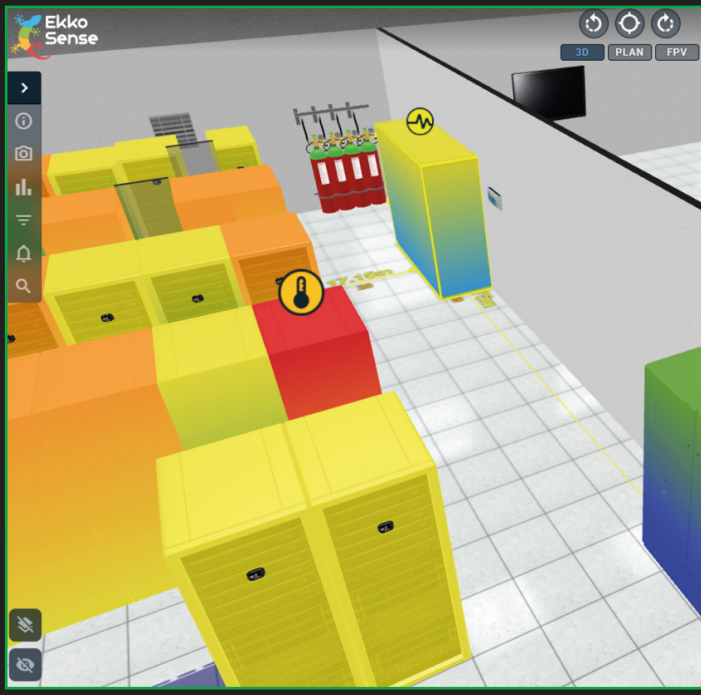
Another reality facing data centre operations teams is that their high density AI systems are changing every week or month. AI acceleration is shortening infrastructure planning and operating cycles, forcing operators from legacy static designs to dynamic, data driven systems that adapt to high density workloads.

In addition to accelerating GPU performance, liquid cooling capabilities are evolving fast and we're seeing significant power densification with up to 10 power feeds per rack. Couple in the fact that AI compute racks can easily be worth potentially millions per rack and there's a pressing requirement for early warning systems that can protect high value assets against critical incidents.

The stakes here are changing by orders of magnitude. Relying on traditional BMS or DCIM systems alone is no longer enough, as they're only likely to report a problem when it's happening. Similarly, relying solely on engineers on-site to respond is not going to be fast enough anymore. Meeting this kind of risk profile requires new levels of granularity, responsiveness and innovation. Traditional operational response levels and legacy systems alone simply can't handle the scale of change.

OPTIMISING PERFORMANCE

With the AI scramble in full swing many organisations, not surprisingly, are now racing to bolt AI features on to their legacy DCIM platforms. However, these kinds of features are proving difficult to realise without AI already being embedded into the technology stack. The next generation of AI-powered optimisation functionality will prove critical as data centre operations



teams move from simply responding to incidents to enabling the real time management of the whole facility's health.

For data centre operators still held back because of the complexity of their traditional DCIM or BMS tools, maintaining engineers and tech specialists on-site is unlikely to be fast enough for current and future high density AI deployments. However, supporting this generation of legacy tools with a complementary AI-powered optimisation framework can bring a powerful blend of real time insight, predictive monitoring and absolute operational visibility.

NO BARRIERS

AI-powered data centre optimisation not only takes legacy DCIM to the next level but also keeps it evolving through enhanced algorithms, richer estate-wide visibility and even more intelligent advisory capabilities. Whether it's using AI to support hybrid liquid and air cooling in tech rooms with high rack loads, deploying AI to detect any changes in performance to provide teams with an early warning of impending issues, connecting the white and grey space through cooling distribution unit (CDU) integration, or optimising air-side and water-side infrastructure with tailored AI chiller recommendations, there's really no barrier to equipping data centre teams with the kind of control that DCIM solutions promise. ■

