IS SUSTAINABLE ATTAINABLE? GETTING STARTED WITH SUSTAINABILITY IN TECHNOLOGY

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together we advance_sustainable computing

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INTRODUCTION

Sustainability in technology is among the top priorities for organizations. Sustainability is a key technology trend for 2023, and will continue to grow in years to come as companies look to improve performance and minimize waste.

End users also play a role in this trend. Consumers are pushing for the increased use of sustainable solutions to create a "circular economy" – one where waste is minimized without sacrificing performance.

This e-book will break down the benefits of buying the right equipment for your business and cover how companies can assess their technology needs and explore the impact of specific industry requirements on sustainable technology initiatives.
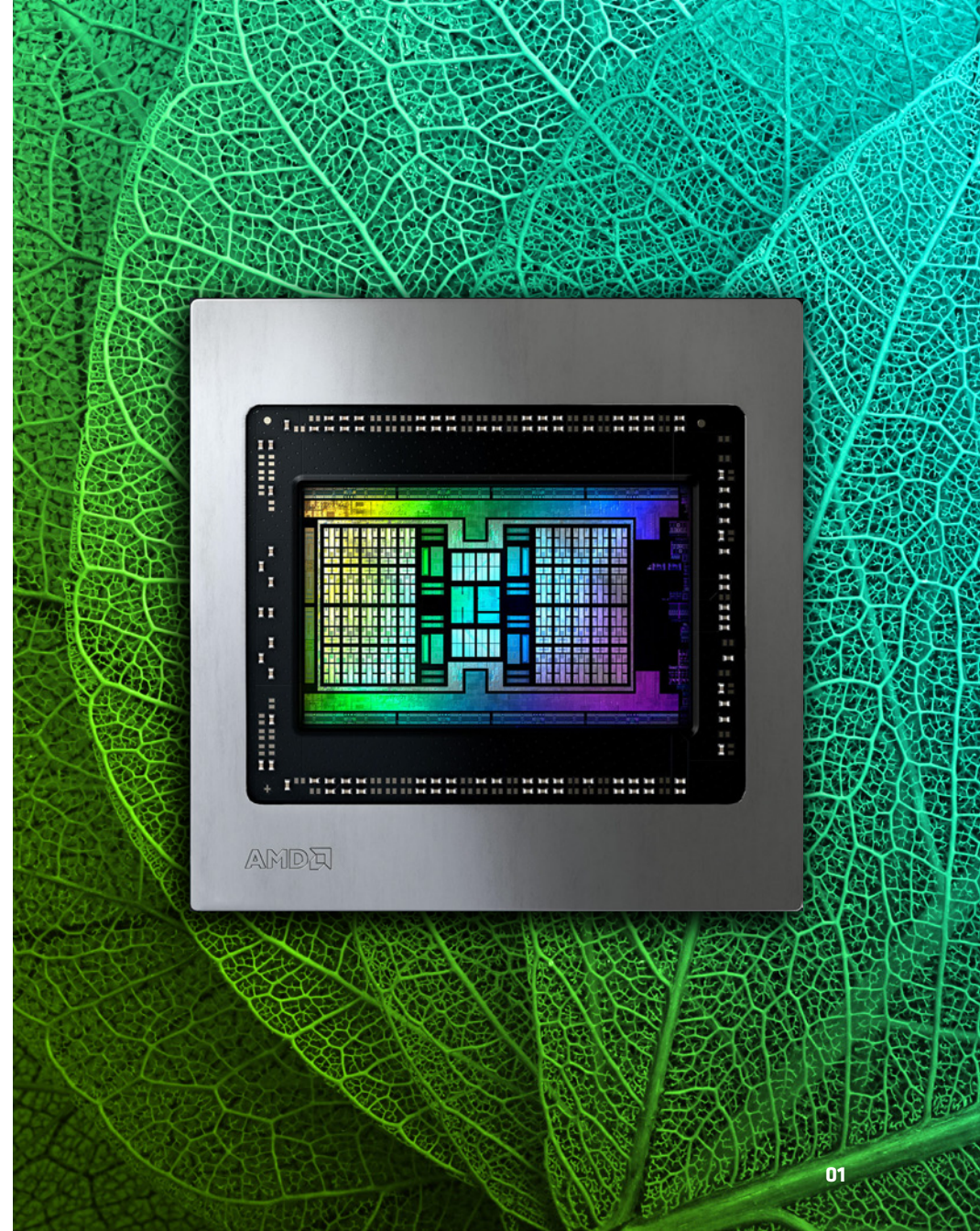
THE STATE OF SUSTAINABILITY

While sustainability is now on the radar of many C-suite executives, the road from current operations to environmentally friendly alternatives will take time to travel. As a result, the current state of sustainability largely focuses on finding opportunities to implement sustainable solutions.

