Guide for Data Centre Professionals

Creating an agile organisation

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IN FOCUS

Modernise data centres with agile infrastructure

As enterprises switch to digital business processes, they must evaluate whether they need to refresh their equipment and expand capacity, while improving agility and maintaining uptime in their data centre networks.

To become flexible and agile, your data centres must be able to quickly adapt to the current business conditions. Each change—be it upgrading the infrastructure or a change in application workloads, can profoundly affect the way data centres are powered, cooled, and integrated to support new IT stacks.

Modular data centres are a great way to ensure flexibility, speed, and responsiveness to market pressures. These prefabricated data centres are agile, easy to install, and a perfect fit for low-latency applications in banking and finance, retail, government, healthcare, hospitality, and educational industries.

In the following pages, we have compiled insights and innovative ways in which you can modernise your data centre and stay competitive today and tomorrow.
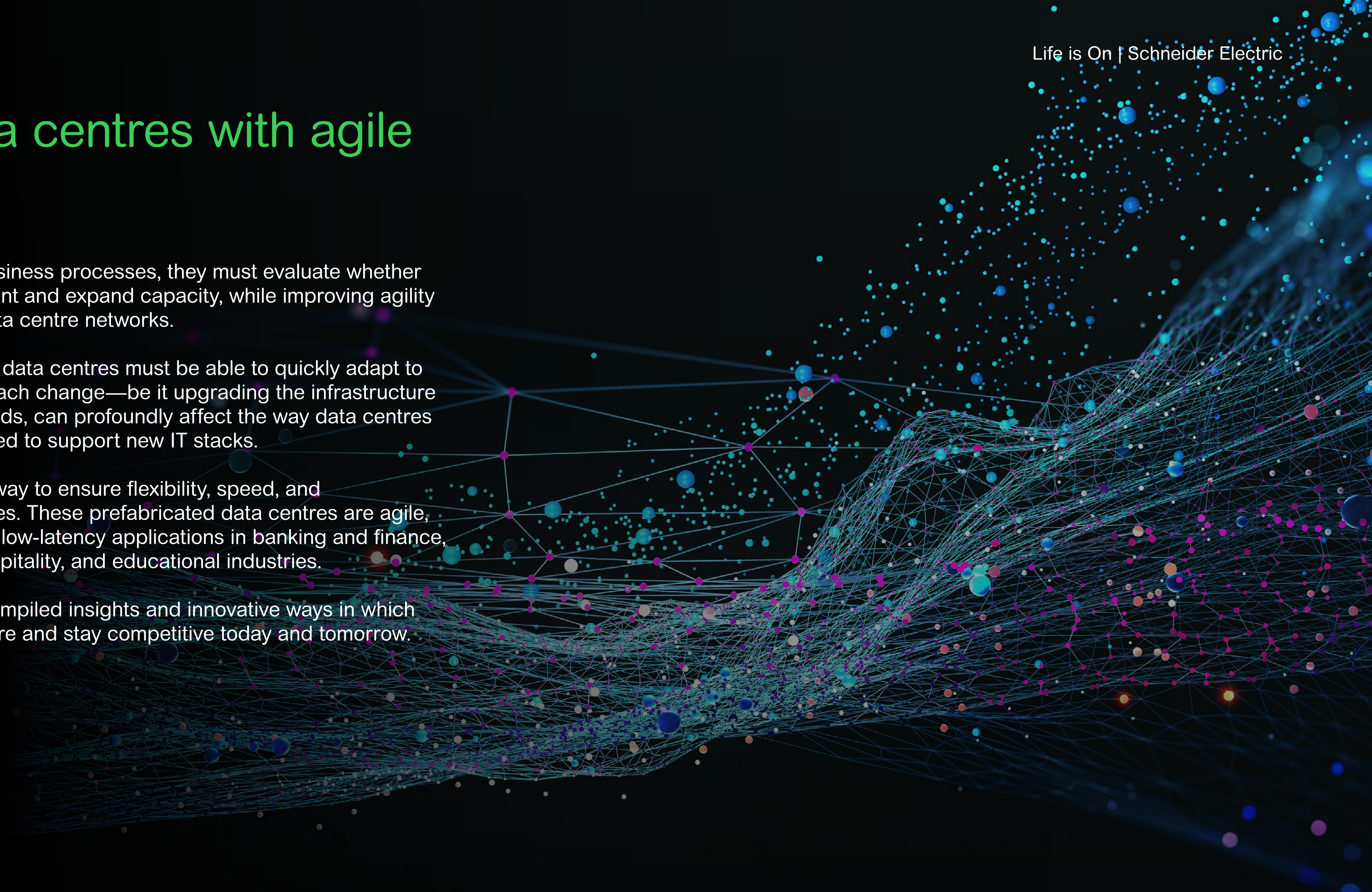
INSIGHT 1

Modernisation tips for an agile data centre infrastructure

For those who manage data centres, modernising any aging hardware is the next logical step to keep up with the rapid pace of market evolution. Regardless of whether the data centre is on-premises, in the cloud, on the edge, or a hybrid combination of each, there is a need for constant re-evaluation of the data centre's asset viability.

