

# THE SUPPLY CHAIN CHALLENGE: HOW VALUED PARTNERSHIPS CAN DE-RISK DISRUPTION

eBook by

**ONNEC**  
**UNNLC**

In partnership with:

**PANDUIT**<sup>®</sup>



# INTRODUCTION

Data centre operators are facing a perfect storm. Demand for and investment in new data centres are high. But teams responsible for building new sites or adapting existing ones face a trio of challenges:

- Supply chain disruption
- Increased regulations for sustainability reporting
- A persistent skills shortage

Operators need support to deliver new capacity – this is where partners have a critical role to play.

READ ON



## CONTENTS

1. A Data Centre Workload Stormfront is Building
2. The Supply Chain Challenge
3. The ESG Risk to Revenue, Reputation and Investment
4. Persistent Skills Shortage Leaves Operators Spread Thin
5. Six Ways Partners Can Relieve Pressure
6. Strong Partnerships Create Strong Connections
7. About Onnec & Panduit



# A DATA CENTRE WORKLOAD STORMFRONT HAS ARRIVED

Demand for data centre capacity is skyrocketing, fuelled by explosive growth in AI, cloud-based gaming, and video streaming.

To cater to this rising demand, operators will be racing to build new data centres, with data centre teams expected to coordinate these new projects or refit existing sites. However, a perfect storm has fallen upon operators, with teams facing:



## RISING SUPPLY CHAIN CHALLENGES

Two-thirds of vendors expect data centre projects to be affected by supply chain delays in the next two years.<sup>[1]</sup>



## GROWING DEMAND TO MEASURE AND REPORT ON ESG

Only 28% of operators track Scope 1 emissions, 19% track Scope 2 and 14% track Scope 3.<sup>[2]</sup>



## PERSISTENT SKILLS SHORTAGE SPREADING TEAMS THIN

94% of operators reported a shortage of experienced data centre construction teams.<sup>[3]</sup>

With data centre investment high – data centres attracted \$16bn from investors in the first nine months of 2023 alone<sup>[4]</sup> – operators must stand out to attract this money over other sites. Efficient, green data centres are in demand. But data centre teams can't manage growing workloads alone to deliver the perfect data centre – they need more support.

They need strong partners – such as skilled product suppliers and expert systems integrators – and a strong channel ecosystem to navigate supply chain management, support ESG measurement and deliver complex data centre projects through holistic design philosophies.



Too often, operators fall into the trap of going to manufacturers direct, thinking they'll save money. Yet working direct often leads to spiralling costs – ones that are typically hidden from view and included in the price operators get from service providers.

If you work for a data centre developer, or are responsible for data centre design or operations, read on to understand the role of partners in de-risking supply chains, overcoming supply bottlenecks, and becoming the extension of the team operators badly need.



# THE SUPPLY CHAIN CHALLENGE

Developers and operators are racing to build new sites and upgrade existing facilities as demand for data centre capacity ramps up. Supply chains are under more pressure than ever. To manage these pressures, developers and operators may be tempted to work with manufacturers and suppliers directly. But this is laced with risk and hidden costs. Channel partners hold close working relationships with manufacturers and high purchasing power, allowing them to get ahead of supply or production issues, and keep costs down. Without this kind of relationship, operators will be at the back of the queue, unable to effectively plan around supply problems.

The post-COVID hangover, ongoing geopolitical issues, war, and high costs are taking their toll. More than eight in ten (83%) operators have reported delays to projects due to global material shortages.<sup>[5]</sup>

**Rising data centre workforce constraints are further contributing to the supply chain squeeze.**

**Supply chains have become increasingly brittle, and data centre teams are spread too thin to manage three significant supply chain problems:**



## MATERIAL ACQUISITION

Minerals, materials and chips are in diminishing supply, with every vendor and operator after the same thing. Short lead times on projects also means materials in high demand will be delayed. Different regions also have different rules and regulations specifying the use of certain materials. To stay competitive and secure supply, operators should have dual- or tri-sourcing agreements in place to have multiple sources in material acquisition regions, or bulk buy well in advance to beat shortages. These tasks can be hard to juggle for stretched teams.



