



# ADVANCING SUSTAINABILITY AND ENERGY EFFICIENCY IN A CHANGING WORLD

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HOW TO PURSUE A COMPREHENSIVE STRATEGY  
WITH DELL TECHNOLOGIES AND INTEL

Bertrand Lalanne

# TAKING A HOLISTIC APPROACH TO MEETING TODAY'S CHALLENGES

We're currently facing unprecedented sustainability and energy challenges, and these topics have become boardroom priorities, vital to any successful business strategy focused on driving growth. CIOs and business leaders can best address their sustainability agenda through a holistic approach. This guide is intended to show you where to start, and how to proceed, with this essential work.



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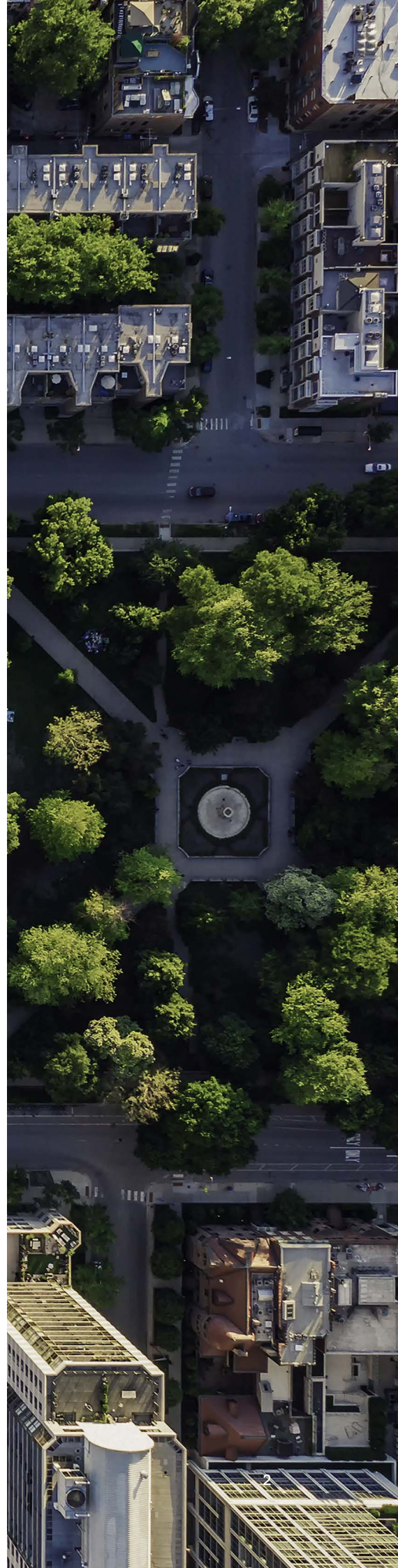
## ABOUT THE AUTHOR

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Bertrand is a seasoned executive with a passion for technology and IT transformation. He has many years of experience consulting on large IT infrastructure transformation projects and is a frequent speaker at industry events. He currently leads a team of technology experts across the EMEA region who provide customers and partners with advice, guidance and updates on Dell technology and solutions.



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# DEVELOPING A COMPREHENSIVE STRATEGY IN A CHANGING WORLD

## IN THE CURRENT CLIMATE, IT TRANSFORMATION IS A TOP PRIORITY FOR MANY ORGANISATIONS

A recent Gartner® report found, “75% of surveyed organizations are already reducing energy demand through optimization activities” – and global energy demand is yet to peak.<sup>1,2</sup> In the short term, supply-side issues and price volatility have been forecast to burden growth this year.<sup>3</sup> Looking ahead, global energy demand is expected to increase 47% by 2050.<sup>4</sup> With electricity consumption in Europe predicted to increase 31% within the next twenty years and ambitious climate policies being pursued at both national and EU level, navigating today’s energy efficiency and sustainability challenges is firmly in place at the top of the agenda.<sup>5</sup>

We see energy efficiency and sustainability too often considered in isolation. They are inherently connected and ought to be part of a comprehensive strategy that treats advancing sustainability and reducing energy consumption as complementary and reinforcing. We have an opportunity to use sustainable investment to

protect ourselves from rising costs and increasing risk today while shoring up our organisations for the future.

