

Sascha Meier

Advance sustainability and energy efficiency in the era of generative AI

Take a future-ready approach
with Dell Technologies and Intel

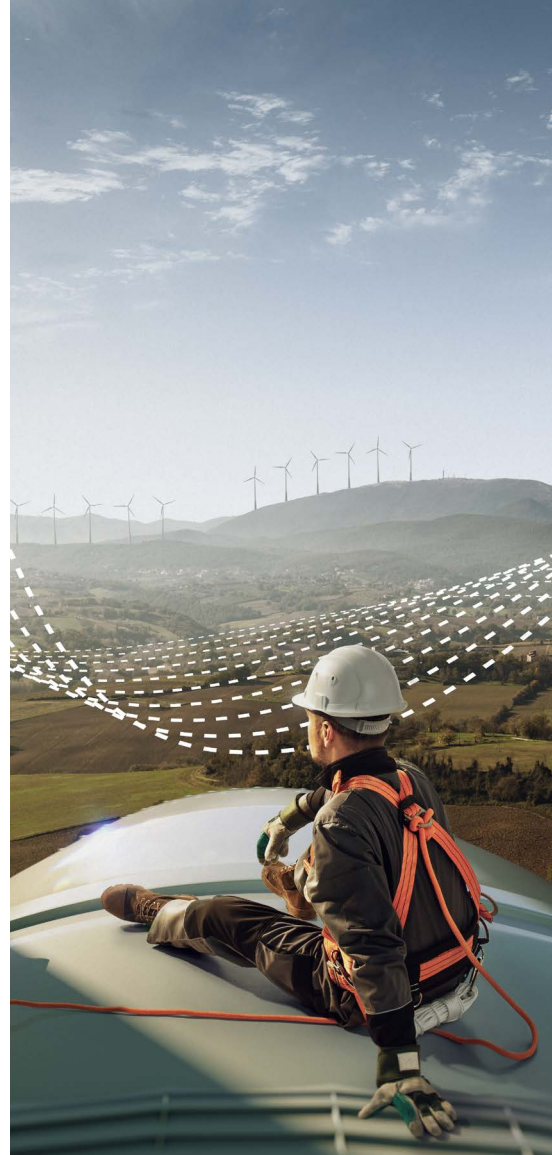
Harness the power of AI without compromising your priorities

Artificial Intelligence is transforming the way we work and has already brought about a radical shift in how organisations across all industries approach innovation and growth. As generative AI (GenAI) starts delivering on its enormous potential to increase productivity and power more efficient processes, forward-thinking businesses are faced with the challenge of adopting energy-intensive AI capabilities without compromising vital sustainability and energy-efficiency objectives – all while maintaining data sovereignty and ensuring optimal return on investment.

This guide shows you where to start, and how to proceed, with overcoming this challenge by utilising the power of AI to help maintain energy efficiency, reduce your business’s carbon footprint in line with regulations and carry out sustainability reporting.



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About the author

Senior Director, Head of EMEA Presales Solutions Architects & CTO Ambassador 2024

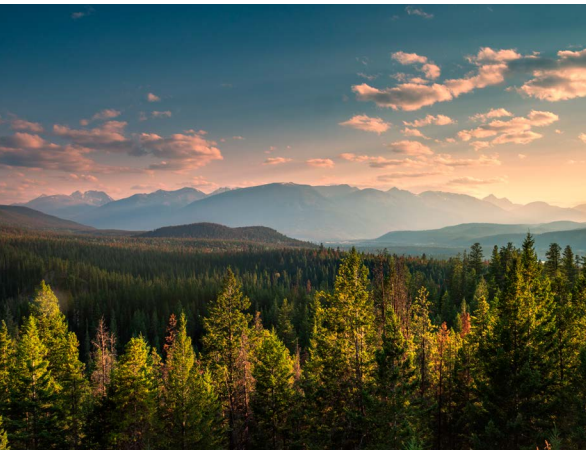
Sascha has been with Dell Technologies since 2007 and is currently Head of EMEA Presales Solutions Architects. As CTO Ambassador, he is also responsible for discussing and defining the technology strategies of key customers and prospects. Sascha holds a BSc degree in Electro and Communication Technology (Dipl. Ing. FH) and is the proud father of a daughter.