## SHIPPING

Climate change and geopolitical issues can make getting materials from A to B difficult, creating delays that impact construction timelines. Whether it's canals in the Netherlands drying up and closing shipping routes or container ships getting stuck in the Suez Canal, operators must be flexible. There may also be regional issues such as customs or freight terms to navigate. Operators should have contingencies in place to address logistics and shipping problems.



## PRODUCTION MANAGEMENT

Complex supply chains must avoid single points of failure. Having single-source suppliers or just one factory manufacturing cabling or infrastructure creates potential risk. If that supplier has to shut down production, it eliminates an operator's capacity to source cabling and other equipment. Operators need multiple suppliers in place for critical components to ensure supply continuity.

### Supporting data centre teams in identifying and mitigating these supply chain challenges is where a strong partner can help.

Partners and vendors alike will have supplier agreements in place that guarantee material acquisition, and sequential production plans to ensure operators can get what they need, when they need it. Operators will also require strong manufacturers with a global manufacturing capability and presence. Working with manufacturers that are prepared to share the supply chain management risk can share the burden. This means operators and manufacturers both take the "risk" of ordering raw materials up front to keep ahead of deadlines and supply chain crunches.



# THE ESG RISK TO REVENUE, REPUTATION, AND INVESTMENT

Data centre teams are not only being tasked with solving supply chain disruption – they're also under pressure to accurately measure and report on supply chain sustainability.

New legislation has shifted Environmental, social, and corporate governance (ESG) from a nice-to-have to a business imperative. The EU Corporate Sustainability Reporting Directive (CSRD) introduced significant implications for organisations to improve the quality and consistency of corporate sustainability reporting. The CSRD sets new requirements and standards to report on – failure to do so can result in significant legal, reputational, and financial repercussions.

The requirement for evidence-based reporting means operators must prove their green claims, with independent assurances of data against international standards or science-based targets. Regulatory pressure has made total transparency on ESG a must-have. Operators need an end-to-end ESG story, covering everything from emissions to diversity, or face multiple risks, such as lost revenue, low investment and damaged reputations.

With ESG factors weighing heavily on investors and customers' minds, operators must work with strong partners that can manage the design and building of a data centre, but also address and improve ESG.

When selecting suppliers and partners, operators should ask the following questions to understand ESG risk and exposure fully:

- ❓ **HOW TRANSPARENT IS YOUR SUPPLY CHAIN DATA?**
- ❓ **HOW WILL YOU HELP US TO ACCURATELY REPORT ON OUR SUPPLY CHAIN EMISSIONS?**
- ❓ **HOW CAN YOU HELP ME LOWER MY CARBON FOOTPRINT?**
- ❓ **WHAT ARE YOU BEING ASKED TO DELIVER? WHAT HAVE YOU BEEN TASKED WITH?**
- ❓ **WHAT REPORTING REQUIREMENTS DO YOU HAVE?**



## HOW CAN PARTNERS MEASURE ESG?

Partners provide a vital bridge between vendor and customer to verify green claims, install technology and equipment, and accurately report on ESG metrics. They bring the experience and knowledge of planning required to build a holistic picture of sustainability. For example, giving operators the volume of copper wiring in a building to report and measure the impact it has had, and will continue to have, on the environment.

Partners enable customers to make more sustainable choices by identifying greener vendors – such as those with environmental product declarations for copper cables and connectors. Organisations are empowered to make greener choices instead of relying on tried and trusted but potentially unsustainable processes and vendors.





# PERSISTENT SKILLS SHORTAGE LEAVES OPERATORS SPREAD THIN

**Attracting and retaining the best talent has been an ongoing challenge for operators. But it's about to become much harder amidst strong growth in data centre demand.**

Research shows that staffing is one of the biggest needs among data centre operators, with more than half (53%) reporting difficulties finding new talent, up from 38% in 2018. There is also strong competition for labour, with 42% of operators experiencing difficulties retaining staff, up from 17% in 2018.<sup>[6]</sup>

Sites today are more than just the servers, or the water and power they consume. There is a critical human element – the people responsible for keeping data centres running, but also developing new sites. Without them, data centres cannot cater to the growing demand facing them.