When modernising your data centre design, the following aspects will affect performance and reliability the most:

Put an emphasis on scalability, security, and visibility
Are you able to scale quickly to handle the influx of data and provide powerful processing and AI capabilities for analysis—all while maintaining high availability? Your data centre must also protect customer data through a technology ecosystem that ensures a cyber and physically secure environment.

Focus on redundancy and power protection
Identify servers and systems within the data centre requiring the highest levels of availability and configure it to support longer runtime and higher levels of redundancy. Higher levels of redundancy like dual feeds all the way to the rack, with dual generators, and dual N+1 UPS should be considered for data centres and networks.

Lean towards precision cooling and power density control
Machine learning and AI technology requires compute power that produces concentrated heat in the data centre (i.e., hotspots). Therefore, deploying sophisticated precision air cooling devices and monitoring power loads closely will ensure maximised compute uptime.

Get more tips on modernising aging data centre infrastructure here.
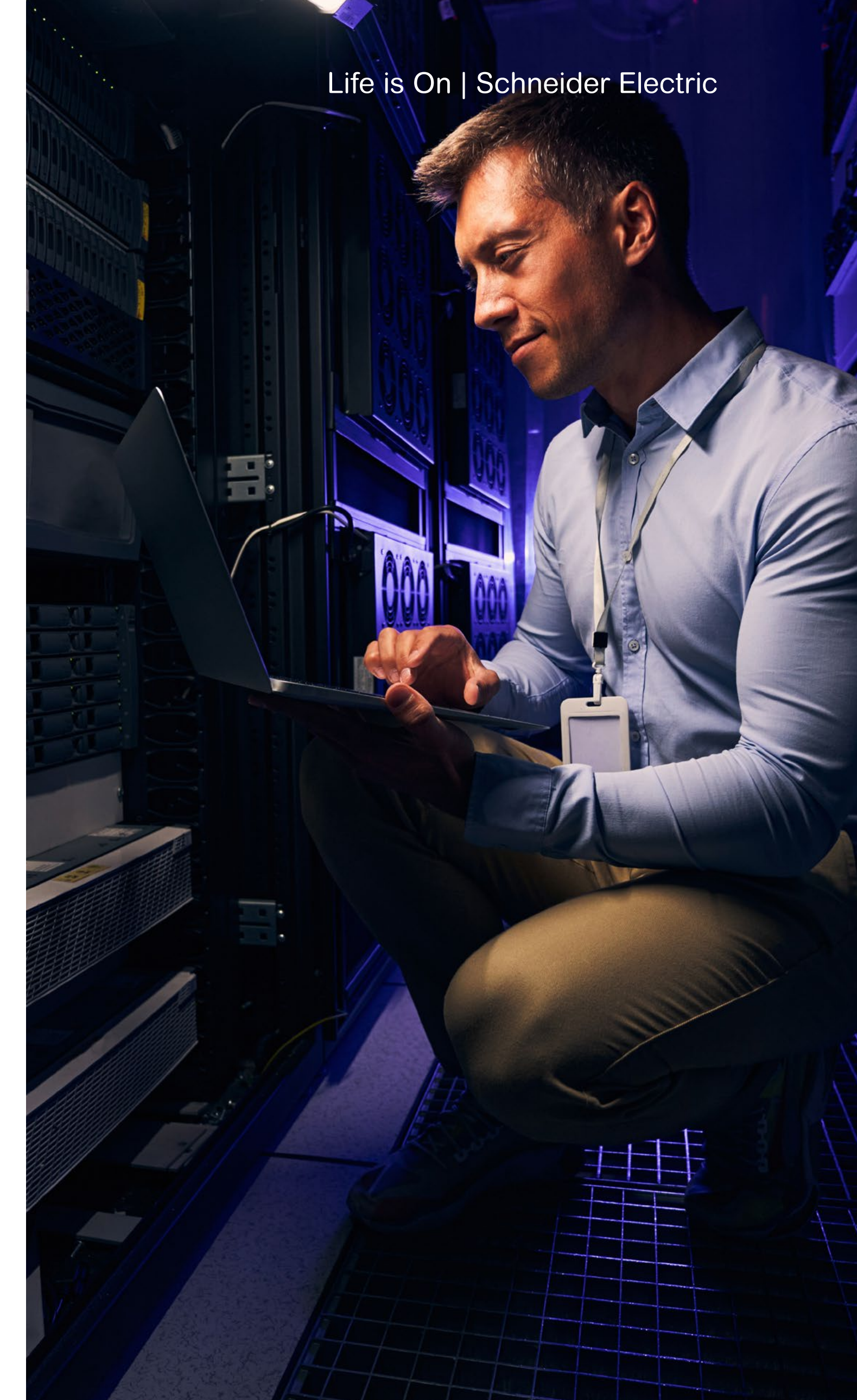
INSIGHT 2

Create a self-driven, automated data centre with AI, ML, and IoT

Some specific digital transformations affect data centres at the operational level. Once disparate, systems are now harmonised and integrated using machine learning, AI, IoT and other technologies. This allows functions to be automated and optimised for efficiency and resiliency.