FINANCIAL SERVICES

Opportunities for improvement include the facilitation of secure payments and more efficient allocation of capital through digital solutions that allow customers and clients to access key accounts anywhere, anytime.

HEALTHCARE

Healthcare organizations should invest in the improvement of early diagnostic efforts to detect and mitigate health issues as early as possible. Meanwhile, in a post-pandemic world, there's also an opportunity for healthcare to continue investment across telehealth and telecare to both improve patient outcomes and enhance operational efficiency.

MANUFACTURING

Sustainable opportunities within manufacturing include developing more efficient machinery that generates less waste and incorporating new technologies such as 3D printing and digital twins into current operations.

TRANSPORTATION

Sustainability for transportation organizations may take the form of improved fuel efficiency or AI-driven navigation efforts that help drivers get from point A to point B quicker and more efficiently.

ENERGY

There's also a growing opportunity for energy enterprises to develop breakthroughs in renewable energy collection and consumption, in turn reducing both the total cost of energy production and its environmental impact.

There's one unifying factor underpinning all these sustainability efforts: technology. From telemedicine portals to digital twins to improved navigation tools, technology supports sustainability. The caveat is that the existing hardware and software infrastructure that is used to drive sustainability often lacks the environmental alignment of its intended purpose.

BENEFITS OF A SUSTAINABLE TECHNOLOGY FRAMEWORK

Sustainability is often equated with sacrifice; many companies assume that the adoption of sustainability technology will naturally lead to reductions in power and performance. In practice, though, these assumptions are easily disproven – in fact, the adoption of sustainable technology frameworks comes with some key advantages.

IMPROVED DEVICE LIFESPAN

More energy-efficient devices may be less likely to break or fail unexpectedly, in turn improving their useable lifespan. Consider power consumption. The more power consumed by a device, the more heat it generates and the greater the chances of sudden failure. Greater efficiency means lower power consumption for the same performance but with lower potential risk.

ENHANCED PERFORMANCE

When it comes to performance, sustainable devices don't take second spot to more traditional technologies. More efficiently designed chipset architecture may help companies do more with less, in effect boosting performance without requiring additional power consumption or cost.

INCREASED BATTERY LIFE

Better design can also improve overall battery life. For example, the AMD Ryzen™ 6000 line of APUs, based on 6nm Zen 3+ architecture and running RDNA 2 graphics, offer up to 29 hours of battery life to help mobile users get the most out of their devices.
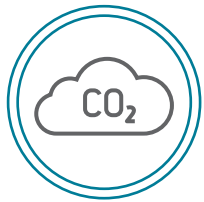
MINIMIZED CARBON FOOTPRINT

Reduced power consumption, improved battery life, and enhanced device lifespan mean fewer pieces of hardware ending up in landfills and less energy and associated emissions to power the devices companies have in operation. The result is a reduced carbon footprint that both limits the need for new technology spending and aligns with growing consumer demand for more carbon-conscious practices.

REDUCED COST AND COMPLEXITY

More devices running for longer with fewer failures means reduced hardware costs for organizations. Improving sustainability of technology can also help companies limit the complexity that comes with purchasing, deploying, and integrating new technologies into existing IT environments.

FINDING THE RIGHT TECHNOLOGY FOR YOUR BUSINESS

Effective implementation of this approach to technology isn't about end-to-end adoption simply for the sake of sustainability. Instead, it's about matching the needs of users to the functionality of tech solutions. In practice, this means assessing the differing roles of users and devices across your organization to find your best fit.

Consider front-line staff. Are they best served by high-powered desktops or more performance-focused laptops? The answer may depend on several factors, such as their primary work location – in-office or at home – along with their primary function. Staff filling the role of initial contact for customers may be best served with streamlined technology solutions that let them quickly pass calls or emails on to the right department. Meanwhile, those in charge of more in-depth customer service and support may need desktops capable of managing multiple applications simultaneously to offer effective support.