This is where partners have a critical role to play in helping data centre operators to overcome skills and labour shortages. By acting as an extension of the team and delivering skilled resources in region, partners can provide the expertise and people required to work on-site and help to develop the generation of data centre capacity.



**LACK OF SKILLS REMAINS THE BIGGEST BARRIER TO INFRASTRUCTURE MODERNIZATION INITIATIVES, WITH MANY ORGANIZATIONS FINDING THEY CANNOT HIRE OUTSIDE TALENT TO FILL THESE SKILLS GAPS.”**

- Gartner<sup>[7]</sup>

# 6 WAYS PARTNERS CAN RELIEVE PRESSURE

For all projects, operators must consider what kind of expertise and support they need.

Operators require skilled vendors that deliver the best equipment, and expert systems integrators to advise and install seamlessly. Such partners play a critical role in overcoming supply chain challenges, improving ESG performance and adhering to holistic design principles.

Here are six ways strong partners can become an extension to data centre teams to relieve pressure and deliver resilience:

## 1

### DEALING WITH DOCUMENTATION

- The last thing busy data centre teams want to be dealing with is paperwork – with each site comes a mountain of red tape for compliance or operational purposes.
- Partners can help handle critical documentation by:
  - ✓ Digitising equipment drawings, floorplans and other infrastructure documents and storing them in centralised databases.
  - ✓ Registering warranties and license keys for new equipment and keeping on top of renewals tracking documentation.
  - ✓ Establishing templates for equipment uninstalls, decommissions and shipping.
  - ✓ Creating installation guides tailored to customer environments.
  - ✓ Auditing existing documentation against industry standards to identify gaps.

## 2

### QUALITY CONTROL

- As new sites are being developed, suppliers and equipment will need to be vetted, sourced, and checked.
- Partners can help ensure quality control by:
  - ✓ Have pre-vetted people resource that already know your data centre inside out.
  - ✓ Assessing manufacturers' financial health, capabilities, and reliability.
  - ✓ Ensuring equipment integrates with existing infrastructure, and mapping dependencies and interfaces.
  - ✓ Validating performance, identifying defects and benchmarking against other products.
  - ✓ Auditing manufacturers to check for changes in processes, components, or specifications.
  - ✓ Acting as an extension to the operator's quality assurance team, with their independence providing higher impartiality in quality enforcement.



# 3

## CONTRACT NEGOTIATIONS

- As designs are finalised and shared visions agreed, operators will need to negotiate and manage supplier contracts.
- Partners can help with contract negotiations by:
  - ✓ Leveraging aggregate purchase volumes to negotiate better pricing, quantity breaks, and exclusivity rights.
  - ✓ Handling vendor negotiations including bids, service levels, and roadmap alignments.
  - ✓ Project managing and escalating delivery issues to enforce SLAs and ensure supply continuity.
  - ✓ Work with suppliers directly to address and resolve issues around late deliveries and broken materials.
  - ✓ Incorporating regulatory and compatibility standards into contracts.
  - ✓ Managing administrative duties such as POs, change orders, renewals, and price indexing.



# 4

## MATERIAL MANAGEMENT

- With designs, suppliers and contracts in place, operators will need to manage logistics and material workflows to ensure sites are completed in the project timeframe.
- Partners can help to manage materials and equipment by:
  - ✓ Coordinating deliveries to ensure people will be on-site to unload, unpack and install.
  - ✓ Managing optimal inventory to prevent overstock of equipment on sites where storage is in short supply.
  - ✓ Having rapid replacement and return processes for faulty equipment.
  - ✓ Engaging in spot buys for urgent needs or low volume, speciality gear.
  - ✓ Adding skilled staff, storage space and logistics options to scale up and down as design and building needs change.





# 5

## MANAGING LATE CHANGES

- Most projects will experience change, be it from late material deliveries, changing orders or changing design – success will lie in how adaptable operators are.
- Partners can help operators adapt to change by:
  - ✓ Doing off-site prefabrication and testing to remove the risk of hardware or infrastructure not working when it arrives on-site.
  - ✓ Assisting in evaluating and implementing late design changes and providing updated specifications and drawings.
  - ✓ Using integrated supply chains to assess the availability of altered components and update lead times and pricing.
  - ✓ Producing change order packages detailing alterations and commercial terms to avoid delays in implementation.
  - ✓ Re-test configurations and validate that updated designs still meet operational requirements.