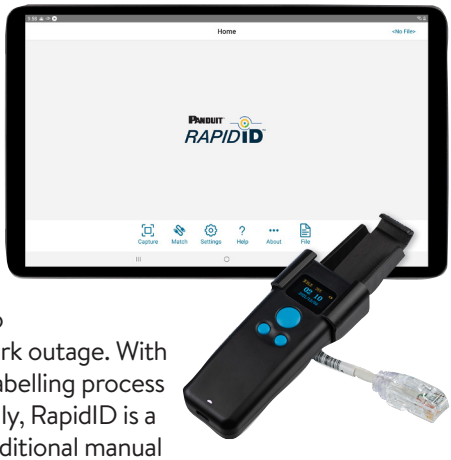
JAMES KIRKWOOD

As technical account director at EkkoSense, James Kirkwood has been instrumental in developing the company's distinctive data centre optimisation approach that helps customers gain the maximum benefit from EkkoSense's award winning EkkoSoft Critical AI-enabled 3D visualisation and analytics platform. He has worked in the data centre and telecommunications sector for the past 20 years.

Panduit

Panduit's RapidID network mapping system reduces time and cost of patch cord documentation by up to 50 per cent. By using pre-labelled Panduit patch cords and the RapidID Bluetooth enabled handheld scanner, network engineers can quickly, easily and more accurately place and trace cables.

RapidID automates the labour intensive and error prone cable documentation process to reduce the risk of a network outage. With RapidID, the painstaking labelling process is already done. Additionally, RapidID is a practical alternative to traditional manual approaches and is ideally suited for building a new telecom room, locating installed cabling or replacing a network switch.



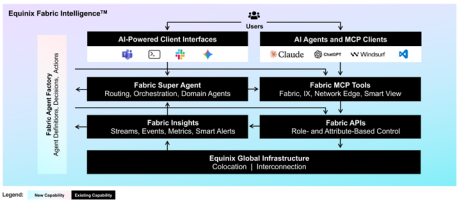
RapidID is as easy as 1, 2, 3:

1. Install Panduit cables that feature unique barcode labels.
2. Download the mobile app from iOS or Android app stores to a tablet device.
3. Scan barcodes using the Bluetooth enabled handheld scanner.

To find out more **CLICK HERE.**
www.panduit.com

Equinix

Equinix Fabric Intelligence is an AI-native operational layer to manage network infrastructure. Fabric Intelligence enables enterprises to deploy AI-powered networking across their operations – a shift from legacy software defined networking design to simplify the complexities of today's AI workflows.



Manual workflows can create bottlenecks, long deployment cycles hamper growth and visibility gaps compound the challenge. Powering the Equinix Distributed AI Hub, Fabric Intelligence introduces smart automation for deploying, optimising and maintaining global infrastructure, giving organisations a more resilient, efficient and adaptive backbone for their AI workloads.

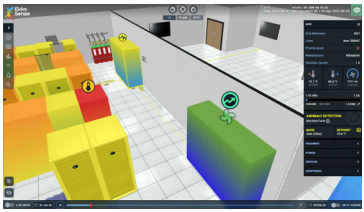
It provides organisations with a smarter way to manage the complexity of AI by automating how their connections are set-up, adjusted and maintained across these distributed environments. As a result, distributed systems run reliably without constant manual effort, freeing teams to focus on strategic business priorities such as building new AI capabilities and scaling operations.

For more information **CLICK HERE.**
www.equinix.com

EkkoSense

Auto Cooling Anomalies Detection derisks complex data centre deployments

A new Auto Cooling Anomalies Detection capability from EkkoSense helps reduce the risks associated with today's increasingly complex hybrid liquid and air cooling deployments.



Instead of relying on traditional lengthy building management system (BMS) or electrical power monitoring system (EPMS) alert mechanisms, Auto Cooling Anomalies Detection removes thermal and power risk. It provides early warnings of any cooling infrastructure anomalies ahead of possible infrastructure failure for an asset that hasn't yet reached the threshold for generating a BMS alert or a room temperature alert. This allows data centre operations teams to triage air and liquid cooling issues and move beyond traditional reactive data centre monitoring to a more proactive maintenance approach.

The Auto Cooling Anomalies Detection capability supports a full range of air and liquid cooling assets, chilled water supply infrastructure including cooling distribution units (CDU) and chillers, as well as hybrid liquid and air cooling deployments within the same room.