This consideration scales up the staff chain to the very top. By individually assessing user requirements rather than creating a blanket tech policy, businesses can put performance first as required without sacrificing their commitment to sustainability.

ADDRESSING INDUSTRY NEEDS

Specific industry needs may also impact sustainability approaches.

For example, companies involved in game development and design may require devices with enhanced GPUs capable of handling substantial resource requests and stress-testing specific game mechanics. Meanwhile, health organizations dealing with massive data sets may need devices that allow them to quickly and accurately analyze disparate inputs. And when it comes to manufacturing or financial firms using multiple cloud services, processors that enhance high-performance technical computing may be required.

This is where AMD can help. From a 25% reduction of operational greenhouse gas emissions (2020-202) to a 6.8x increase in accelerated compute node energy efficiency for HPC and AI-training (2020-2022), the company's commitment to sustainability helps other companies minimize their environmental footprint without sacrificing performance. Or consider AMD EPYC™ processors for high-performance technical computing. Not only does the AMD EPYC™ 7003 series triple the amount of L3 cache close to the processor core, but it also features the industry's first 3D stacking "bumpless" chip-on-wafer design. In practice, this means that 2 EPYC 7773X processors offer more computational fluid dynamics (CFD) performance, more finite element analysis (FEA) performance, and more energy efficiency than 2 Xeon 8380 processors.

2 EPYC 7773X processors   2 Xeon 8380 processors

Computational fluid dynamics (CFD)

+88%

Finite element analysis (FEA) performance

+69%

Energy efficiency

+74%
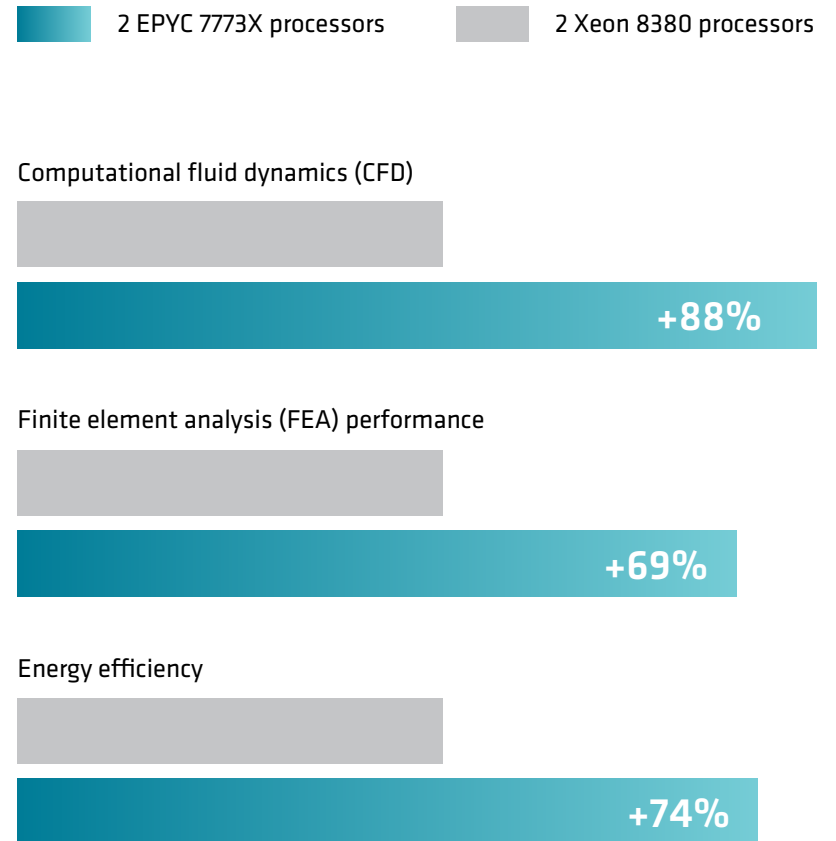
SOLVING FOR SUSTAINED SUCCESS

Sustainable? Attainable – but not automatic. Instead, it starts with a three-pronged approach. First, companies need to consider the potential benefits that more sustainable operations offer. Next, enterprise-wide assessments can help to pinpoint where sustainable tech makes the most sense. Finally, businesses are best served by considering their specific needs to determine the ideal approach to sustainable solution implementation.

AMD is committed to combining performance and possibility to deliver technology solutions that minimize environmental impacts, advance overall performance, and help businesses innovate collaborative solutions to help address environmental challenges.

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