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Future-Ready Data Centres: Why outsourcing to Purpose-Built facilities is the key to solving Energy, Storage, and Sustainability Challenges

Introduction

A recent article by Time magazine (1) highlighted how AI Is Fuelling a Boom in Data Centre Energy Demands and the potential environmental impact data centre expansion could have in the forthcoming years. It focused on the 2024 report by the International Energy Agency (2) (IEA) who forecasted that global data centre electricity demand will more than double from 2022 to 2026, with AI playing a major role in that increase.

At Cyberfort we have been reviewing Time Magazines article and the International Energy Agencies 2024 report about energy consumption in the data centre space. Additionally, we have discussed the article and the IEA report with many of our customers about the energy consumption, data storage and environmental challenges they are facing as more and more pressure is being placed on their on – premise data centre infrastructure and private cloud environments.

In this article Cyberfort Cloud and Data Centre professionals discuss why outsourcing data centre provision to a third-party specialist provider who already has data centre infrastructure in place could be the way forward for many organisations. By outsourcing to a third-party data centre provider, organisations could find the opportunities they are looking for to reduce energy consumption costs, capacity to cope with escalating data volumes and meet their environmental management goals.

The top 5 challenges IT teams are facing with in-house Data Centre management

Managing in-house data centres can present significant challenges for organisations, in relation to energy consumption, data storage, and environmental impact. From speaking to several customers and industry commentators Cyberfort has discovered the following top five challenges IT teams are facing in maintaining their in-house data centre environments:

01 Escalating Energy Consumption and Costs

02 Limited Scalability of Storage

03 Environmental Impact

04 Maintenance and Operational Complexity

05 Increasing Security and Compliance Demands

01   Escalating Energy Consumption and Costs

It is no secret data centres are among the most energy-intensive components of an organisation's IT infrastructure. They require constant power to run servers, network equipment, and cooling systems, resulting in significant energy consumption.

HVAC alone can account for 15% - 20% of a data centres power budget as systems work tirelessly to prevent overheating. Additionally, in the UK over the past 2 years most organisations have seen their energy costs rise, exacerbating the financial burden, making it increasingly expensive to maintain optimal performance.

Organisations must also contend with fluctuating energy costs and the challenge of predicting long-term expenditure. For IT teams, balancing the need for uninterrupted power with sustainable energy practices has become a complex and costly undertaking.

02   Limited Scalability of Storage

Data growth is accelerating due to advancements in technologies such as IoT, artificial intelligence, and big data analytics. In-house data centres are starting to struggle to keep up with the rapidly expanding storage requirements.

Many organisations are still heavily reliant on aging infrastructure that lacks the flexibility to scale efficiently. Upgrading these systems involves significant capital expenditure, which can strain budgets and delay business-critical projects. Forecasting storage needs across the organisation is another challenge.

Overestimating capacity can lead to wasted resources and underutilisation, while underestimating storage requirements risks performance bottlenecks and downtime. For many IT teams, achieving a balance between capacity and demand is becoming time-consuming and operationally challenging.
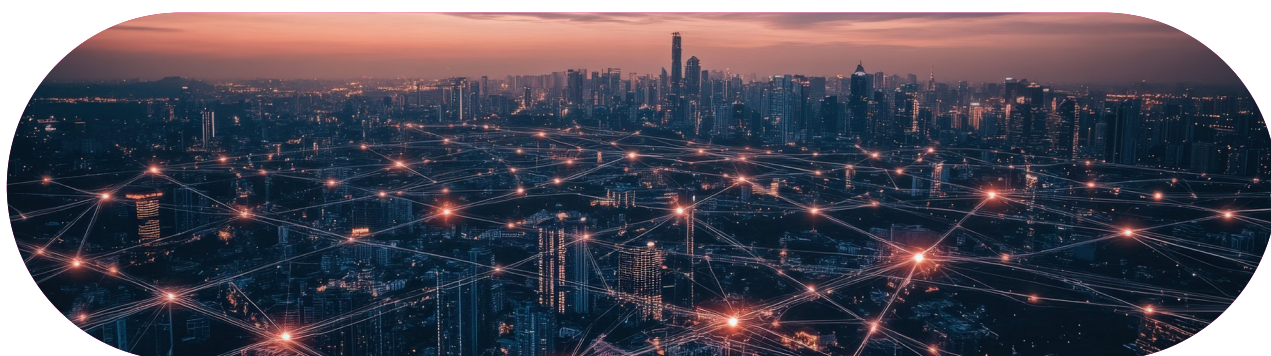
03 Environmental Impact

The environmental footprint of in-house data centres is a growing concern. Data centres contribute to greenhouse gas emissions due to their reliance on traditional energy sources.