To find out more **CLICK HERE.**
www.ekkosense.com

Elevate

Intelligent DCIM delivered with confidence

As data centres increase in scale and complexity, visibility and control across physical infrastructure is critical. Elevate's DCIM solution, delivered in partnership with Sunbird Software, provides a robust platform for managing capacity, assets and connections from white space to rack level.

Combining Elevate's infrastructure expertise with Sunbird's proven DCIM software, the solution enables operators and designers to plan, model and track data centre resources with greater accuracy and confidence. From capacity planning and cable management to asset tracking and change control, users gain a single, reliable view of their physical environment.

Critically, Elevate doesn't just supply software. The DCIM solution is supported by a full portfolio of racks, containment, power and optical fibre infrastructure, ensuring data and physical design align from day one. The result is a practical, scalable DCIM deployment that supports operational efficiency today and long- term growth tomorrow.

CLICK HERE to discover more.
elevate.excel-networking.com

Advanced Datacentre Systems

Sensorium DCIM from Advanced Datacentre Systems simplifies data centre management with a flexible, vendor neutral platform. Removing the need for expensive, locked-in systems, it allows you to manage hardware from any manufacturer, giving operators total control over their facilities without any technical hurdles.

The system integrates easily to both new technology and older equipment. Consequently, you can avoid costly upgrades or the stress of replacing an entire infrastructure. Instead, Sensorium DCIM brings your power, cooling and IT systems together into one unified platform.

This provides a clear, real time view of your entire operation. With centralised alerts and data, your team can fix issues faster and improve performance – even proactively predict when issues may occur. Clear dashboards and informative graphs enable you to manage every detail and boost efficiency.

ADVANCED DATACENTRE SYSTEMS

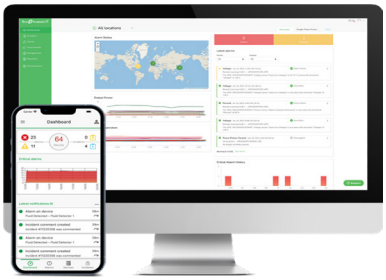
REAL WORLD INTELLIGENCE

Sensorium DCIM is already delivering measurable results across diverse environments. Visit the case studies section on the Advanced Datacentre Systems website to see how organisations are transforming operations with smarter, more connected infrastructure.

CLICK HERE to discover more or **CLICK HERE** to email us to discuss further.
www.advanceddatacentre.com

Schneider Electric

Schneider Electric has model based, automated sustainability reporting features within its EcoStruxure IT DCIM software.



Available to all EcoStruxure IT users, the enhanced reporting features combine sustainability, regulatory, data centre and software development expertise with advanced machine learning. Users have access to a set of reporting capabilities which traditionally required a deep understanding of manual data calculation methods.

EcoStruxure IT is a fast, intuitive and simple to use reporting engine to help meet regulatory requirements including the European Energy Efficiency Directive (EED). With the download function, organisations can quickly quantify and report at the click of a button – making it faster and easier to harness the power of data to reduce the environmental impact of their data centres.

CLICK HERE to find out more.
www.se.com

Networks Centre

Panduit RapidID – smarter network documentation

Managing cable infrastructure has long been one of the most time consuming tasks facing network engineers. Panduit's RapidID network mapping system aims to change that.

RapidID is an automated network mapping system that replaces labour intensive, error prone cable documentation with a fast, accurate solution. Using pre-labelled patch cords and a Bluetooth enabled handheld scanner, network engineers can quickly and accurately place and trace cables, with the system reducing the time and cost of patch cord documentation by up to 50 per cent.

The process is straightforward – install Panduit cables featuring unique barcode labels, download the mobile app to a tablet, then scan barcodes using the handheld scanner.

The product range has now expanded. RapidID Pro introduces enhanced network documentation through unique device and asset identifiers, with the ability to print labels on the spot, whilst RapidID Pro+ provides multi-user support via a central server.

For data centres and telecom rooms, RapidID represents a genuinely practical step forward.