Reach out to Sascha



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Meet your goals through data-driven insights



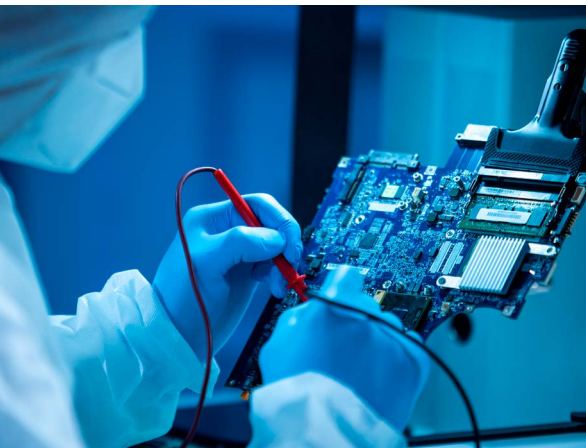
Accelerate efficiencies in the data centre



Modernise and downsize your infrastructure



Utilise as-a-Service models



Embrace intelligence and enhance the user experience



Build the smart workplace of tomorrow



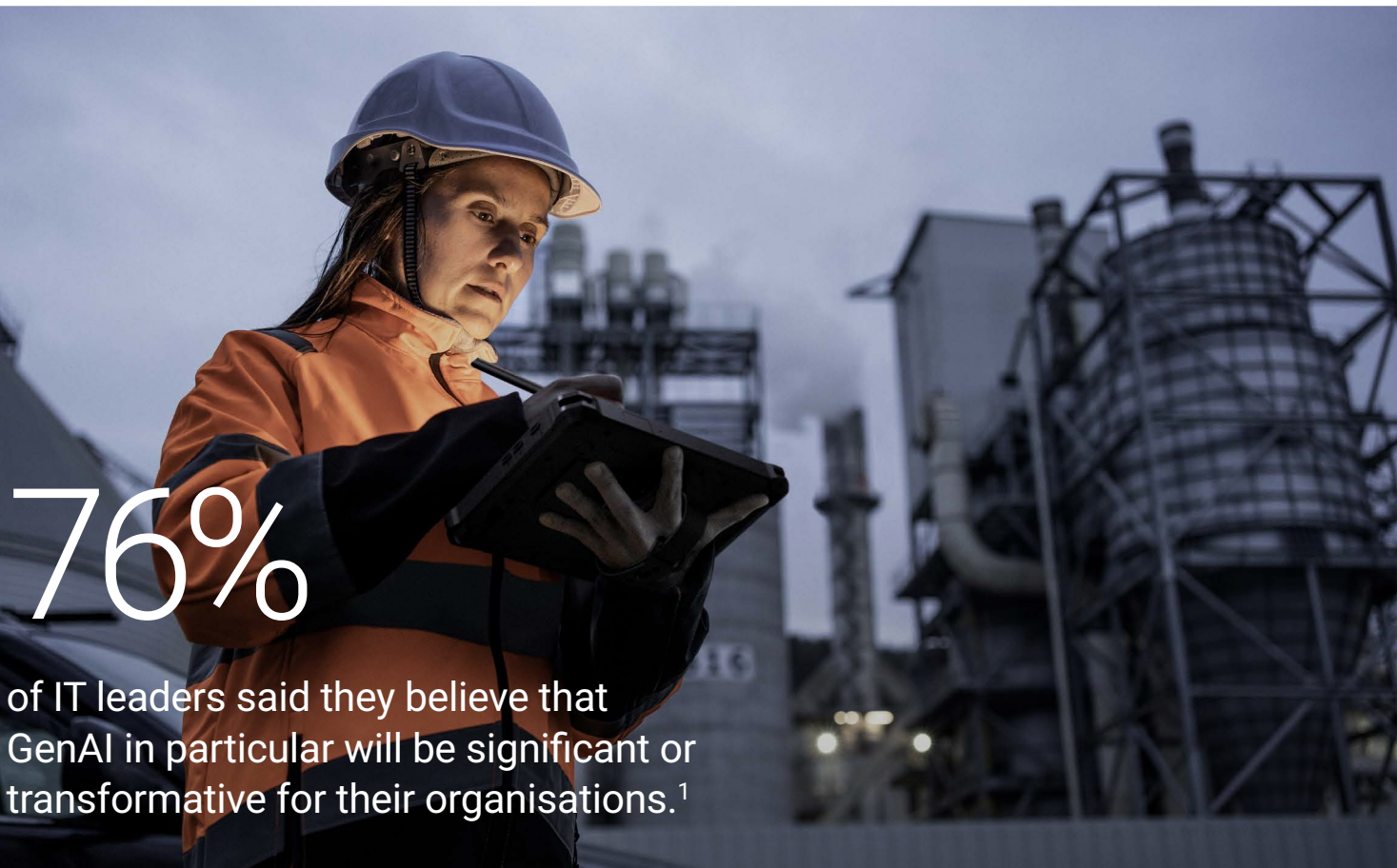
Your path to future growth



Sustainability and energy-efficiency in the era of generative AI

Artificial Intelligence offers companies huge opportunities but, as it transforms the business landscape, AI is fast becoming an essential ingredient in fostering the innovation and growth required to stay competitive.

Adopting AI is a matter for the entire enterprise. To successfully implement AI solutions that efficiently turn insights into concrete action, you should ensure the investment you make fits your requirements and reinforces your organisation's data sovereignty. Dell Technologies has the broadest portfolio of **simplified, tailored and trusted** AI solutions that will help you harness the power of GenAI



76%

of IT leaders said they believe that GenAI in particular will be significant or transformative for their organisations.¹

The challenge

Of course, adopting AI is not as simple as flicking a switch. One of the major challenges is the energy intensity of the technology. As Gartner® has recently predicted for 2024, 'increasing adoption of generative AI will lead to dramatic increases in energy use, with annual information and communication technology (ICT) electricity increases of 25% or more.'³ Combined with the importance of maintaining energy efficiency, especially following recent volatility in the energy market, this appears to present companies with a problem. On current course, global energy demand is expected to increase by around half by 2050.⁴ However, as this guide will show, the efficiencies on offer with AI adoption can help you avoid waste and reduce your organisation's physical footprint. As long as your investment is right-sized to fit your requirements, efficiency savings will go some way