Additionally, inefficient cooling systems and outdated infrastructure are resulting in energy waste, leading to higher emissions per unit of computational output. In the UK, organisations are facing increasing pressure to align with environmental, social, and governance (ESG) goals. Regulatory requirements, such as carbon footprint disclosures and energy efficiency mandates, are adding further complexity to managing in-house data centres. For IT teams, adopting sustainable practices within legacy infrastructure requires significant investment, which is not always feasible.

04 Maintenance and Operational Complexity

Managing an in-house data centre involves a range of operational challenges, including hardware maintenance, software updates, and security. Equipment failures, system downtimes, and cooling inefficiencies are common issues that demand constant attention especially as legacy infrastructure is being heavily relied upon to deliver more to keep up with organisational demands.

Skilled personnel are required to manage and monitor these systems around the clock, adding to operational expenses and the skills are not easy to recruit. Furthermore, ensuring redundancy and business continuity during power outages or hardware failures can be a daunting task. The lack of automation in many legacy systems also increases the risk of human error, which can lead to significant disruptions.

05 Increasing Security and Compliance Demands

With rising cyber security threats, in-house data centres require robust protection against breaches, ransomware, and other data loss risks. Meeting compliance standards such as GDPR, PCI-DSS or ISO 27001 is a complex and resource-intensive process. This burden is compounded by the need to secure physical access to the data centre, implementation of network security measures, and maintenance of up-to-date software.

For IT teams, balancing these responsibilities alongside growing demands for data sovereignty and regional compliance adds another layer of operational complexity. Failure to meet these standards can result in fines, reputational damage, and compromised business operations.

The challenges of energy consumption, data storage limitations, environmental impact, and operational complexity are driving organisations to reconsider how they manage their IT infrastructure.

For IT teams, addressing these issues requires significant investment and strategic foresight, often making outsourcing a more practical and sustainable alternative.

At Cyberfort we believe from the challenges we have witnessed over the past 12 months that 'now is the time' for IT leaders to review their data centre provision and ask themselves - Can their current on-premise data centre model cope and is it ready for future data growth, storage and management demands?

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How Cyberfort can help

Outsourcing data centre provision to third-party providers has emerged as a strategic move for organisations seeking to overcome the challenges of managing in-house facilities.

From reducing operational complexity to addressing scalability and sustainability, outsourcing can provide benefits that align with modern IT priorities. The reasons why organisations are looking at outsourcing their data centre provision is to benefit from improved resiliency, better uptime and improved connectivity.

From our experience at Cyberfort here are the top five considerations for why IT teams should evaluate outsourcing data centre provision to a specialist provider who already has infrastructure ready as a viable option.

Energy Efficiency and Cost Savings

Scalability and Flexibility

Enhanced Security and Compliance

Sustainability and Environmental Benefits

Strategic Focus and Resource Optimisation

Energy Efficiency and Cost Savings

One of the most compelling reasons to outsource data centre provision to a third party specialist provider is the potential for significant energy efficiency improvements and cost reductions. Operating an in-house data centre is an energy-intensive endeavour, with power demands for servers, cooling systems, and 24/7 operations accounting for a considerable portion of IT budgets.

Outsourcing transfers these costs and responsibilities to third-party providers who are better equipped to optimise energy usage. At Cyberfort we help customers leverage economies of scale to implement advanced energy-efficient technologies such as:

Smart energy management - AI-driven tools to monitor and optimise power usage.

High-Efficiency Air Handling - Advanced air-based cooling systems designed for maximum efficiency, ensuring optimal temperature management and energy savings.

Renewable energy integration - Cyberfort works with energy companies to make sure a significant proposition of energy used in our Data Centre environments has a mix of solar, wind, and hydropower to minimise carbon footprint.

These innovations significantly lower operational costs while offering greener energy solutions. By outsourcing, organisations not only reduce their expenses but also align with sustainability goals without the need for substantial capital investment in upgrading in-house facilities.

Scalability and Flexibility

In an era of rapid technological growth, scalability is a top priority for IT teams. Organisations often struggle to accurately predict future storage and processing needs, leading to inefficiencies such as underutilised hardware or resource shortages. Cyberfort specialises in offering flexible solutions that scale in response to organisational needs. Key benefits include:

Capacity expansion - Have the ability to scale resources with Cyberfort's MCX cloud platform. We also offer co-location services which enables organisations to move quickly in terms of rack scaling and allocation.

Flexibility and interconnectivity - With two strategically located UK data centres, we provide enhanced resilience and disaster recovery capabilities, allowing customers to distribute their infrastructure across multiple sites to meet their operational and compliance needs.

