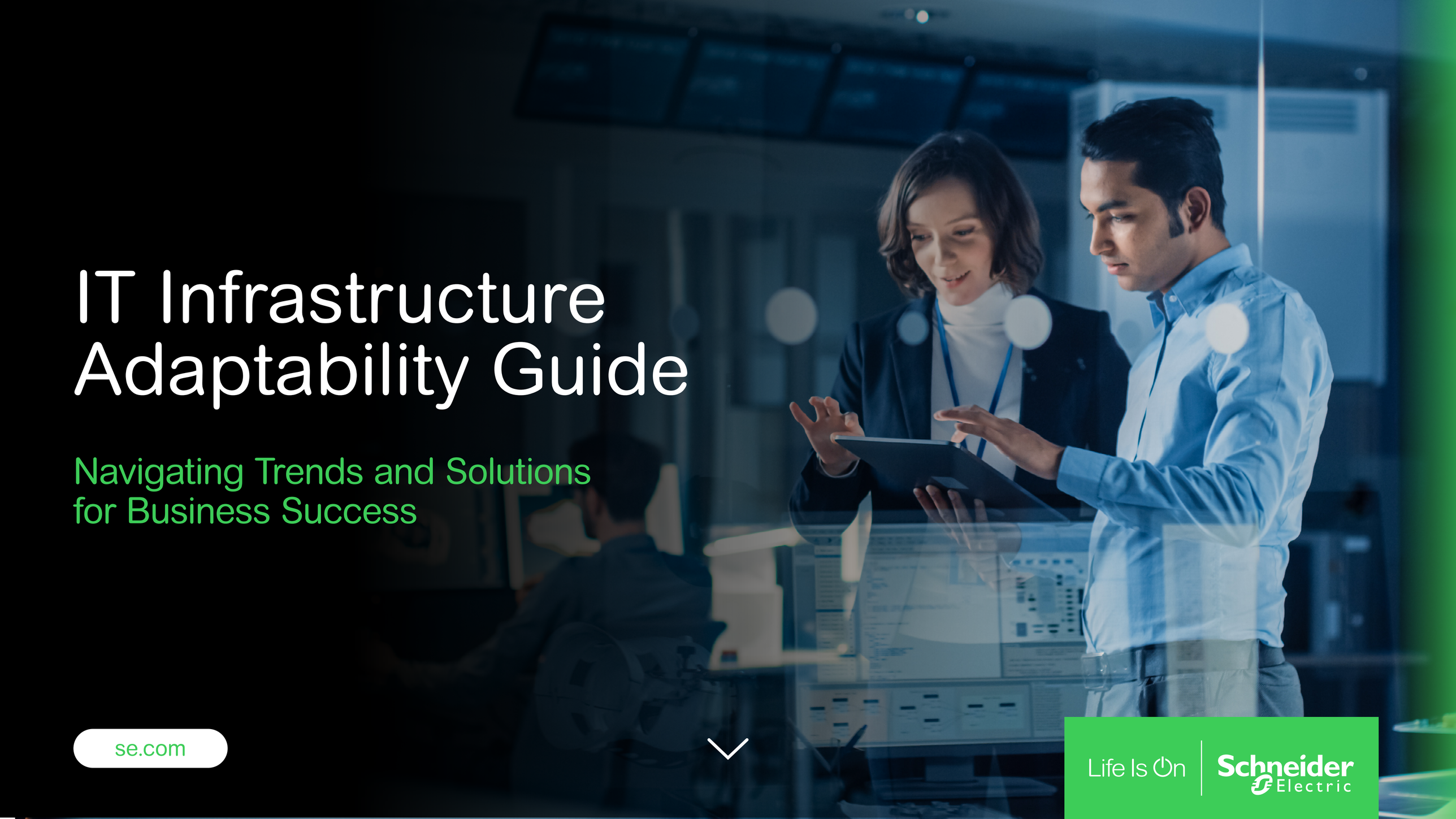
IT Infrastructure Adaptability Guide

Navigating Trends and Solutions for Business Success



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IN FOCUS

Maximizing business adaptability: Investing in IT infrastructure solutions to respond to rapid changes

In today's rapidly changing business landscape, companies must operationalize accelerated business agility to remain competitive. To support this, IT infrastructures are evolving to support "everywhere infrastructure" and design to accommodate rapid changes and respond to the unknown.