We all know technology can, and should, lead the way. As part of a comprehensive strategy, IT transformation can guide vital investment and revolutionise the way we work. Meeting today’s pressing challenges need not come at the expense of other vital objectives. Reacting to the present energy squeeze and adapting to a changing climate ought to go hand-in-hand with IT modernisation, driving productivity, strengthening your bottom line and delivering the best user experience to employees.

This guide offers recommendations for business leaders and senior executives to pursue a unified vision of enterprise-wide transformation in a changing world. We’ll show how partnering with Dell Technologies can support you in this essential work.



**75% OF SURVEYED ORGANIZATIONS ARE ALREADY REDUCING ENERGY DEMAND THROUGH OPTIMIZATION ACTIVITIES**



# IMPLEMENTING NET ZERO

Net zero targets have come thick and fast in recent years, especially in Europe since the 2019 climate law mandated EU climate neutrality by 2050. For businesses, though, the goal is far clearer than how to get there. Companies often lack enterprise-wide strategic vision on sustainability. Gartner has found “conflicting priorities” to be the greatest challenge “business leaders face when making decisions about their organization’s energy related activities.” 44% listed the challenge in the top three and 14% made it their first choice.<sup>6</sup>

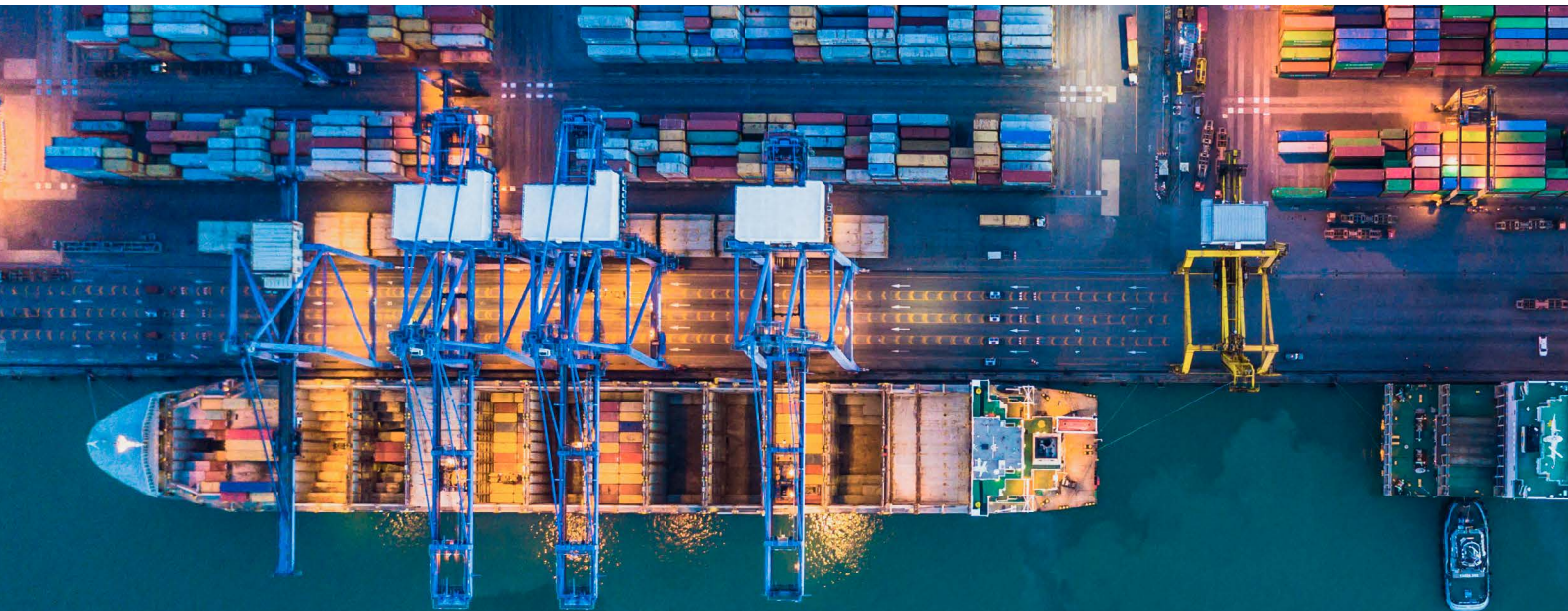
Without effective implementation net zero will remain a target and not a reality. Technology and investment are an essential part of the transition to climate-neutrality, and organisations must be prepared to make major changes across the whole enterprise.<sup>7</sup>

To find out what needs to change and how to go about it 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 responsible procurement policies. Your strategy should prioritise what your business needs most.