Cloud cost optimisation and cost certainty - We assess cloud spend vs industry benchmarks and demonstrate how by using Cyberfort cloud platforms for data, workloads and applications, they can be managed cost effectively with cost certainty in the cloud. Our experts advise and review cloud spend in real time, making sure cloud wastage is kept to a minimum and future projects have the right budgets in place.

This scalability empowers IT teams to meet both short-term demands and long-term growth objectives without the financial and operational strain of upgrading physical infrastructure.

▌ Enhanced Security and Compliance

Security remains a top concern for all IT leaders, particularly as cyber threats grow in sophistication. Maintaining high levels of security within in-house data centres requires significant investment in hardware, software, and skilled personnel. Cyberfort addresses these concerns through the specialised expertise of 130+ assured and accredited cyber security professionals and robust infrastructure. Key security advantages of outsourcing Data Centres to Cyberfort include:

Physical security measures - Our UK Facilities are based in ex-military nuclear bunkers equipped with advanced security features such as access controls, perimeter fencing, and 24/7 surveillance.

Cyber security protocols - Cyberfort uses state-of-the-art tools for threat detection, encryption, and firewall management.

Regulatory compliance - Cyberfort adheres to global standards including ISO 9001, 14001, 27001, 45001, PCI DSS, and GDPR, simplifying compliance for our customers.

By outsourcing to Cyberfort, organisations benefit from shared security expertise and infrastructure, often achieving a higher level of protection than what is feasible in-house. Additionally, through our GRC teams customers stay up to date with the latest compliance requirements, reducing the burden on internal teams to navigate complex regulatory landscapes.

Sustainability and Environmental Benefits

Sustainability is increasingly a core consideration for organisations as stakeholders, customers, and regulators demand more environmentally responsible operations. Traditional in-house Data Centres are often reliant on outdated infrastructure, contributing significantly to greenhouse gas emissions and energy inefficiency.

Outsourced data centres offer a more sustainable alternative. For example, at Cyberfort we have heavily invested in green technologies and practices such as:

Low PUE scores - Cyberfort regularly achieves industry-leading Power Usage Effectiveness (PUE) ratings, which measure the efficiency of energy use within data centres. With our facilities boasting PUE scores below 1.5 on average.

Net-zero commitments - At Cyberfort we have pledged to achieve carbon-neutral or net-zero operations by 2035, supporting our customers ESG (Environmental, Social, and Governance) goals.

Recycling initiatives - Cyberfort has implemented e-waste recycling programmes and adopted circular economy principles to minimise waste. We also have ISO 14001 accreditation.
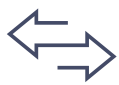
By outsourcing to environmentally conscious providers, IT teams can make meaningful progress toward sustainability objectives while reducing their organisation's environmental impact.
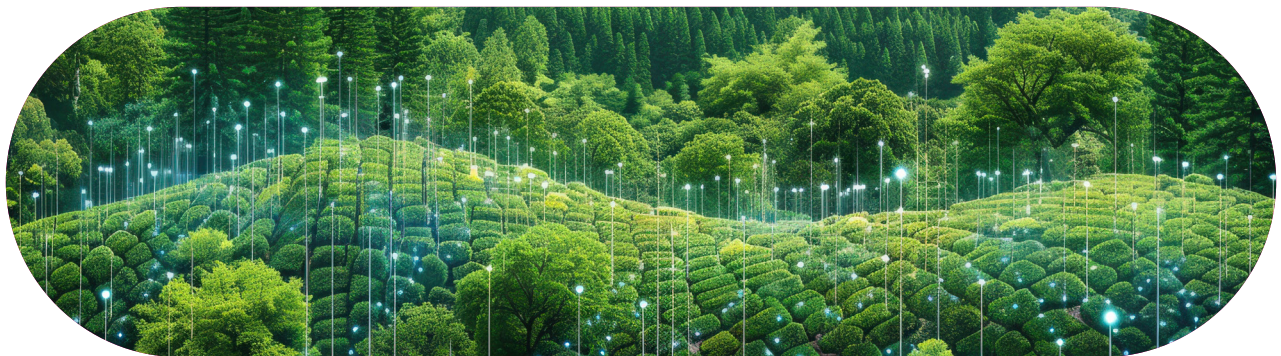
Strategic Focus and Resource Optimisation

Managing an in-house data centre requires significant time, resources, and expertise. IT teams often find themselves consumed by operational tasks such as hardware maintenance, capacity planning, and troubleshooting. Outsourcing these responsibilities enables organisations to refocus their efforts on strategic priorities.