Investing in adaptable IT infrastructure solutions like Uninterrupted Power Supply (UPS), Power Distribution Units (PDU), Cooling Systems, and Software, enables businesses to maintain performance, pivot through balanced power, improve reliability, and have foresight with monitoring.

By 2025, 70% of organizations are expected to implement structured infrastructure automation to deliver flexibility and efficiency, up from 20% in 2021.[1] Growing trends such as the use of GPUs and IoT are accelerating the aging of physical infrastructure in data centers, necessitating constant re-evaluation of asset viability.

This guide aims to help you define and implement solutions that will improve your organisation's adaptability and flexibility. It will empower you to run your infrastructure at peak performance and reduce the potential for unexpected downtime.

1 Gartner, Infrastructure Automation and Predictions for 2022

TREND 1

Industrial firms are adapting to AI and automation to overcome supply chain challenges and workforce shortages

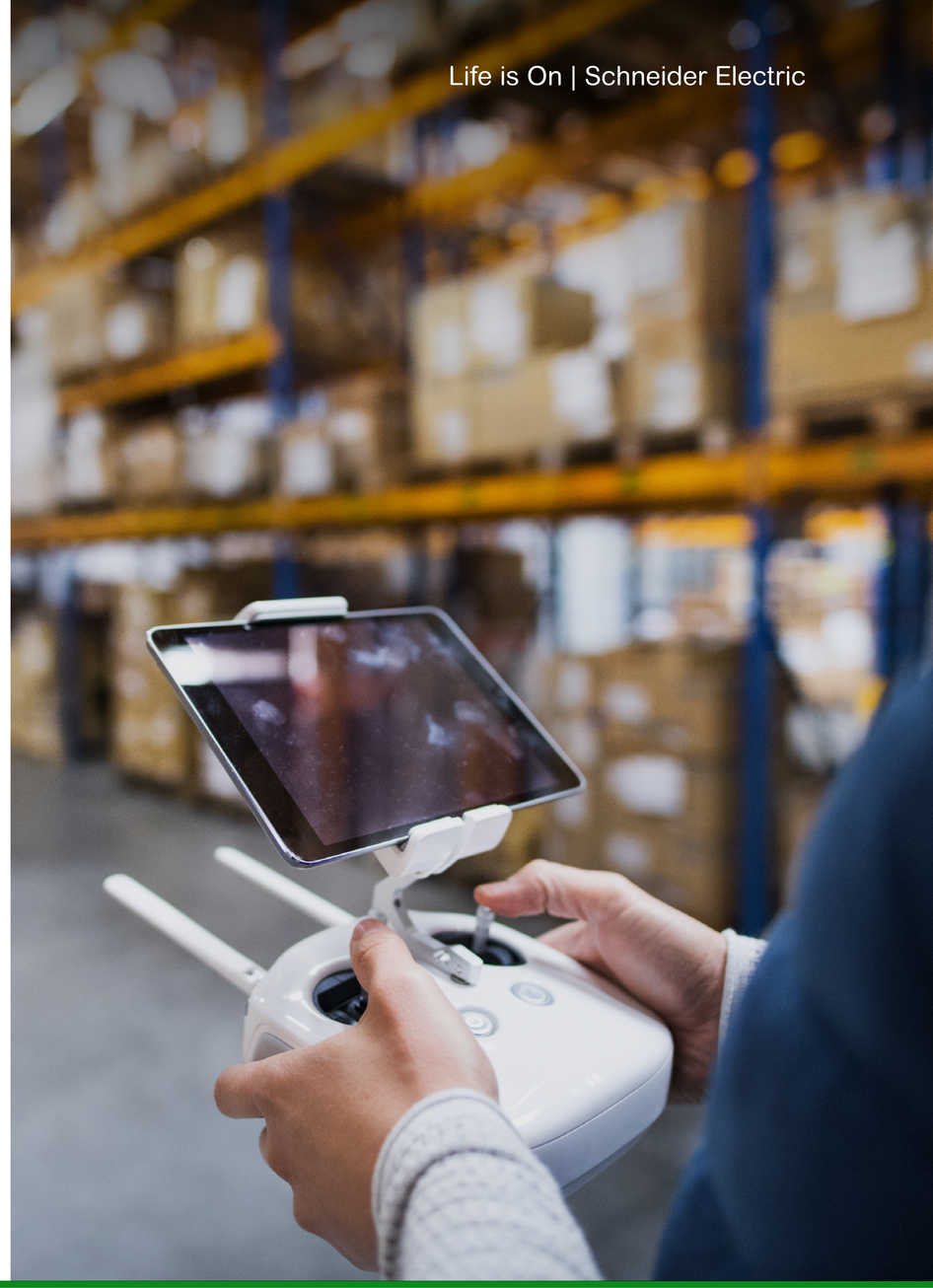
The trend of real-time adaptability in industrial companies revolves around the transformative use of artificial intelligence (AI) and automation to address supply chain challenges. With the increasing complexities brought about by factors like worker shortages and supply chain disruptions, companies are leveraging AI and automation technologies to enhance their ability to respond swiftly and effectively.