CLICK HERE to find out more, call 01403 754233 or to send an email CLICK HERE.

www.networkscentre.com

Across the universe

Assaf Skolnik of RiT Tech explains why it is time to rethink and strategise infrastructure management

For decades, the technology industry viewed the data centre as a neatly defined box – a physical building where servers, storage and networking equipment lived, supported by power and cooling infrastructure. The teams running these environments were just as neatly divided. The facility team managed the power, the cooling and the building management systems. The IT team managed the compute workloads, the servers and the network. They rarely spoke the same language and they certainly did not use the same software tools.

BEYOND BOUNDARIES

This fragmented perception of infrastructure management is fundamentally broken, as the digital infrastructure of today is no longer confined to a single data centre. It lives in the cloud, at the edge, in colocation facilities and across hybrid enterprise environments.

Furthermore, the explosion of high density workloads driven by AI has completely erased the boundary between IT and facility. You simply cannot deploy a modern AI server cluster without intimately understanding the power capacity and cooling capabilities of the exact rack it will sit in. Yet, as an industry, we are still trying to manage this incredibly complex, integrated ecosystem with a mindset – and a set of tools – that belongs in the past.

FRAGMENTED DATA

For years, the market was told that data centre infrastructure management (DCIM) was the answer. DCIM was supposed to bridge the gap between IT and facilities, providing a single pane of glass to manage the entire environment. But if we look at the reality of the market today, there is a common consensus that traditional DCIM failed to deliver on its grand promises.

Why did this happen? The problem starts with the very name itself. By treating DCIM as a tool explicitly for data centre infrastructure, we naturally limit its scope. Traditional DCIM actually perpetuates the problem of fragmented data.

Many legacy DCIM tools on the market are essentially advanced monitoring tools that focus only on physical devices or cater exclusively to the proprietary hardware of their parent companies. They look at a narrow slice of the environment, completely ignoring the broader ecosystem of building management systems (BMS), IT service management (ITSM) and configuration management databases (CMDB).

When you use a tool that only understands a fraction of your environment, you are forced to keep your data in silos. The facility manager looks at one dashboard to see cooling capacity, while the IT manager looks at a completely different system to track server utilisation. The dots are never connected.

FACT FINDING MISSION

There is a common misconception that

the biggest challenge in infrastructure management today is gathering data. This is simply not true. Operators are currently drowning in data. Every server, every power distribution unit and every cooling unit generates thousands of data points every second. Getting the data is the easy part.

The true challenge is consolidating that data. Taking disparate data streams from multiple vendor specific silos and normalising them into a single, unified language is a massive hurdle. But even consolidation is only half the battle. Once you have a unified data set, the ultimate challenge is learning how to leverage it.

Data sitting idle on a dashboard provides very little return on investment. The goal is to translate that consolidated data into meaningful workflows. It is about moving from a reactive state – where a human operator sees a red flashing light on a screen and tries to figure out what went wrong – to an intelligent, automated state. A modern platform should analyse the data, recognise that a temperature spike is correlated with a specific heavy IT workload and automatically trigger a workflow to adjust the cooling or migrate the workload to a safer zone.

> 'UIIM is designed to act as the ERP of digital infrastructure. The universal aspect means it breaks down the silos, integrating seamlessly with any device, any system and any software layer, regardless of the vendor.'

CATCHING UP

If we look at how other critical business functions operate, the infrastructure sector is vastly behind. In the 1990s, logistics, finance and human resources used to be managed in separate, fragmented systems. Then, enterprise resource planning (ERP) revolutionised the corporate world by unifying these functions into a single system of record. Similarly, customer relationship management (CRM) platforms unified the worlds of sales, marketing and customer support.

Why do we not have this for the very infrastructure that powers the modern digital economy? Treating the symptoms of DCIM is not enough and a new methodology is needed, which is where universal intelligent infrastructure management (UIIM) comes in.

UIIM is designed to act as the ERP of

digital infrastructure. The universal aspect means it breaks down the silos, integrating seamlessly with any device, any system and any software layer, regardless of the vendor. It covers the facility, the IT and the connectivity between them. The intelligent aspect means it moves beyond simple monitoring to provide operational management, predictive analytics and automated workflows.