Your organisation is complex and any modern IT environment is spread across the enterprise. This guide will help you identify the key areas of your business you need to focus on to drive change and will highlight the stakeholders you should engage to bring about this essential transformation.

# WHERE DO WE START?

Developing a comprehensive strategy involves engaging with stakeholders from across your organisation.



**Procurement** is fundamental for sourcing and selecting sustainable hardware and software that offer responsible disposition, drive energy efficiency and have a reduced product carbon footprint.



**Facilities Management** plays an important role in how you consume energy and house your IT infrastructure.



**Talent Acquisition** is vital to ensure your organisation has the internal expertise for successful IT transformation and continues to attract and retain the right people to achieve it.



**Leadership** brings your strategic vision together and is essential for adopting a holistic, enterprise-wide approach to change.



Your strategy must cover three key areas: the data centre, lifecycle management and the workplace. We think as-a-Service models are an important part of pursuing a comprehensive approach, keeping costs in check and increasing sustainability while maintaining a modern IT environment.



The **Data Centre** should be where sustainable growth begins. Establish a platform for your IT transformation by auditing and refreshing hardware, consolidating workloads and reducing cooling costs. Energy-efficient devices that have been produced more sustainably than ever before should be powering your organisation's future.



The **Workplace** of the future must be built today. It is essential to utilise intelligent features, build efficient workspaces and prioritise sustainable hardware in order to deliver the best user experience for the new world of work. Procuring the right hardware and software to enable greater productivity and sustainability is essential for sustainable growth.



**As-a-Service (aaS) models** are a flexible solution to lifecycle management and a direct route to IT modernisation and responsible consumption. Technology Rotation allows for the implementation of regular refresh cycles to take advantage of the most current energy-efficient technology, reducing upfront costs and Total Cost of Use (TCU) while driving operational benefits and supporting sustainability objectives.

# DRIVING EFFICIENCIES IN THE DATA CENTRE

## SUSTAINABLE SOLUTIONS DELIVER SAVINGS TODAY

Energy efficiency is not a quick-fix issue. There are easy ways to reduce consumption modestly now, but investing in sustainable solutions offers the most security in the longer term while also delivering savings today. This is especially important because customers are increasingly favouring sustainable businesses: IDC finds that 31% of European organisations value circular economy principles in selecting IT suppliers and eight out of 10 consumers are now found to make sustainability-based purchase choices.<sup>8,9</sup>

### Invest in energy-efficient storage devices and servers

Energy efficiency has come on leaps and bounds, rendering old hardware a financial burden. What took six servers in 2013 takes just one today: Dell Technologies storage is up to 40% more energy-efficient than the previous generation, and the Dell PowerEdge server portfolio, now powered by Intel's 4th Gen. Intel® Xeon® Scalable processors, their most sustainable data centre processors ever, has reduced energy intensity by 83% over the last decade.<sup>11,12</sup> These processors, utilising built-in accelerators, deliver a 2.9 times average performance per watt improvement over the previous generation.<sup>13</sup>

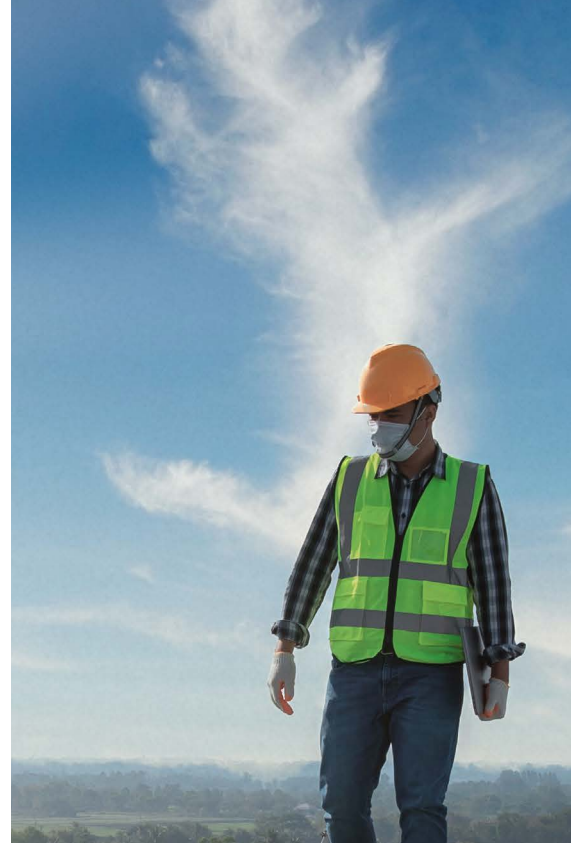
### Consolidate workloads to reduce physical hardware and associated costs

Many businesses have a lot of scope to increase data density, which frees up space and reduces the cost of maintaining more physical hardware than you need. Dell PowerStore storage and PowerProtect data-protection solutions can deliver significant reductions and allow for energy-efficient flash storage.