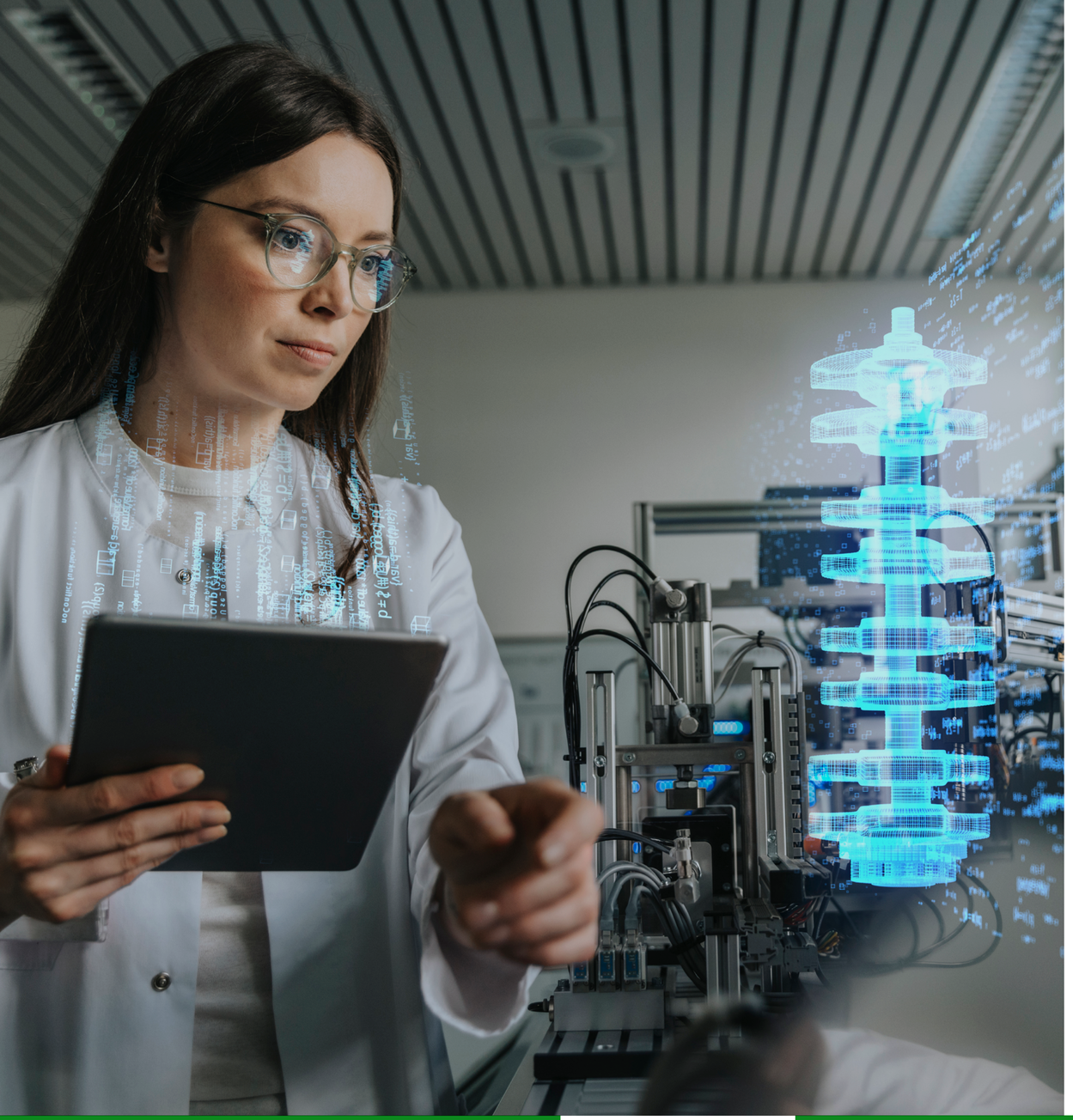
By harnessing AI capabilities such as advanced data analytics, predictive modeling, and prescriptive analytics, industrial companies can gain valuable insights, make informed decisions, and optimize their operations in real time. These technologies enable companies to monitor and analyze data from various sources, including IoT sensors and historical data, to identify patterns, anticipate disruptions, and proactively manage their supply chains.