to reducing the energy demands of AI adoption. Advancing energy efficiency not only saves your organisation money but supports your wider sustainability strategy. Among other advantages, utilising AI can support increasingly important monitoring efforts. The growth of renewable energy will continue to accelerate but, as we lower our reliance on fossil fuels and move toward net zero, there is every reason to invest in energy-efficient solutions today. While energy efficiency and sustainability are often considered separately, they are actually interlinked. This is why developing a comprehensive strategy is your best bet for future-proofing your business.

The era of AI has begun – and there has never been a better time to advance your energy efficiency and sustainability priorities.





The solution I: Enterprise-wide sustainability & energy efficiency

Adopt future-ready solutions today

Sustainability and energy efficiency are now firm boardroom priorities. To determine how AI adoption can form part of a holistic, future-ready strategy, you need to start by breaking things down.

Sustainability is multi-faceted: it might involve lowering carbon emissions, reducing e-waste, contributing to the circular economy, adopting a responsible approach to lifecycle management, using renewable electricity, increasing power-usage effectiveness and implementing responsible procurement

policies. Greater energy efficiency can be achieved by reducing your physical footprint and utilising more energy-efficient devices across the enterprise.

Your strategy should prioritise what your business needs most right now and into the foreseeable future, right-sizing your investment to fit your needs. Developing a comprehensive approach therefore involves engaging with stakeholders from across your organisation.

The solution I: Enterprise-wide sustainability & energy efficiency



Procurement

Source and select sustainable and energy-efficient AI-optimised hardware.



Facilities Management

Manage more efficient energy consumption and reduce your physical footprint.



Talent Acquisition

Attract top talent and get the internal expertise you need for successful transformation



Leadership

Strategic vision allows you to take a holistic, enterprise-wide approach.