MANAGING BY METRICS

One of the most surprising realities of the current infrastructure landscape is the lack of rigorous operational metrics. We are talking about environments that cost hundreds of millions of dollars to build and operate. They are the critical beating heart of banks, telecom providers and global enterprises. Yet, I often struggle to understand how such expensive and critical environments are managed without clear, unified key performance indicators (KPIs).

You cannot manage what you cannot measure and you certainly cannot optimise it. If your data is fragmented across legacy DCIM and separate facility tools, establishing meaningful cross-departmental KPIs is impossible.

For a holistic platform like UIIM to succeed, you need to strategise your infrastructure management and define the clear KPIs that this platform must help achieve. We need to move beyond legacy metrics like Power Usage Effectiveness (PUE) and start measuring outcomes that matter to the business. How much of our provisioned capacity is actually stranded? What is our failure prediction accuracy? How fast can we execute a complex, cross-domain change request?

Only through a universal platform that bridges IT and facility can true operational efficiencies be achieved and accurately measured against these vital KPIs.

TRAIN TO GAIN

Every organisation wants to leverage AI to optimise their operations. The promise of AIOps – using machine learning to predict failures, automate provisioning and balance workloads dynamically – is incredibly appealing. However, AI is only as good as the data it is trained on. If you feed an AI

engine fragmented, inaccurate data from a legacy DCIM system, it will hallucinate and make incorrect, potentially catastrophic recommendations.

A universal, holistic platform is the absolute prerequisite for intelligent operations. By establishing a unified, highly accurate digital twin of your entire physical and logical infrastructure, UIIM provides the clean, reliable data that AI requires. Only such a universal platform can serve as the robust foundation for end to end AI in infrastructure operations.

LOOKING AHEAD

The era of fragmented data centres and siloed management tools is over. To meet the demands of tomorrow, we must embrace a universal, intelligent approach today. ■

ASSAF SKOLNIK

As CEO of RiT Tech, Assaf Skolnik has defined a clear strategic direction for growth, expanding its focus on intelligent data centre infrastructure technologies and solutions. Central to this evolution is the advancement of UIIM, positioning the organisation beyond traditional management and operations tools toward a more integrated, automated and data driven operational model.

Stellium Datacenters cuts carbon emissions by 75 per cent by switching to a new way of sourcing renewable electricity

Stellium Datacenters has cut its carbon emissions by three quarters while easing pressure on the electricity system, offering a blueprint for how the AI sector can expand without overwhelming the grid. The company has switched to a new way of sourcing electricity, which matches its power use with renewable generation hour by hour, rather than relying on annual averages.

The move comes as data centres face mounting scrutiny over their energy use, with concerns growing that AI and cloud computing could strain local grids and push up energy costs. That scrutiny has intensified in recent months, with MPs launching an inquiry through the Environmental Audit Committee into the environmental impact of data centres, including the pressure they place on local grids.

Working with Good Energy, Stellium now runs its site on a 100 per cent renewable, hourly matched electricity supply, linking consumption directly to power generated by more than 3,300 independent renewable generators. This approach allows the company to show exactly when its electricity demand is met by renewable sources, achieving an hourly matching score of 95.4 per cent.

AKTG chooses Colt for global quantum safe network

Colt Technology Services has been selected to deliver a global network for A&K Travel Group (AKTG) and its portfolio of premier travel brands including Abercrombie & Kent, Crystal and Cox & Kings. AKTG's brands provide travel adventures in more than 100 countries around the world and rely on a secure global network to keep customers, employees and travel partners connected.

The group has tasked Colt with building out its global connectivity network, which includes Arqit's quantum safe encryption, to provide agile solutions that operate without distance limitations across any location worldwide. This foundation provides AKTG with a resilient, interconnected network architecture on which it can run its business.

AKTG will rely on the infrastructure from Colt to help redefine the way audiences interact with its brands, supporting its commitment to providing seamless, immersive digital experiences with easier access to travel information. Colt's network will underpin fast, secure, low latency connectivity for AKTG, ensuring exceptional service in locations ranging from remote landscapes to major cities.

