

ENABLING A SUSTAINABLE APPROACH TO YOUR DIGITAL GROWTH

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Enabling a Sustainable Approach to Your Digital Growth

Introduction

As a society, we're becoming increasingly digital, with over 65% of global GDP being digital based as we head into 2023. This transition has many benefits for society as advancing technologies change and transform the way that many industries operate to be more sustainable and efficient.

But it also means that our need for digital infrastructure and devices is becoming much greater, consuming more of the overall power budget, and creating a waste disposal challenge when they need replacing. This has also become an important principle for government, with increasing stringent regulations and reporting requirements being introduced across the world.

As a result, how we manage the lifecycle of our digital assets is quickly rising in importance to ensure that emissions, pollution, overheads, and waste are minimized at all steps.

AT A GLANCE

KEY STATS

- » Of the 53 million tonnes of e-waste generated in 2019, just 17% was effectively recycled
- » 31% of European organizations value Circular Economy principles when selecting IT suppliers

KEY TAKEAWAYS

Companies should be looking to incorporate elements of the circular economy into their IT strategy to reduce emissions, cut power consumption and costs and to minimize harm to the environment at end-of-life. Following the principle of the 3Rs — Repair, Reuse, and Recycle — can help companies achieve their sustainability goals alongside business objectives.

The Trouble With e-Waste

According to the United Nations, a record 53.6mn metric tonnes of electronic waste was generated worldwide in 2019. Only 17% was appropriately collected and recycled. While the problem with electronic waste is nothing new, the development of circular economy propositions and initiatives to facilitate solutions to the problem has seen dramatic growth in recent years.

The increasing focus on digitalization, exacerbated by the COVID-19 pandemic, has only made the need for solutions to deal with the growing amount of obsolete or malfunctioning electronic equipment more pressing. The IT hardware required as part of this digitalization process will be substantial: IDC estimates that there will be as many as 4.6 billion units of enterprise equipment in use by 2025 worldwide, including personal computing devices, mobile phones, printers, and other enterprise infrastructure such as servers, storage, and networking appliances.

At the same time, the current focus on sustainability from across all stakeholders is forcing organizations worldwide to reconsider their attitudes towards various environmental aspects of their daily operations, including how their IT practices and operations have an impact on their ultimate corporate sustainability goals. Moreover, regulatory compliance is increasingly demanding organizations to opt for circular economy alternatives to their traditional consumption models.

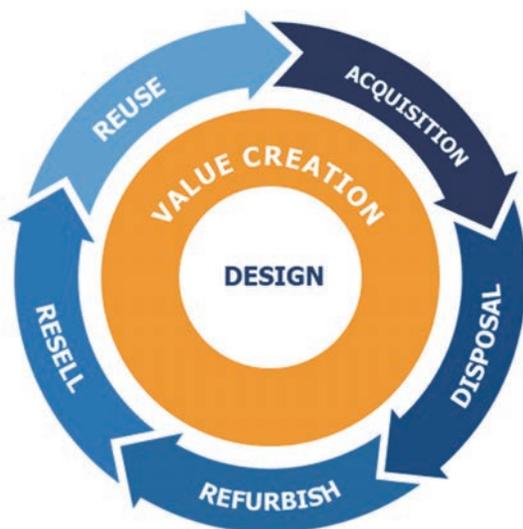
Many organizations are therefore looking at adopting more proactive lifecycle management practices for their IT equipment, incorporating circular economy practices into their operations. According to IDC research, 31% of European organizations valued circular economy Practices by IT vendors as a key factor in their selection process, and 30% of US companies valued vendors' ability to use long lasting design of products in 2020. (Source: COVID-19 Impact on IT Spending Survey, from July 20 to July 31, IDC, July 2020. 359 US and EMEA technology decision makers, N=356).

The Need to Transition to the Circular Economy

According to the Ellen MacArthur Foundation, a circular economy entails gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system. Underpinned by a transition to renewable and ecologically friendly energy sources, the circular model builds economic, natural, and social capital. It is based on three principles:

- Design out waste and pollution
- Keep products and materials in use
- Regenerate natural systems

Circular Economy for IT Assets



Source: IDC, 2022

The two key concepts in this definition directly impacting IT equipment are that of **keeping waste out** of the system and **generating value** from waste. Existing asset management propositions are aimed precisely at these two. Many organizations today lack a cohesive disposal policy for their IT assets that is strongly aligned with the companies' objectives of minimizing obsolescence. At the same time, solutions enabling the refurbishment and remarketing of IT

assets for a second life are a good way of embedding circularity into the planning and acquisition process while delivering value to the organization.

53% of organizations across the globe are looking at delivering business value by incorporating more sustainable products and services in their operations. This makes adopting circular propositions increasingly critical. (Source: Sustainability Technology Survey, 2021). According to IDC research, product design and lifecycle management is one of the top 10 sustainability related topics for global organizations, and a top 5 priority for APAC organizations.