An aerial photograph of a lush green forest. A winding river flows through the center of the forest, reflecting the sky. The trees are dense and vibrant green, with some mist or low clouds hanging in the air, particularly in the upper and lower portions of the image. The overall scene is serene and natural.

According to the gartner 2022 CEO survey, 'environmental sustainability became a top 10 CEO priority in 2022 for the first time'⁵



The solution II: Dell Technologies & AI

Meet your goals through data-driven insights

Adopting AI is a matter for the entire enterprise. To successfully implement AI solutions that efficiently turn insights into concrete action, you should ensure the investment you make fits your requirements and reinforces

your organisation's data sovereignty. Dell Technologies has the broadest portfolio of **simplified, tailored and trusted** AI solutions that will help you harness the power of GenAI in every area of your business.

The solution II: Dell Technologies & AI

A comprehensive strategy for adopting AI as part of an enterprise-wide transformation geared toward sustainability and energy efficiency should encompass everything from the data centre to the home office.



The data centre. Establish lean infrastructure for harnessing the power of AI by renewing hardware, replacing your historical base with AI-optimized solutions that increase efficiency through consolidated workloads and reduced cooling costs.



The modern workplace. Drive efficiencies wherever work happens by utilising intelligent features on secure, AI-ready PCs, building efficient workspaces and prioritising the latest devices designed for sustainability.



As-a-Service models. Consider a flexible solution to device lifecycle management that best fits your requirements, supports the circular economy and promotes responsible consumption.

79%



79% of business and it decision makers believe 'bringing AI to my data creates more value for the organization because we control it, the data is fresh, and we have secure access'⁶



Products, Services and Solutions

Headline in here on two lines



Dell offers a range of products, services and solutions that leverage Intel technology to help your business meet vital sustainability and energy-efficiency targets and efficiently carry out ESG reporting. By partnering with us, you

can take advantage of the broadest portfolio of AI solutions as well as flexible payment and consumption models designed to help you transition into circular practices, reduce costs and increase operational efficiencies.