Stellanor expands to 11 facilities with acquisition of AI-ready data centre from Imagination Technologies

Stellanor has acquired a purpose built data centre in Hemel Hempstead from Imagination Technologies. Under the sale and service back arrangement, Imagination Technologies continues operating from the facility as a fully managed Stellanor client. The acquisition brings Stellanor to 11 facilities across the UK with 39MVA of secured grid capacity, demonstrating rapid platform expansion from two to 11 facilities in six months.

The Hemel Hempstead facility demonstrates the convergence of next generation AI-ready infrastructure demand with the enduring needs of enterprise IT. While Imagination Technologies represents a leading edge AI and semiconductor use case, most organisations require similar levels of resilience, connectivity and scalability to support a mix of traditional enterprise workloads, cloud environments and, increasingly, AI-driven applications.

PROJECTS & CONTRACTS IN BRIEF

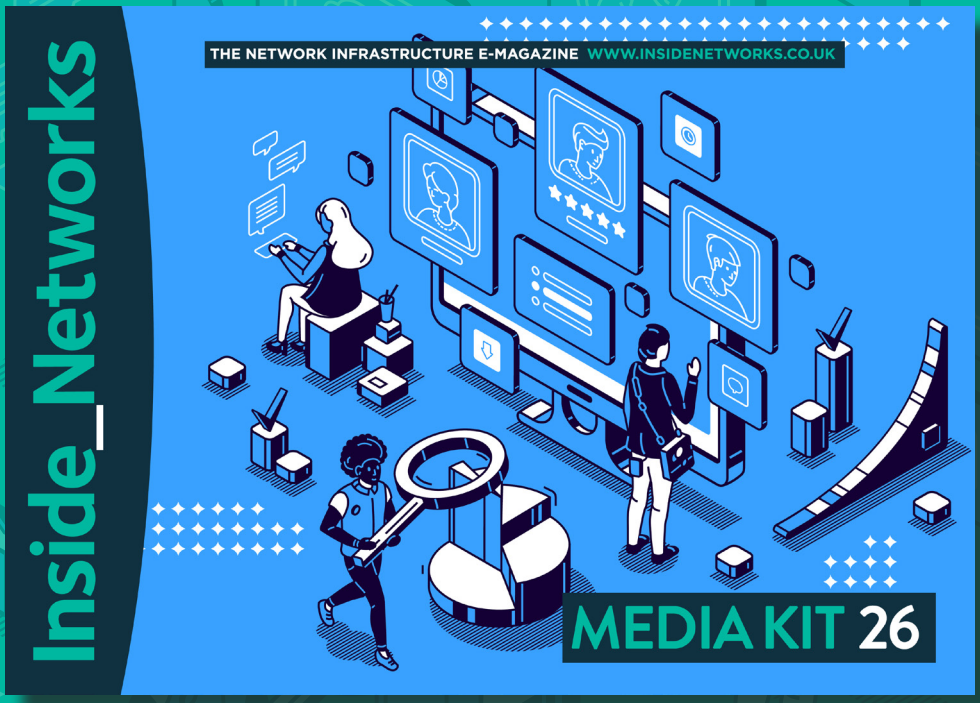
Zayo Europe is providing critical connectivity infrastructure for one of the UK's largest AI and cloud computing data centre campuses – a project being developed by QTS in Cambois, Northumberland. At completion, the project will help to cement the UK's position as a global AI leader, forming a key part of the nation's AI Growth Zone strategy, which seeks to develop world class AI and cloud computing capabilities. When fully operational, the site will support up to 720MW of AI-ready infrastructure.

Secure IT Environments (SITE) has completed two data centre projects for an international automotive component manufacturer. Delivered as one coordinated programme, the project comprised an external, modular data centre and a new room-in-room communications facility, designed and installed to strengthen resilience, increase capacity for digital operations and streamline future expansion.

Huber+Suhner has strengthened its collaboration with Microsoft Azure Fiber with further planned investments in its production capabilities to accelerate the rollout of hollow core fibre cable and connectivity solutions supporting cloud and AI infrastructure. As part of the agreement, Huber+Suhner expects progressive growth in manufacturing volumes as Microsoft deploys hollow core fibre across more Azure regions.

Burr Computer Environments and DataScope have signed a global enterprise agreement that will see DataScope's full software suite deployed across all BCEI data centre projects worldwide – including those designed alongside EdgeConnex.