Moreover, automation plays a vital role in mitigating workforce shortages by automating repetitive and labor-intensive tasks. This allows companies to fill the void left by missing workers and maintain productivity levels. Automation solutions, ranging from robotics to autonomous operations, are employed to streamline processes, improve efficiency, and minimize human intervention.

The adoption of real-time adaptability strategies requires companies to be agile and flexible in their approach. They must be capable of redesigning products, adjusting manufacturing workflows, and reconfiguring supply chain processes on the fly to respond swiftly to changing market dynamics.

Discover more ways to unleash adaptability for industrial resilience and productivity.





TREND 2

The rise of power couple: A special partnership between innovative technology and business

The trend of the "Power Couple" represents a paradigm shift in the world of digital transformation. It symbolizes the growing recognition of the need for a strong collaboration between innovative technology and business expertise to achieve successful and impactful digital transformations.

The primary goal of the Power Couple approach is to reduce dependency on outdated systems while simultaneously enhancing the customer experience, increasing employee engagement, and generating value through business-led initiatives. This requires a meticulous and adaptive planning process, constant recalibration, and an agile mindset.

Power Couple approach operates within a multi-stakeholder environment, fostering close relationships with business leaders and preparing the organization for success. This trend highlights the importance of internal buy-in, alignment, and a customer-first mindset. The results have been significant, with millions in value added to the profit and loss (P&L) statement, benefiting both customers and partners. The reward of increased automation is undeniable: speed to market, adaptability, business continuity, and agility.

Learn how you can reduce costs, expand profit margins, and increase productivity with technology.

TREND 3

Growing importance of adaptable network edge data centers

The global edge data center market is experiencing significant growth driven by technologies such as IoT, artificial intelligence, AR/VR, Industry 4.0, streaming services, and 5G. To meet the demands of this evolving market, key players in the network edge face three major challenges in building an edge data center ecosystem.

1. Creating a multi-access edge framework

Telco providers need to retrofit their legacy infrastructure from proprietary hardware to systems based on standard IT server hardware and software based on open standards.