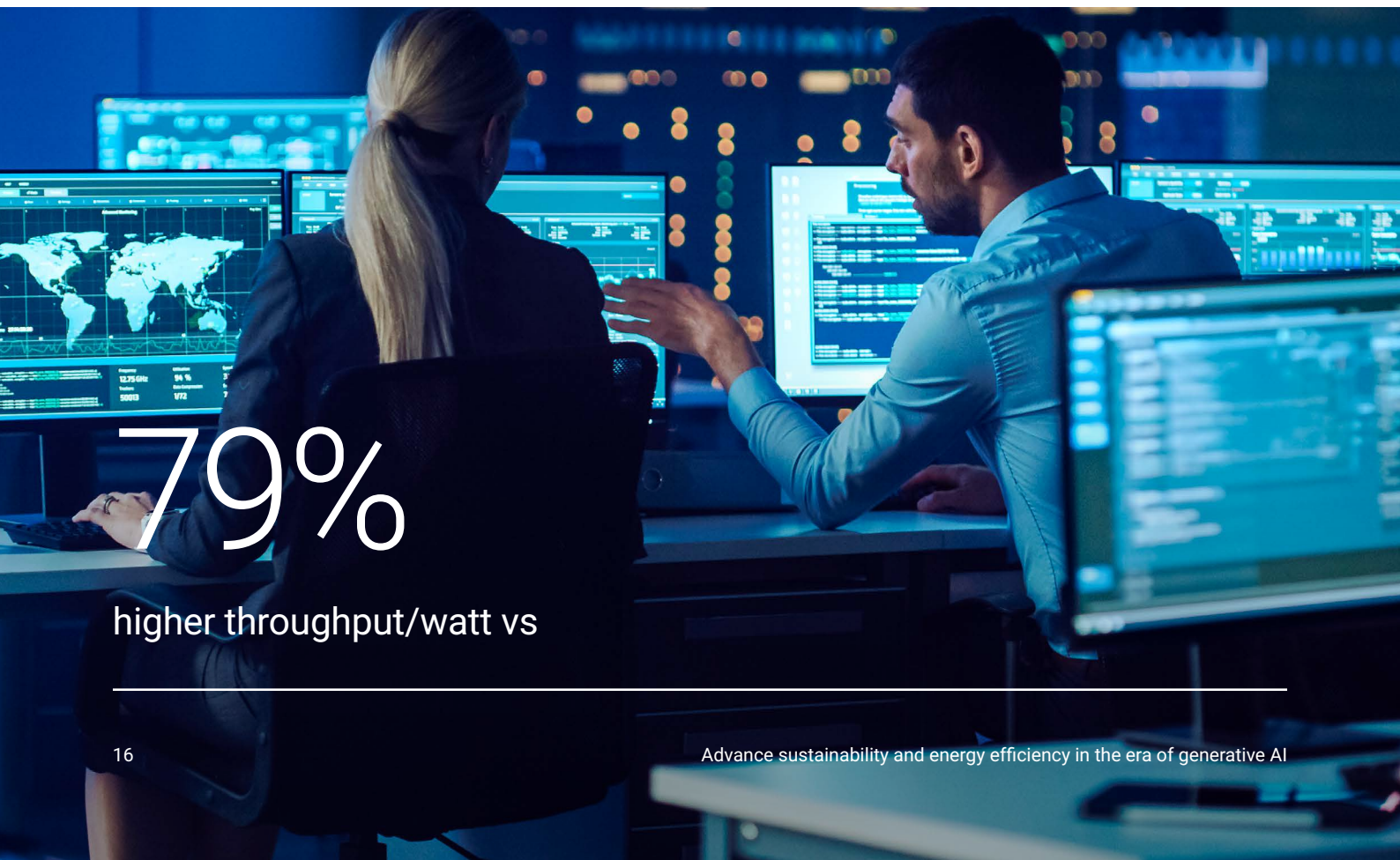
Drive efficiencies in the data centre

Accelerate time to value with solutions designed for the needs of your business. **Dell Validated Designs for AI and GenAI** take the guess work out of deployment with tested and proven configurations. Our end-to-end portfolio can deliver custom solutions meet any requirements.

Deploy GenAI workloads on energy-efficient, AI-optimized **Dell PowerEdge servers** –powered by 5th Gen. Intel® Xeon® processors, lowering operating costs and advancing sustainability through energy-efficient processor options and software tools– and **PowerStore storage devices**.

Intel® Gaudi®2 AI accelerator delivers more AI in a smaller power envelope, using 50% lower device power than NVIDIA H100 (and 14% lower power than the A100) on a typical LLM inference workload, offering 79% higher throughput/watt vs. H100 (and 61% higher throughput/watt than A100).^{7*}

Manage your energy usage with **Dell OpenManage** and stay on top of your capacity requirements with our AIOps platform **CloudIQ**.



79%

higher throughput/watt vs

Adopt aaS business models and responsible disposition services



Increase agility and simplicity with consumption-based investment solutions like **Dell APEX** with support from **Lifecycle Management Payment Solutions**



Reduce waste and boost circularity with lifecycle management services like **Dell Lifecycle Hub** and **Asset Recovery Services**

Embrace intelligence and build the smart workplace of tomorrow

Adopt modern, AI-ready devices powered by **Dell Optimizer** – enabled by the latest Intel® Core™ processors – from our broad portfolio of Intel vPro-based **client devices** optimized for sustainability.

AI acceleration is built into every Intel® Core™ Ultra processor, with Intel’s neural processing unit built to handle sustained, heavy AI workloads at low power for greater efficiency.

Keep the whole product lifecycle in view and support the circular economy with solutions like **Dell Deployment Services** and **Dell multipack**.

Optimize your AI investment with **Dell Professional Services** to reduce waste and lower energy costs.



Reach out to a Dell representative today



Find your path to future growth

Your business is unique and needs a strategy tailored to fit its needs. I hope this guide conveys the importance of this process and helps you to start developing a unified vision for enterprise-wide change. By partnering with Dell Technologies, you benefit from the expertise and experience of an industry leader poised to help you carry out IT transformation and embark on your AI journey.