### Migrate storage and servers securely and affordably

This is important work but one downside is the cost burden of running two environments in parallel during the migration phase. Dell Financial Services offers a 'bridge' to support this process, meaning that you pay nothing for the first 6 months while also receiving free maintenance.

Making your IT environment more sustainable ought to be the first step towards greater energy efficiency for your business.



**76%**  
**REDUCTION IN ENERGY  
INTENSITY ACROSS  
THE ENTIRE DELL  
PORTFOLIO SINCE 2013<sup>10</sup>**



# MODERNISING INFRASTRUCTURE

## THE GREEN DATA CENTRE IS YOUR FOUNDATION FOR SUSTAINABLE GROWTH

Designing the data centre of the future must begin today, and sustainability should guide the process. There is no one-size-fits-all blueprint for the Green Data Centre, but for every organisation it is an essential part of both IT transformation and future growth. Overconsumption has become commonplace – Forrester finds that storage environments tend to be overprovisioned by an average of 37% – but modern solutions can remedy this.<sup>14</sup>



### **Adopt provisioning services to ensure your capacity always meets requirements**

Overprovisioning is a common problem. Scale up when necessary and reduce waste with Dell APEX, a single service delivering compute and storage resources for a consistent cloud infrastructure. Dell Flexible Consumption solutions can help you provision accurately, ensuring your data centre is optimally sized and that overall expenditure is minimised.



### **Utilise sustainable and energy-efficient products**

The greatest environmental impact occurs during the production phase, but energy efficiency remains critical, too. Dell Technologies continues to be an industry leader in ENERGY STAR certification. The latest Intel Xeon platforms are made with 80% renewable electricity and built according to circular economy strategies, achieving 5% total waste to landfill.<sup>16</sup>



### **Implement modern tactics and incorporate innovative technologies**

Avoid overcooling with variable-speed fans, use in-row cooling for more efficient air conditioning and leverage direct liquid cooling to create year-on-year savings. Sustainable growth starts in the data centre. Your IT environment should be designed carefully to meet the precise needs of your business – for the present and into the future.



# UTILIZING AS-A-SERVICE MODELS

## RENEWAL, REPLACEMENT AND RECYCLING ARE ESSENTIAL TO A MODERN IT ENVIRONMENT

In unprecedented times leaders must rethink their business models. We've already seen how provisioning services can help drive efficiencies and modernisation in the data centre, tackling overconsumption. The aaS model is an increasingly popular solution for achieving successful IT transformation and advancing sustainability across the enterprise: 88% of businesses anticipate sustainability benefits from adopting an aaS model and 65% expect savings of more than 10% by doing so.<sup>17</sup>

### Ensure an affordable modern IT environment with lifecycle management services

Simplified lifecycle management can result in savings. Dell PC-as-a-Service comes at a single, predictable price and makes it possible, for instance, to trade in legacy equipment and use the value to offset the price of upgrades from Dell's broad, industry-leading portfolio, reinvesting savings to drive business growth.

### Utilise asset recovery solutions to securely dispose of retired equipment

The end of a device's lifecycle is critically important for sustainability, and must be handled responsibly. Dell Technologies has 25 years' experience in global recovery solutions, carried out according to NIST SP 800-88 r1 data-sanitisation standards.

### Work with a partner who provides responsible recovery and recycling services

Recycling is fundamental to lessening the environmental impact of devices. On average, 70% of materials Dell Technologies recovers are reused in the industry, contributing to the circular economy.<sup>19</sup>

### Increase agility and simplicity with consumption-based IT investment

Demand is growing for flexible consumption models, designed for greater agility and simpler deployment. A recent IDC study indicated 61% of organisations are interested in moving to these models.<sup>20</sup> Solutions like Dell APEX allow customers to utilise the multicloud, helping them cut costs while gaining more control over their applications and data.

aaS models offer the flexibility and support organisations needs to navigate a changing world, and it is fast becoming an essential part of modern IT transformation.