One key principle of a Circular model is Walter Stahel's Inertia Principle, which establishes a three-stage hierarchy of actions for prolonging the lifecycle of any physical assets:

- Repair if you can
- Refurbish if you cannot repair
- Recycle if refurbishing is no longer possible

With a growing focus from both regulatory agencies and customers themselves on enabling more sustainable strategies and initiatives, vendors' ability to provide sustainable options for the end of life of their IT assets is becoming a strong competitive differentiator. As organizations seek simplicity in the number of providers and partners they engage with, it is important that these programs encompass as many types of enterprise IT assets as possible (i.e., client devices, servers, storage, etc.), and are not just limited to a particular type.

Extending the life of IT assets: Refresh/Refurbish/Recycle

With this Inertia Principle in mind, and in order to facilitate a second, third and further lives for their IT assets, organizations need to consider the following key steps:

- **Refreshing IT assets:** When IT assets approach the end of their first life, ensure a managed end-of-life process to remove them from service and replace them with more modern equipment to ensure up to date capabilities such as efficient performance, better reliability, and state-of-the-art security enhancements for the legacy equipment. This requires organizations to have visibility into the state of their existing assets and when they are approaching the end of their life. To ensure the old assets are part of the circular economy and are not just sent to e-waste, they are then incorporated into a managed set of lifecycle services to ensure that they are processed and reused effectively.
- **Refurbishing** those assets through existing IT Asset Disposal programs in a secured and transparent manner. The refurbishing process takes the asset back to good working condition, although not necessarily to its initial state. For IT equipment this process usually entails the collection of the assets, secure data sanitization, and repairing for functionality with aesthetic touch ups. This also enables the reuse of used parts from the pool of old equipment to aid the refurbishment of used equipment that can be brought back to the market. By facilitating this disposal process for customers, these programs often remove the hassle and complexity associated with an environmentally responsible disposal process. With an increasing move to "as a service" models and away from the

typical ownership models, refurbishing capabilities become an increasingly important part of any circular economy offering from IT equipment providers. Through its Technology Rotation Solution, for example, Dell Technologies ensures that of a total of approximately 1,500 daily IT assets coming in and going out, around 95% are refurbished and resold. The remaining 5% are still being used for spare parts before diverting them to recycling, adhering to local regulatory guidelines. The refurbishment process needs to take place in locations that are not spread too far across the globe so the benefits they provide are not outweighed by the negative impact related to shipping the equipment to very remote locations for repair. Therefore, the presence of multiple refreshing and refurbishing facilities is always an important factor to consider in the selection of a supplier.

- **Recycling** as a last step when all previous options are no longer valid. Through their asset disposal programs, IT vendors can ensure responsible recycling of materials and assets to reduce electronic waste. In addition, ensuring the correct recycling process can contribute for example to reutilizing part of that recycled material in the production process for the new assets, such as embedding the use of recycled plastic and minerals in the design of new products.

Considering Technology Rotation from Dell Technologies

When technology needs grow faster than budgets, innovative payment solutions such as Technology Rotation can help optimize IT spend and solve business challenges in an environmentally responsible way. Technology Rotation is a business strategy enabling organizations to maintain liquidity, take advantage of current-state technology, and contribute to the circular economy. Organizations can integrate IT Assets Disposal programs with their IT procurement processes to reduce their long-term environmental impact, update their technology, and help drive financial efficiencies. At the end of the term, Dell Technologies helps refurbish and remarket assets after the secure data sanitization has been completed. Assets that cannot be refurbished are recycled in a secure and environmentally responsible manner.

Based on the basic principles of the Circular Economy and the Inertia Principle, the Technology Rotation solution aligns to Dell Technologies' goal to reuse or recycle a product for every equivalent product sold by the year 2030. The solution therefore has several strengths to ensure a more sustainable approach to the way organizations utilize and dispose of their IT assets:

- The solution offers organizations the possibility to include not only Dell branded equipment, but also third-party assets. This simplifies the need to deal with multiple technology partners to acquire technology, ensuring a second life or disposing of it in a more sustainable way.
- With 95% of the equipment received being refurbished, the positive impact of the program at an organization, country, and regional level is clear. This is especially important at a time when supply chain challenges and restrictions are becoming a bottleneck for global supply chains and sourcing strategic materials from different regions is becoming increasingly challenging.

- With an impressive 10 refurbishment locations distributed around the world, Dell reduces the environmental impact of shipping the equipment across long distances. This is important for organizations assessing the overall impact of the solution (financial and environmental). Dell's extensive network of widely spread locations is a clear advantage to customers looking at reducing the negative impact of having to ship the obsolete equipment around the world.
- In addition, Technology Rotation from Dell Technologies offers customers choice and oversight of what happens to assets at the end of term. This includes being able to decide where commonly regulated or sensitive activities such as data sanitization take place (the customer's own premises or through Dell's Electronic Disposition Partners) and whether to ship equipment to refurbishing locations themselves or have Dell's local logistics partners collect and ship the equipment for them.

Challenges in the Global IT Industry

With the United Nations stating that only 17% of e-waste is effectively recycled, the key aspect organizations need to consider should focus on how they can adopt more circular mindsets across their daily operations and corporate functions. In particular, the IT and procurement functions play a fundamental role in enabling and adopting new business models and solutions that prolong the lifecycle of their existing IT assets and facilitate subsequent lives for their IT equipment.