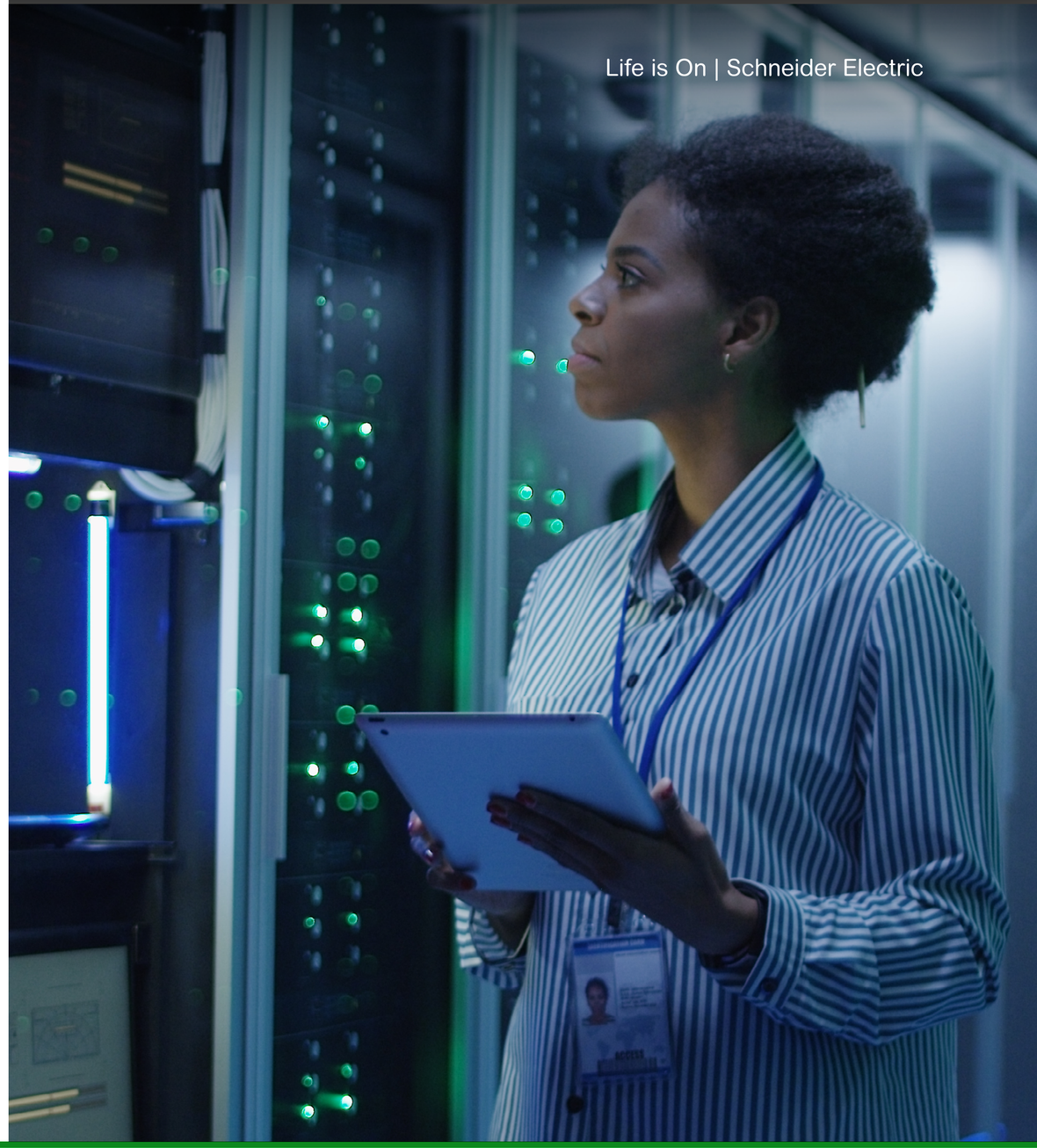
2. Meeting unique edge data center requirements

Network edge data centers must be located close to data sources, such as factories and smart city infrastructure, and fully managed by service providers. They require remote monitoring, higher rack densities, enhanced security measures, and potentially liquid cooling to support mission-critical applications.