**71% OF BUSINESSES SAY THEY NEED A PARTNER  
TO ACCELERATE THEIR PROGRAMS AND  
ADVANCE THEIR SUSTAINABILITY GOALS<sup>18</sup>**

# EMBRACING INTELLIGENCE

## SMART AND INTEGRATED FEATURES ARE THE FUTURE OF USER EXPERIENCE

Intelligent devices not only drive efficiencies and help you make savings but deliver a modern user experience that is vitally important to the future of work. Modern devices are being designed and manufactured with sustainability as a priority, but they are also able to keep users productive for longer. Through intelligent features, powered by AI and enabled by the latest Intel® Core™ processors, digital transformation can become a user experience revolution, helping attract and retain essential talent. This is especially important as 26% of businesses surveyed by Gartner reported “internal expertise” among the top three challenges “business leaders face when making decisions about their organization’s energy related activities”.<sup>21</sup>



### Adopt AI-based software for better thermal management

Intelligent features save energy for you. Through Dell Optimizer, which utilises Intel Core processing power and its unique hybrid architecture, users can achieve 18% power saving when thermal management features are set to Quiet Mode.<sup>22</sup>



### Invest in modern devices for improved battery performance

Using AI, Dell Optimizer learns and responds to how users work, adjusting performance to meet peak worktimes and extending battery life through intelligent power-saving features.



### Get more from the workforce through increased productivity and personalisation

People are increasingly prioritising how they work not just where they work, so productivity-enhancing software and smart personalised features are essential for the modern workforce.

Modern user experience is important to a range of areas within any viable sustainability agenda, putting people at the centre of successful IT transformation.



**ENTERPRISE APPLICATION  
EXPERIENCE PLAYS  
AN INCREASINGLY  
IMPORTANT ROLE IN  
EMPLOYEE RETENTION**

# BECOMING THE WORKPLACE OF TOMORROW

## HARDWARE IS ADAPTING TO THE NEW WORLD OF WORK

Client devices consume much less energy than infrastructure equipment on an individual basis but are far more numerous. Similarly, workspaces demand less energy but are more extensive than data centres, especially now that work takes place anywhere. Client devices are idle most of the time in a given a 7-day week, so ensuring they are both used responsibly and meet the highest energy-saving standards should be a top priority when designing modern workspaces.



### **Build energy-efficient modern workspaces**

With more employees working from home it is vital that office space is used efficiently and users are equipped with efficient modern devices. We have achieved a 60% reduction in energy intensity across our commercial monitor portfolio since 2014, and the latest devices are designed and certified for video conferencing applications.<sup>25</sup>



### **Prioritise access over ownership**

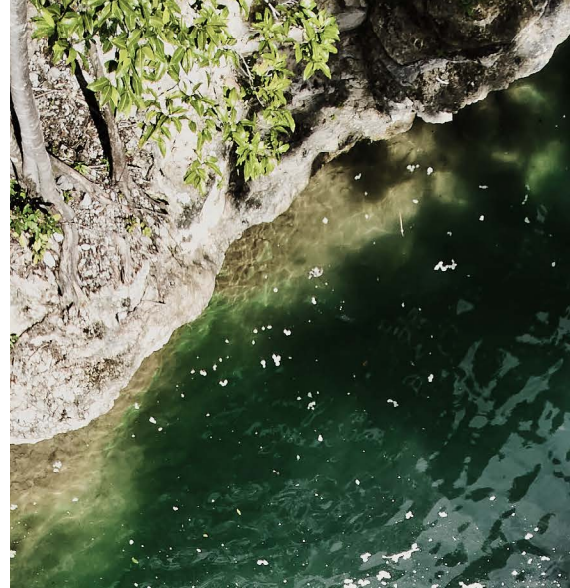
The principle of access over ownership plays an important role in the circular economy. This is because it optimises asset effectiveness and keeps the assets in circulation longer, enabling better cost management. With Dell Technology Rotation payment solutions, up to 95% of assets returned get a second life (with the remaining 5% recycled).<sup>26</sup>



### **Adopt sensible power-saving measures today**

Apply energy settings appropriate to performance requirements, power down at the end of the day and use rechargeable and USB-powered peripherals – ideally, connected through a docking station or USB-C hub display.