By partnering with Cyberfort, IT directors can:

Redirect resources - Allocate budgets and personnel to initiatives that directly contribute to business growth, such as digital transformation and application development.

Accelerate innovation - Leverage the advanced capabilities of Cyberfort Data Centre and Cloud Professionals to take advantage of new trends such as edge computing and AI-driven analytics, to enhance competitive advantage.

Improve service delivery - Ensure faster response times and better user experiences by offloading infrastructure management to specialists.

By outsourcing to environmentally conscious providers, IT teams can make meaningful progress toward sustainability objectives while reducing their organisation's environmental impact.

Key benefits of outsourcing Data Centre provision to Cyberfort

Focus on Core Competencies
Managing in-house Data Centres diverts resources and attention from core business objectives. By outsourcing to Cyberfort IT teams to focus on:

- Innovating IT services - Allocate resources to digital transformation projects and application development.
- Enhancing customer experiences - Prioritise solutions that directly impact end-user satisfaction.

Improved Reliability and Uptime
Cyberfort guarantees 100% power uptime and 99.5% for connectivity through:

- Redundant infrastructure - Backup systems ensure continuity during outages.
- Expert staff - Specialised teams monitor and address issues in real-time, providing 24/7/365 support.

Regulatory Compliance
Navigating complex regulatory landscapes can be challenging for IT teams. Outsourcing to Cyberfort simplifies compliance with:

- Global data sovereignty laws – Cyberfort Data Centres are UK based meeting legal and industry data protection, management and storage requirements.
- Industry-specific standards - Cyberfort facilities are specifically designed to comply with regulations in healthcare, finance, and other sectors.

Security
Data security is a top priority for IT leaders. Cyberfort implements rigorous security measures across its entire data centre estate, including:

- Physical security - Access controls, 24/7 surveillance, and secure perimeters protect facilities. Our facilities are based in ultra secure ex-MOD nuclear bunkers.
- Cyber security protocols – As part of our data centre offering at Cyberfort we provide advanced firewalls, encryption, and intrusion detection systems to safeguard data from cyber threats.
- Compliance certifications - Cyberfort adheres to standards including ISO27001, SOC 2, and GDPR, ensuring robust data protection.
- Cyberfort has 130+ accredited cyber security professionals who specialise in safeguarding organisations against emerging threats.

Control and Transparency

Concerns about losing control over IT operations can deter some organisations from outsourcing. However, Cyberfort ensures service level agreements are transparent and offer extensive customisation options, allowing IT teams to:

- Retain oversight - With real-time dashboards and reporting, customers can monitor operations and performance metrics.
- Defined SLAs - Transparent SLA's, 24/7/365 support and proactive monitoring from our Network Operations Centre ensure uninterrupted service.

Cost Consideration

While outsourcing may seem expensive initially, it offers long-term savings by eliminating capital expenditure on hardware, energy, and facility maintenance. Cyberfort's transparent pricing models enable IT directors to budget effectively and avoid unexpected costs.

Final thoughts

Outsourcing data centres is a transformative solution for organisations grappling with energy costs, scalability limitations, and environmental challenges. The benefits of enhanced energy efficiency, flexible scalability, robust security, and sustainability align with the priorities of IT directors seeking to optimise operations while advancing strategic objectives.

As organisations look to the future, partnering with the right data centre provider will be crucial in navigating the complexities of modern IT demands. By embracing this change, IT leaders can lead their organisations toward greater efficiency, resilience, and environmental responsibility.

1. https://time.com/6987773/ai-data-centers-energy-usage-climate-change/
2. https://iea.blob.core.windows.net/assets/6b2fd954-2017-408e-bf08-952fdd62118a/Electricity2024-Analysisandforecastto2026.pdf

Discover more about Cyberfort's all-encompassing Data Centre and Cyber Security Services

At Cyberfort we provide a range of customers with all-encompassing Cyber Security Services. We are passionate about the cyber security services we deliver for our customers which keeps their people, data, systems and technology infrastructure secure, resilient and compliant.

Our business offers National Cyber Security Centre assured Consultancy services, Identification and Protection against cyber-attacks, proactive Detection and Response to security incidents through our security operations centre and a Secure and Recover set of Cloud solutions which keeps data safely stored, managed and available 24/7/365.

Over the past 20 years we have combined our market leading accreditations, peerless cyber security expertise, strong technology partnerships, investment in our future cyber professionals and secure locations to deliver a cyber security experience for customers which enables them to achieve their business and technology goals in an ever-changing digital world.

For more information on our Data Centre and Cyber Security services please contact us at the details below:

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We look forward to working with you