3. Minimizing environmental impacts

As sustainability becomes increasingly important, distributed edge data center owners and operators must report on the environmental impacts of edge locations. This involves addressing energy consumption, greenhouse gas emissions, water consumption, waste disposal, and other sustainability metrics.

Discover in detail how you can address these challenges so your network edge data centers can adapt and thrive.



TREND 4

Shift towards modular and scalable solutions in data center design

There is a growing trend among data center owners towards the adoption of modular and scalable data center designs and solutions that offer adaptability. Key attributes of modular infrastructure that is behind its increased adoption include:

Cost savings

Prefabricated facility modules save deployment time and upfront costs compared to traditional data center infrastructure built through custom engineering and on-site work. The modular nature of these modules enables rightsizing and scaling to actual data center loads, resulting in a total cost of ownership (TCO) savings of nearly 30% over a traditional data center (including both capital and operating costs).

Avoided overbuilt capacity

Traditional data center designs tend to incorporate excess capacity upfront to avoid running out of capacity later. However, this leads to higher capital costs and inefficiency. Modular and scalable infrastructure allows for right-sizing, eliminating the need for excessive upfront capacity and reducing costs associated with oversizing.

Energy efficiency

Modular infrastructure incorporates efficient power and cooling components, such as close-coupled cooling, 415 Volt distribution, and economizer modes, which reduce energy costs and improve overall data center efficiency. Efficient uninterruptible power supplies (UPS) and standardized cooling controls further contribute to energy savings.

Standardization and integration

The use of standardized, pre-assembled modules reduces capital costs as components are assembled and integrated by a single vendor.