Your sustainability strategy should address the changes we're seeing in the world of work by modernising hardware, rethinking workspaces and implementing common-sense solutions such as better power-saving practices.



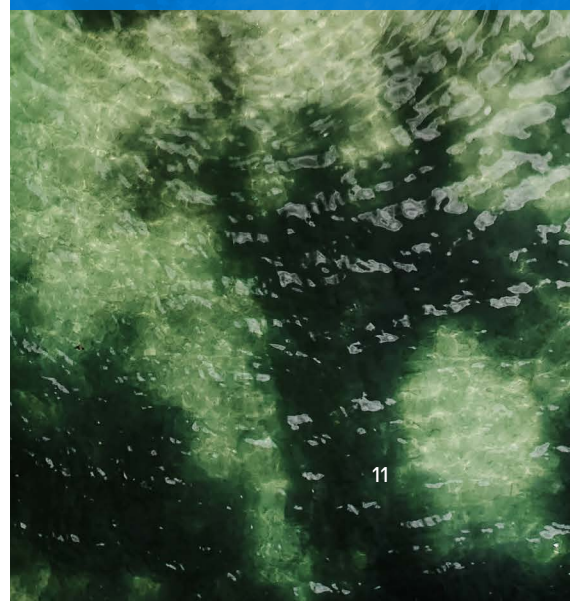
# 52%

**REDUCTION IN ENERGY  
INTENSITY ACROSS  
DELL CLIENT DEVICES  
SINCE 2016<sup>23</sup>**

**11TH GEN.  
INTEL® CORE™  
PROCESSORS ARE**

# 1.5X

**MORE ENERGY-  
EFFICIENT COMPARED  
TO 2019 BASELINE<sup>24</sup>**



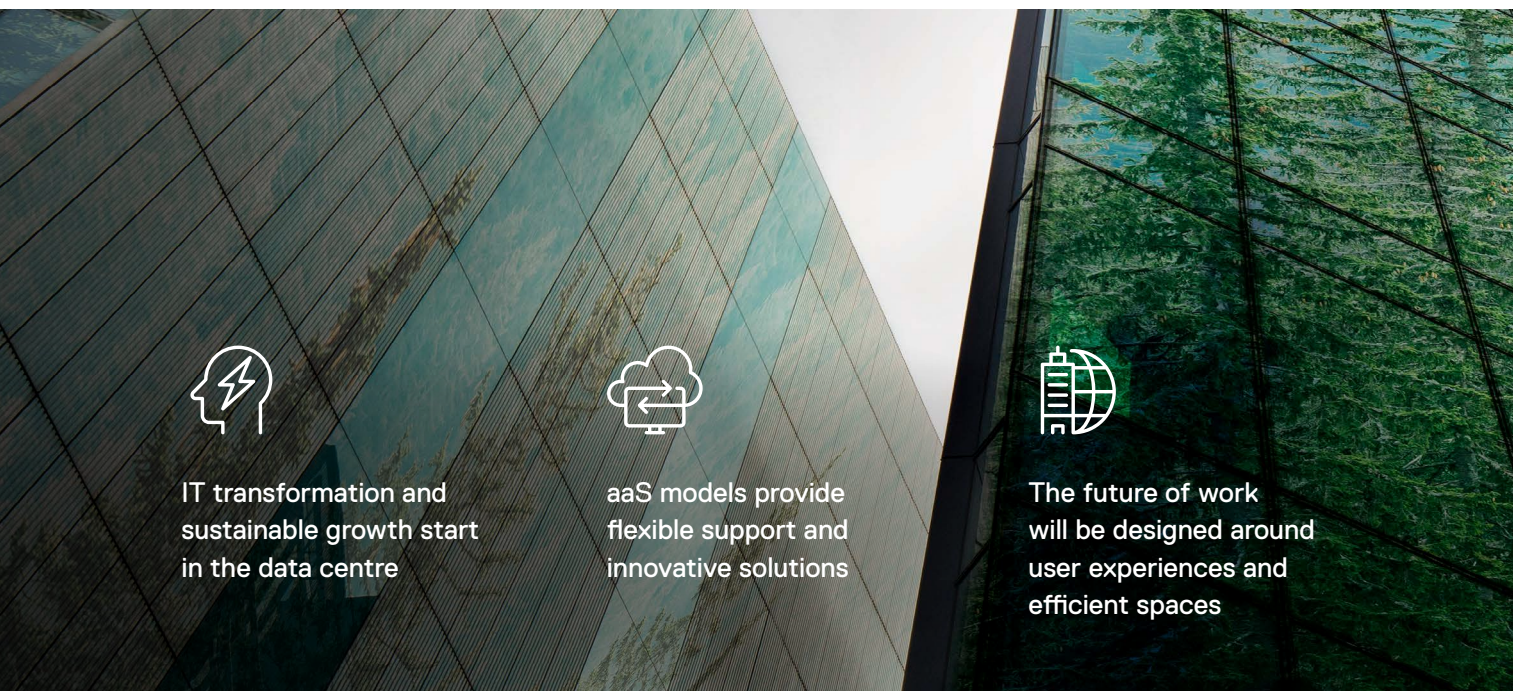
# YOUR PATH TO A MORE SECURE FUTURE

## A HOLISTIC APPROACH TO **ENERGY EFFICIENCY AND SUSTAINABILITY**

This guide is intended to show how energy efficiency and sustainability are not separate challenges but must be part of a single strategy for successfully reshaping our organisations in a changing world.

IT transformation is absolutely key to future growth prospects. But only through a holistic approach, bringing together leaders from across the enterprise, can we make the most of the opportunities before us.