One additional challenge for organizations around the world looking at investing in sustainable IT initiatives is how to prove the value of their investments to the organization. Increasingly, more forward-looking corporations are beginning to incorporate non-financial aspects into their RoI calculations, such as the reduction in new natural resources enabled by their investments, or the reduction of dependencies on external supply chains. Measuring these non-financial parameters, however, can be difficult and open to interpretations, due to the lack of international guidelines and standards on how to account for them and incorporate them into a company's valuation.

Enabling strong, sustainable asset disposal programs requires multiple refurbishing locations to reduce the distance the IT assets need to travel to be repaired and ensure locality of the process. It also requires efficient logistics that can collect and transfer the assets in an organized and secure manner. These programs rely heavily on highly specialized staff in the refurbishing centers with the necessary digital skills to be able to secure rapid turnaround of the equipment and short time to value. In addition, the process needs to be fully aligned to existing local regulations and certifications programs (i.e., ISO).

Conclusion and Recommendations

Increasingly, organizations need to consider how they acquire and dispose responsibly of their IT assets. This has implications for the procurement function, which needs to embed more sustainable aspects into the selection process – to guarantee a sustainable supply chain and partner ecosystem, as well as a move to usage-based models and away from more traditional ownership models - as well as all other functions in the organization. Companies need to

consider what happens at the end of the first life of their assets. Whether this is part of their own corporate goals or as part of the need to comply with increasing national and regional regulations, organizations worldwide need to be part of the solution for reducing e-waste. IT consumption models need to evolve towards “as a Service” models, amongst other reasons due to the current challenges around supply chain bottlenecks and a more generic move to decentralization of supply chains. IT asset disposal programs are rapidly becoming a fundamental component of a company’s future performance and lowering the dependency on global supply chains.

Yet, understanding the various steps involved in the asset disposal process and the different options available is important, especially to guarantee that the chosen program has the capacity to maximize the benefits (corporate and environmental), minimizing the potential negative effects such as the need to transport the assets from the customer site to the refurbishing centers and ensuring secure data disposal processes.

Transparent information and clarity about the disposal process and its steps, how successful the program is in enabling a second life for the equipment, and how it disposes of those assets or pieces that can no longer be incorporated into the refurbishing process, is key to ensure vendor credibility and enable trust.

Finally, a vendor’s ability to embed such programs into its overall long-term vision and objectives for sustainability and circular propositions is key to ensuring that they will be capable of delivering innovation and derive change at a much broader scale, as well as further benefits for the organization related to higher productivity, employee satisfaction, and so on. The disposal aspects of the IT assets must become part of the wider procurement strategy; i.e., to be taken into account when selecting a vendor to purchase new IT solutions (not just at end of life of the IT solutions).

It is therefore key for organizations to select vendors based on the extent to which they offer end-to-end solutions that allow customers to implement refresh cycles, including an asset disposal process that is circular economy compliant and robust.

MESSAGE FROM THE SPONSOR

New challenges offer huge opportunities for those who are prepared to take advantage of emerging technologies. Dell Payment Solutions make it easy for partners and organizations of all sizes around the globe to deploy the IT solutions they need now without any upfront expense — all while promoting a sustainable economy.

The Dell Technology Rotation solution includes robust and transparent processes and tools to manage a safe and fluid transition to an OPEX model, allowing organizations to implement regular refresh cycles to maintain liquidity while taking advantage of current-state technology and allowing them to unlock the promise of tomorrow's technology today in a sustainable way.

Learn more about Dell Technology Rotation www.dell.com/technologyrotation.

About the Analysts

[Marta Muñoz Méndez-Villamil](#), Senior Research Director and Lead Technology & Sustainability Practice, IDC EMEA



Muñoz leads IDC Europe's Technology for Sustainability and Social Impact Practice, helping technology providers measure the business opportunity — financial and non-financial — of their sustainable portfolios and activities and providing insights on competitive differentiators as well as gaps and best practices in the market.

In addition, Muñoz helps end-user organizations understand how technology can help them achieve their own sustainability goals, and how to build an ecosystem of innovative IT partners to ensure transparent sustainable businesses. Among other things, she helps customers understand the impact sustainable organizations have on employee retention, talent attraction, and regional socio-economic development.

[Andrew Buss](#), Research Director, European Infrastructure Strategies



Andrew Buss is responsible for driving IDC's research covering present and future trends impacting servers, storage and networking and IT service delivery. Central to this is understanding how on-premises IT is evolving under the emergence of Open Source, Software-Defined Enterprise, multi-Cloud adoption and Cloud-native development practices, and how this will impact everything from the low level silicon underpinnings and system design, through to the design and integration of the different infrastructure components, up to the platform management and service delivery.

His research area focuses on understanding the convergence of different technologies and capabilities and how they need to integrate and work together to deliver efficient, effective and agile IT services from the datacenter or cloud right through to the end user. Andrew works with global, multinational and local vendors to understand the dynamics of business technology desires and needs, technology purchasing and investment, organizational and operations structures and customer mindsets and disconnects in order to help vendors effectively position and communicate their value and proposition.



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