All you need to know



CLICK ON THE COVER TO VIEW THE 2026 MEDIA KIT

The heart of the matter

Mike Slevin of Fluke Corporation explains how to achieve safety and reliability through equipment maintenance

Ensuring data centres remain safe and reliable is a task that keeps many operators up at night. Functioning and effective equipment is key to keeping data centres running efficiently, however, the effort of overseeing these processes can quickly become overwhelming. This is especially true given the drive to stay competitive, provide 24/7 uptime and meet customer demands simultaneously, all while operating on a lean budget.

THINK POSITIVE

It's not all doom and gloom, however. Fortunately for operators, safety and reliability are very compatible goals. Through the implementation of efficient maintenance strategies, data centres can see greater reliability and increased security, ensuring they support ever-growing demand and maintain customer trust.

Solid maintenance practices start at the commissioning stage. A data centre build is undoubtably labour intensive and demanding. Every single connection, electrical point and fibre optic cable needs to be tested and verified, otherwise the commissioning stage has enormous potential for error and wasted resources, especially in a hyperscale location. It's important to use the right tools and build efficiencies into the commissioning stage, designing a process that makes sense to data centre crews and aligns with available resources.

When operating with a lean maintenance crew, it is vital to use tools that are

‘When it comes to building a data centre capable of achieving fast and effective scaling, it is vital to begin standardising and automating workflows.’

purpose built for ease of use, so teams can achieve high quality results right away. Organisations should aim to implement key technologies such as cable testers, optical time domain reflectometers (OTDR) and optical loss test sets (OLTS) that are designed with intuitive interfaces and settings.

RIGHT FIRST TIME

Tools that comply with, or even exceed, industry standards for accuracy are a huge asset. Precision results make a huge difference when it comes to the long-term lifespan of assets and getting accurate readings the first time eliminates any need for rework.

As always, safety and efficiency go hand in hand. When building a large or hyperscale data centre, small gains in efficiency add up quickly. Tools that enable the efficient testing of individual connection points can provide organisations with significant savings by the end of the data centre construction. Once the commissioning stage is complete, it’s a question of consolidating efficiency gains and finding new ways to keep data centres resilient without raising costs.

PEAK PERFORMANCE

Once a data centre is fully built, implementing non-contact tools as far as possible is highly recommended. Done right, this will drastically improve uptime and performance, while reducing overall costs.

- Implementing digital and AI tools. Tools like computerised maintenance management systems (CMMS) or AI-powered diagnostic engines can sift through asset health data to pinpoint early indications of an emerging fault.

Today’s AI tools are trained on billions of data points and can recognise faults in assets and component parts. They are even able to determine the fault severity level and issue detailed reports on the health of every critical asset in the facility.

Once the fault is identified, a CMMS creates a work order and a technician examines the asset, making repairs as and

when needed. For leaner maintenance crews, these digital tools free up valuable time and labour, so that experienced technicians can focus on carrying out repairs, instead of reading machine tests or generating work orders.

The bottom line is that real-time wireless monitoring keeps technicians safe, eliminating the need for route based testing with a handheld device. No more sending workers to squeeze into tight spaces or behind machinery just to get a measurement. By extension, there is no more risk of human error or inaccurate readings. Digital tools don't make careless mistakes, no matter how often they perform the same task.

- Take advantage of robotic tools. It is now increasingly common to send robots into the data centre to perform basic tests. This accomplishes the crucial function of keeping people out of the building, where they could potentially hurt themselves or damage something.

Robots are often used to perform thermal imaging tests, for example. Thermal imaging is a key element in many maintenance processes, especially in the data centre. It's the best means of pinpointing electrical faults, wiring issues, faulty connections and other early indicators of major issues. Using a robot to conduct the testing (or a mounted, non-contact thermal imager) allows businesses to monitor frequently, for accurate and precise results. This also protects data centre teams from potential dangers like arc flashes and electrical shocks.

- Look to infrared capabilities. Infrared windows installed directly into power cabinets make power quality monitoring both safer and more efficient. This is by far the safest approach for operators and technicians. It also guarantees readings will be taken regularly and speeds up the measurement process by eliminating the time consuming permitting step. The more frequently data centre teams take readings, the more effectively they can identify emerging issues and get ahead of any serious faults that have the potential to impact business assets, or even the whole facility.