Dell offers a range of solutions, including aaS business models, IT infrastructure and client devices which leverage Intel technology to help your business meet vital sustainability and energy-efficiency targets. By partnering with us, you can take advantage of flexible payment and consumption models designed to reduce costs and increase operational efficiencies.



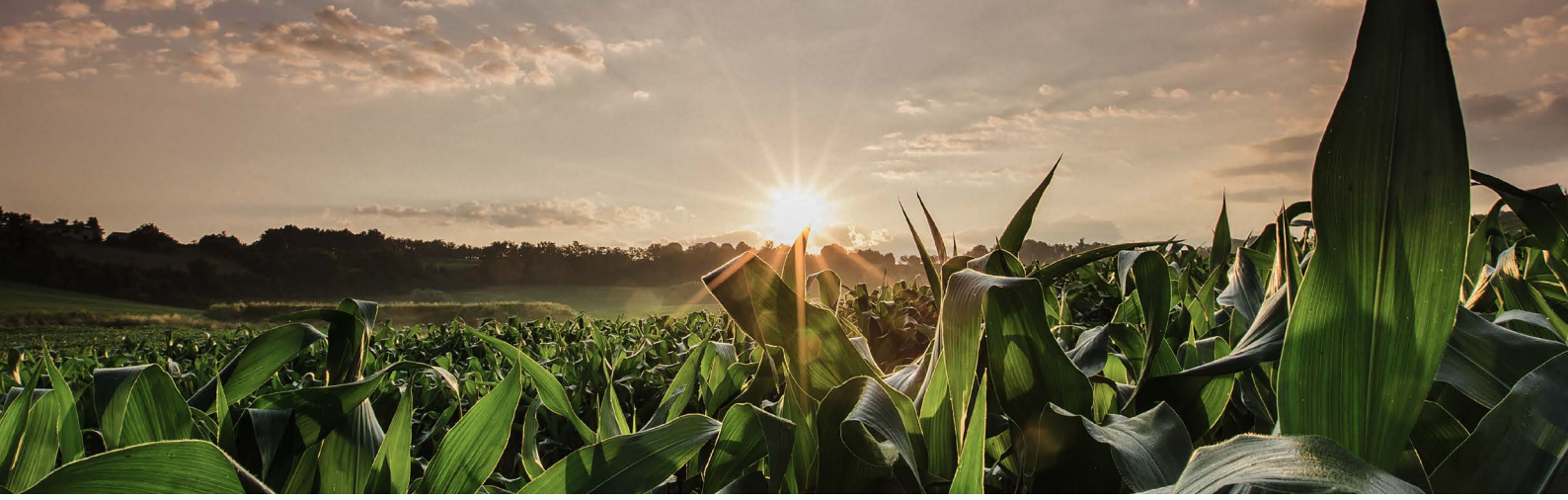
IT transformation and sustainable growth start in the data centre

aaS models provide flexible support and innovative solutions

The future of work will be designed around user experiences and efficient spaces

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.

It is time for organisations to make the most of the opportunities created by today's unprecedented challenges. Only then can we secure a more certain future.



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commitments to sustainability



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