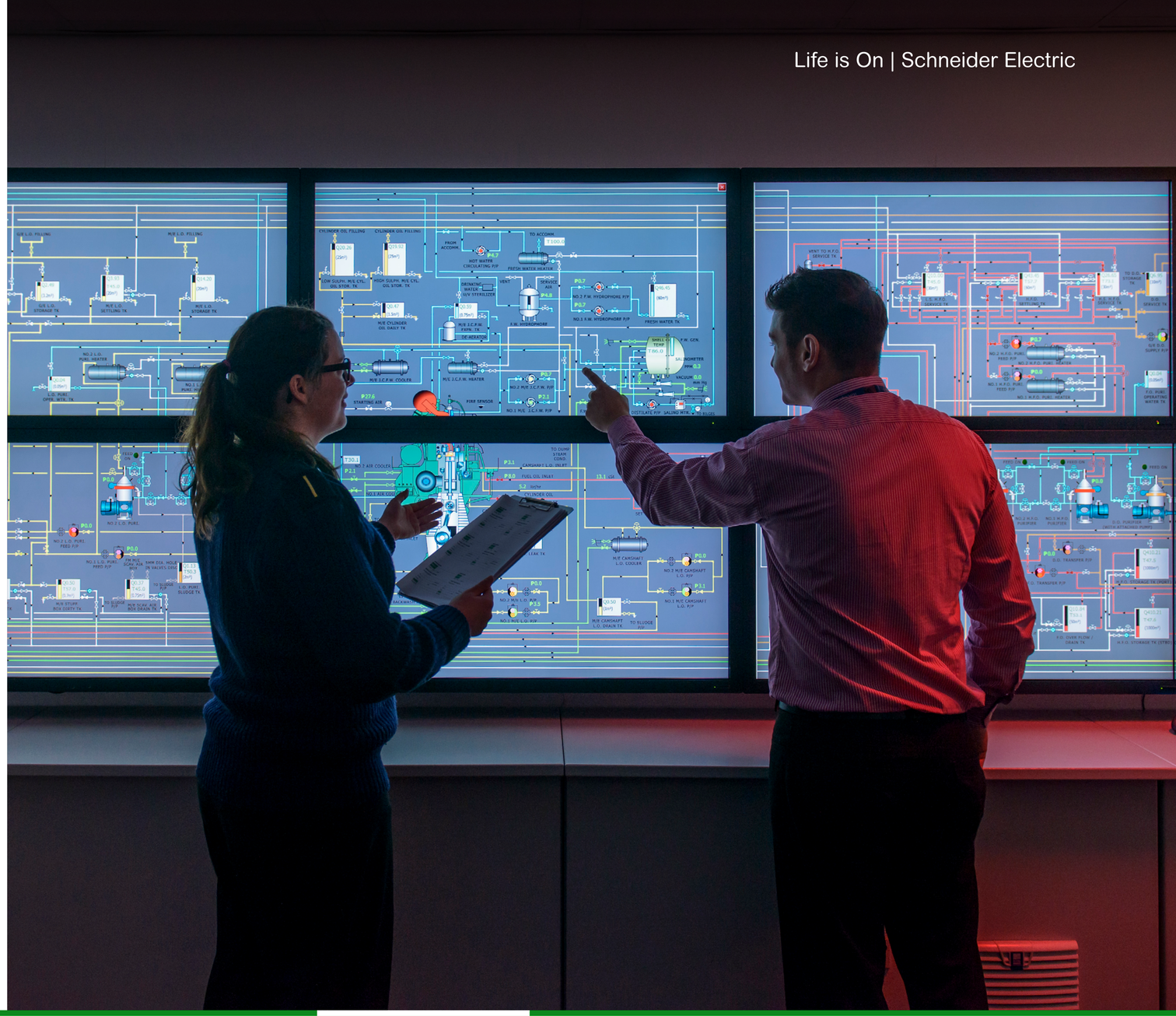
Discover in detail how modular and scalable data center can optimize costs, improve energy efficiency, and allow you to easily adapt your data center to changing needs over time.