POWER OF AUTOMATION

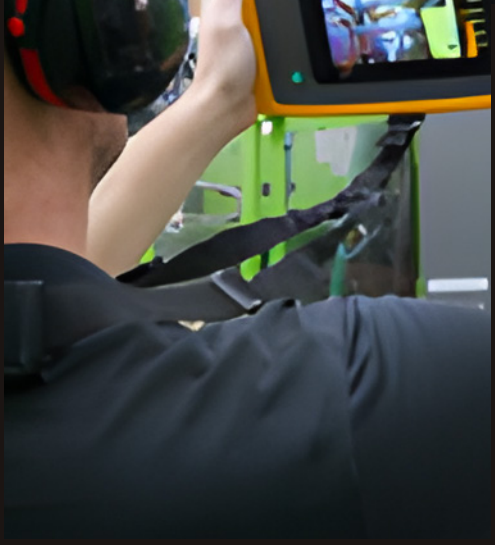
When it comes to building a data centre capable of achieving fast and effective scaling, it is vital to begin standardising and automating workflows. These processes will provide much needed support to lean maintenance teams, while also empowering managers to oversee larger facilities and deliver high performance.

For data centres looking to implement wireless tools, robots and other non-contact technology, automated monitoring and testing can provide key data in near real-time. When this is paired with the capabilities of AI or specialised data analytics software, it becomes possible to identify emerging asset faults long before they can cause a serious issue. This predictive technology enables far greater uptime and productivity, while also extending asset lifespan.

SAFETY FIRST

As data centres continue to scale and deliver the vital service that today's

‘Once a data centre is fully built, implementing non-contact tools as far as possible is highly recommended. Done right, this will drastically improve uptime and performance.’



global economy relies upon, it is crucial that organisations look to implement automated AI diagnostic tools, condition monitoring and robotic testing. Data centres must take advantage of all the tools available to ensure reliability and safety are delivered effectively and consistently across the industry. ■

MIKE SLEVIN
Mike Slevin is the director of EMEA market at Fluke Corporation. He oversees global portfolio development and go to market execution, working to support industrial customers through test and measurement technologies.

WE HOPE YOU HAVE ENJOYED

Inside_Networks

COMING UP IN THE
JULY/AUGUST 26 ISSUE:
SPECIAL FEATURES:

> DATA CENTRE ENERGY MANAGEMENT
> COPPER CABLING STANDARDS

TO FIND OUT MORE ABOUT PROMOTION WITHIN THESE FEATURES CLICK HERE

> ALL THE LATEST NEWS, VIEWS, COMMENT AND ANALYSIS

> DOES EUROPE'S FIRST 110MW OFF-GRID DATA CENTRE MICROGRID SIGNAL A TURNING POINT IN HOW DIGITAL INFRASTRUCTURE IS POWERED ACROSS THE CONTINENT?

> WHY GENERIC CABLING IS THE BEST PATH FOR INTEROPERABILITY, FLEXIBILITY AND LONG-TERM FUTURE PROOFING

> A DEEP DIVE INTO THE VARIOUS DATA CENTRE POWER OPTIONS

> WHY EVERY COUNTRY NEEDS A DATA CENTRE STRATEGY

> HOW DATA CENTRES CAN PLAY A STRATEGIC ROLE IN HELPING THE GRID COPE WITH SOARING DEMAND AND INTERMITTENT RENEWABLE GENERATION

> WHY DATA CENTRE ENERGY MANAGEMENT STARTS AT THE ROOF

> AI DATA CENTRES ARE BEING BUILT FASTER THAN THE WORKFORCE THAT CAN RUN THEM – WHAT CAN BE DONE ABOUT IT?

> MOVES, ADDS AND CHANGES IN THE CHANNEL

> NETWORK INFRASTRUCTURE CASE STUDIES FROM AROUND THE WORLD

> THE LATEST PRODUCT, SYSTEM AND SERVICE DEVELOPMENTS

FOR A FREE SUBSCRIPTION CLICK HERE