Recently, Schneider Electric's senior technical leads spoke about the technologies that are enabling a new way to control and automate digital infrastructure.

[Find out how you can enable hyper-converged infrastructure at the edge and achieve business continuity.](#)

1 Gartner, Critical Capabilities for Hyperconverged Infrastructure Software, Philip Dawson, Jeffrey Hewitt, Julia Palmer, Tony Harvey, 9 December 2020

INSIGHT 3

Stay competitive by investing in agile data centre physical infrastructure

To stay competitive in today's rapidly changing business world, companies must change the way they view the value of their investment in data centre physical infrastructure (DCPI). Apart from availability and upfront cost, it is also important to consider agility or business flexibility to make the right business decisions and succeed.

These agility considerations impact business value and are often overlooked:

- **Can you build a new data centre in days instead of months or years?**

- **Can you add additional capacity quickly to the existing DCPI system?**

- **Can you install data centre's DCPI with minimal site work?**

- **Can you move a significant percentage of the infrastructure to a new site if relocation becomes necessary?**

- **Can you re-locate the data centre in months rather than years?**

- **Can you supply a portion of the data centre with redundant DCPI?**

- **Can you change a plug type in a matter of minutes during IT refreshes?**

You must consider agility as a performance vector since it directly measures the ability of the DCPI to meet unforeseeable demands and opportunities.

Discover other key elements required to achieve high business value.

INSIGHT 4

Keep up with data growth in the IoT era with hyper-converged IT infrastructure

Gartner predicts that by 2025, over 30% of hyper-converged IT (HCI) units will be deployed at edge locations, which is a substantial increase from fewer than 15% in 2020[1].

To keep pace with this migration to the edge, data centres will need to become more agile and cost-effective. This is where HCI can leverage integrated physical infrastructure as micro data centres.

The quest for increased agility, simplicity, and efficiency, coupled with hybrid deployments and IT virtualisation refresh cycles, is driving enterprises to adopt hyper-converged IT infrastructure. Such an infrastructure blends the traditional three-tier architecture (compute, storage, and networking) into a single software-defined solution that simplifies configuration and achieves high performance.

[Find out how you can enable hyper-converged infrastructure at the edge and achieve business continuity.](#)

INSIGHT 5

Animation studio, Animal Logic creates magic in digital movies with high-density computing

Creating award-winning cinematic effects outside of Hollywood is a bold idea. Animal Logic, the animation, and special effects studio behind films such as The Matrix, The Great Gatsby, and The LEGO Movie, made it happen with high-performance computing, from Schneider's prefabricated data center.

Watch this video to learn how Animal Logic built a scalable and high-density data centre within 4.5 months.

INSIGHT 6

Modular data centre solutions are driving the rapid growth of the data centre industry

With easy deployment, portability, and a compact size, modular data centres are becoming an increasingly attractive option for many companies, including hyper-scale cloud service providers.

The market drivers for modular data centres include:

Consumer demand
The growth in social media, gaming apps, and streaming media services has created a demand for cloud capacity that is growing exponentially. Cloud service providers who are hosting these consumer applications are racing to build out their global data centre footprint as quickly as possible. Prefab modular data centres are a perfect fit for these cloud giants.

Move to the network edge
To reduce capacity costs and avoid latency problems, organisations are looking to process IoT data as close the source as possible. That means a right-sized, prefabricated, modular data centre at every manufacturing plant or retail location.

Digital transformation
Existing business processes are shifting from paper to digital across industries and new applications are being built in the cloud. Digital transformation is one of the key drivers of modular data centres as private companies, public schools, municipalities, healthcare facilities, co-location providers, and the hyper-scalers digitise.

[Find out how you can quickly deliver a flexible, scalable, and energy-efficient data centre in a prefabricated modular format.](#)

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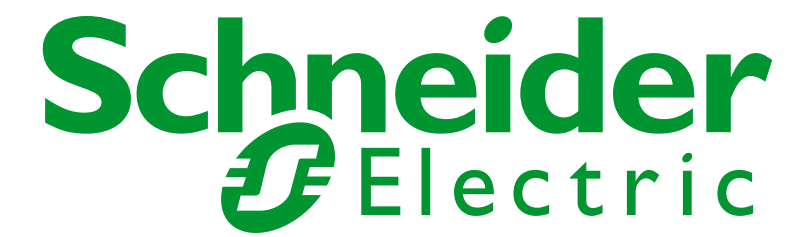
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About Schneider Electric

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.