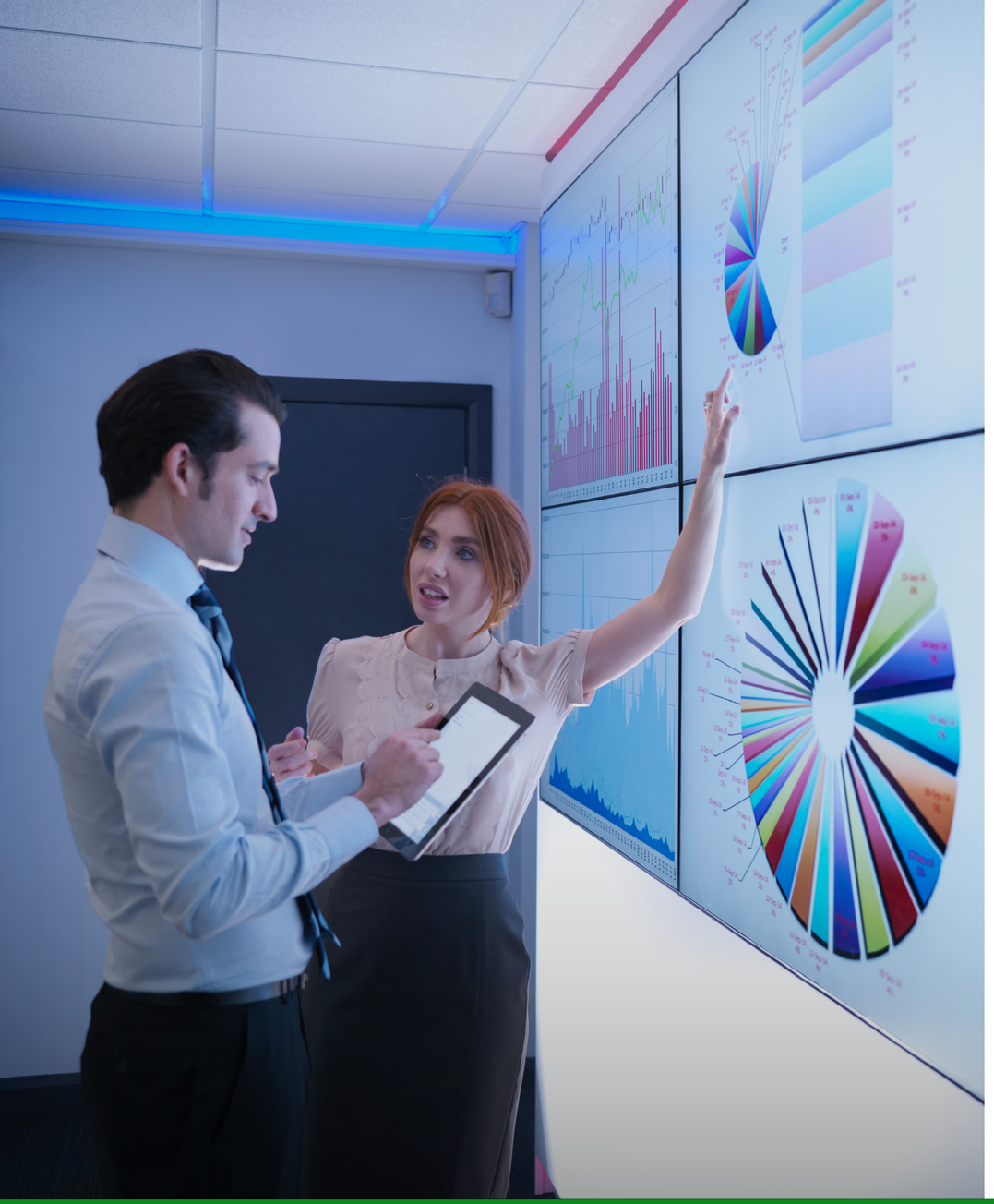
TREND 5

Enabling personalized crisis management through big data containers

Big Data containers are being increasingly adopted for personalized crisis management. Organizations are leveraging the capabilities of Big Data analytics, high computing power, and flexible infrastructure to address crises in an efficient manner. Each individual's unique crisis experience is met with targeted solutions, made possible by the using portable and self-contained Big Data containers.

Watch this video to learn how Weizmann Institute of Science used Big Data containers to keep up with a promising genome research in **half** the cost.





TREND 6

Edge computing for enhanced adaptability in cloud architectures

An emerging trend in recent times is the adoption of edge computing to improve adaptability within cloud architectures. Edge computing involves placing data acquisition, control functions, storage of high bandwidth content, and applications closer to the end user, creating a logical endpoint within a network.

By incorporating edge computing as part of a larger cloud computing architecture, organizations can address latency challenges, network congestion, and improve availability. This enables companies to leverage the benefits of cloud computing while reducing transport time and enhancing responsiveness.

There are three primary applications of edge computing:

1. **It serves as a tool for gathering massive information from local "things" as an aggregation and control point**

2. **It acts as a local storage and delivery provider of bandwidth-intensive content**

3. **It serves as an on-premise application and process tool to replicate cloud services and isolate the data center from the public cloud.**

Discover how edge computing can optimize data processing and reduce latency.

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About Schneider Electric

Schneider's purpose is to empower all to make the most of our energy and resources, bridging progress and sustainability for all. We call this Life Is On.

Our mission is to be your digital partner for Sustainability and Efficiency.

We drive digital transformation by integrating world-leading process and energy technologies, end-point to cloud connecting products, controls, software and services, across the entire lifecycle, enabling integrated company management, for homes, buildings, data centers, infrastructure and industries.

We are the most local of global companies. We are advocates of open standards and partnership ecosystems that are passionate about our shared Meaningful Purpose, Inclusive and Empowered values.