# 6

## BECOMING AN EXTENSION OF THE TEAM

- Many operators are facing a shortfall in the required talent to develop and staff data centres – this leaves them unable to scale and grow with demand.
- Partners can help operators to overcome this challenge by:
  - ✓ Providing contract engineers, technicians or administrators to staff sites and input on the development of new ones – this can be scaled up and down as needed.
  - ✓ Place full-time resident experts on-site to act as the remote arm of the partner to consult on areas of expertise e.g. cabling.
  - ✓ Providing training programs to skill up data centre staff in key technical areas.
  - ✓ Offering certification courses to validate and improve skills.
  - ✓ Implement software and tools to enable remote infrastructure monitoring, management and support to reduce the burden on existing staff.
  - ✓ Automate repetitive data centres tasks.

# STRONG PARTNERSHIPS CREATE STRONG CONNECTIONS

Strong partners can become an extension of an operator's team, helping manage projects and day-to-day operations.

The experience that strong partners bring is critical to operators that need support on everything from site planning and development to sourcing, supply chain management, go-live and beyond.

## Strong partners help operators to:

- ✓ Better manage and adapt to supply chain challenges
- ✓ Prevent overstretch of budgets and manage shifting schedules
- ✓ Improve ESG performance
- ✓ Benefit from vendor training and investment
- ✓ Standardise delivery across a portfolio
- ✓ Improve resource management
- ✓ Better prepare for the future
- ✓ Provide the right people and skills
- ✓ Support the unique needs of every data centre with holistic design principles
- ✓ Purchasing power via long-standing manufacturer relationships

IF YOU'D LIKE TO LEARN MORE ABOUT THE BENEFITS OF STRONG PARTNERSHIPS, SPEAK WITH ONNEC AND PANDUIT TODAY.

GET IN TOUCH 



# GET IN TOUCH

Discover how Onnec and Panduit can help operators lay the foundations today that can support new data centres for years to come.

Connect with us to learn how we help to deliver business growth and certainty in your data centre.

FIND OUT MORE

[1] Uptime Institute Global Data Centre Study 2022  
[2] Uptime Institute Global Data Centre Study 2023  
[3] Turner and Townsend Data Centre Cost Index 2023  
[4] Linklaters: data centre momentum continues as \$16bn invested in first 9 months of 2023  
[5] Turner and Townsend Data Centre Cost Index 2023  
[6] Uptime Institute Global Data Centre Study 2022  
[7] Gartner Says Four Trends Are Shaping the Future of Cloud, Data Center and Edge Infrastructure

## ABOUT ONNEC

Onnec sits at the centre of connections and is a single provider of multi-layered data centre solutions. As a Gold Panduit Partner, Onnec is trained and certified to design, develop, and deploy high-performing electrical and network infrastructure that drives the business of tomorrow.

Onnec's expertise spans all data centre environments, and can support customers with:

- Infrastructure and containment design.
- Installation of cabling, ODFs, PDUs and containment solutions.
- Network hardware installations, changes and support.
- Connectivity and equipment upgrades and changes.
- 24/7 fully managed support service.

[www.onnecgroup.com](http://www.onnecgroup.com)



## ABOUT PANDUIT

Panduit creates leading-edge physical, electrical, network infrastructure and AV solutions for enterprise-wide environments and data centres. Panduit's proven reputation for quality and technology leadership, coupled with a robust partner ecosystem, helps support, sustain, and empower growth in a connected world. Panduit also constantly supports customers in their sustainability commitments by pursuing environment stewardship opportunities to reduce Panduit's carbon footprint, support circular economy principles, eliminate waste and drive sustainable product innovation.

[www.panduit.com](http://www.panduit.com)





Learn more about the unique capabilities we've built over 30 years, delivering IT Network and Structured Cabling at scale, in multiple locations across the globe.



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