# 3stepIT

# Sustainable technology consumption and the Circular Economy:
## The way forward

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# Preface

While the world scrambled to deal with a global pandemic and set out a plan for recovery, some took this as a rare opportunity to press the reset button and build a more resilient, sustainable future - based on the principles of the Circular Economy.

By replacing the traditional, linear approach of 'take, make and dispose', the Circular Economy not only promises substantial environmental benefits, but also significant savings in material costs and recurring GDP improvements. According to research by Accenture[1], the Circular Economy could generate $4.5tn additional economic output by 2030.

The potential of the Circular Economy is enormous, and it could prove to make a significant difference to the world's largest growing waste stream - electronic waste (e-waste).

[1]Accenture Circular Economy Handbook, January 2020

# 53.6 million

**metric tonnes of e-waste were generated globally in 2019 – the equivalent of throwing away 1,000 laptops a second[2].**

One of the contributors to this crisis is corporate IT. The 2020 State of Business IT report from 3stepIT[3] found 25% of IT decision makers had locked old or broken IT assets away until they knew what to do with them. 10% admitted to dumping old devices in landfill, while one-third didn't even know where their e-waste ended up..

## 25%
of organisations **lock old or broken IT assets away**

## 10%
of businesses say **they dump their old IT devices in landfill**

## 63%
of companies think governments **should help dispose of old tech responsibly**

We know businesses and IT managers are placing more importance on leading sustainable operations, but the current data suggests a lack of clarity and/or understanding on how to manage IT responsibly.

[2]United Nations, The Global E-waste Monitor 2020, July 2020.
[3]3stepIT The State of Business IT 2020, October 2020.

## There is a lack of clarity about how to dispose of IT sustainably

**A quarter (26%) of organisations** lock old or broken IT assets away.

**5% have no policy** in place to handle asset disposal.

While no one argues the sustainable advantages of the Circular Economy, it is giving rise to debate over the access versus ownership argument surrounding IT equipment. As we'll discuss later in the report, businesses are becoming increasingly aware that the greatest benefits of technology – speed, innovation, collaboration, efficiency - are derived from access to devices, not ownership of them.

Financing options are proving to be an attractive alternative to traditional cash purchasing models, but the access vs ownership debate goes beyond traditional leasing models and is more than simply a new investment approach to free up capital expenditure.

The requirements of the Circular Economy call for efficient management of the entire lifecycle of equipment in the organisation to ensure we're deriving the greatest value from the resources we use.

In this paper, we look at the current state of the Circular Economy in 2021, the environmental and economic benefits, and how the Technology Lifecycle Management (TLM) services offered by 3stepIT can help businesses become more circular.

# The Circular Economy:
## A significant, achievable change

The Circular Economy describes a move from "take, make and dispose" to a "take, make, re-use, re-make and re-cycle" model where products are designed for multiple cycles of disassembly and re-use. It represents a switch from disposability to restoration.

**Figure 1** shows the flow of manufacturing activity in a Circular Economy.



As described by the Ellen MacArthur Foundation[4], the potential change and benefits that the Circular Economy offers is compelling, presenting a net material cost saving opportunity for the EU of $340 to $380 billion per year for a 'transition scenario', and $520 to $630 billion per year for an 'advanced scenario'. **One of the top industries to benefit from an advanced scenario would be electrical and electronic assets, with net material cost savings of $75 to $90 billion per year.**

Other benefits include reducing raw material supply risks, improving innovation as suitable products and processes are created, and generating jobs in new remanufacturing and recycling industries.

In The Netherlands, for example, Rabobank estimated a Circular Economy could lead to extra growth in GDP ranging from EUR 1.5 billion (in a business-as-usual scenario) to EUR 8.4 billion (in the most circular economic scenario)[5].

Banks are already starting to recognise the benefits of the Circular Economy. Five major banks operating within the EU are working with the European Investment Bank (EIB) on a €10bn initiative to promote Circular Economy projects[6]. In a separate development, a BlackRock investment fund, dedicated to accelerating the global development of a Circular Economy, raised more than $900m in its first year[7].

[4]Ellen MacArthur Foundation, Towards A Circular Economy, January 2013
[5]A Circular Economy in the Netherlands by 2050, September 2016.
[6]EU banks launch €10bn Circular Economy funding pot, edie.net, July 2019
[7]Blackrock's Circular Economy fund has raised $900m in its first year, edie.net, September 2020.

# The role of manufacturers

The Ellen MacArthur Foundation cautions that energy efficiency and switching to renewable energy can only address 55% of global greenhouse gas (GHG) emissions[8]. Adopting circular practices can play a significant part in reducing the remaining 45%.

Many tech manufacturers offer return schemes when devices reach end-of-life. But as devices are typically squeezed out of every bit of life they have until they reach a point of no return, these schemes don't always provide value back to the business. Devices returned in a condition of no repair will typically need to be recycled, becoming a cost to the manufacturer which, in turn, can't offer the return on investment businesses are looking for.

[8]Ellen MacArthur Foundation, Completing the Picture: How the Circular Economy Tackles Climate Change, September 2019

An important starting point is ensuring that devices are designed with circularity and longevity in mind.

One way of doing this is to design products that are easier to repair and disassemble. The cost of re-manufacturing smartphones could be halved if it were easier to take them apart. If 95% of mobile phones were collected, this could generate savings on manufacturing material costs of more than EUR 1 billion annually[9].

"Right to repair" legislation introduced by the European Parliament in 2021 to help reduce electrical waste established stronger rules to ensure manufacturers offer products that can be repaired within a 10-year window. To improve recycling, new devices must be made in such a way that they can be dismantled using conventional tools whenever they can't be fixed.

One of the few examples of a smartphone company that has adopted the principles of the Circular Economy is Fairphone. Set up to bring a smartphone to the market "designed and produced with minimal harm to people and planet", its products are modular, with systems and parts that can be swapped out, upgraded and repaired easily. The Fairphone 3 is the only smartphone to be awarded a perfect iFixit score of 10/10 for repairability, and the company is one of the first phone manufacturers to comply with the French Repairability Index.

[9]Ellen MacArthur Foundation, Towards A Circular Economy, January 2013

# Collect, refurbish and recycle

Although recycling is a bigger focus in areas such as fashion, plastic and food waste, for electronics, the emphasis needs to be on collection, refurbishment and re-use.

Collection and recycling in Europe has been supported by the Waste from Electric and Electronic Equipment (WEEE) directives since 2004. But even with this official support, collection rates of electronics in Europe were only around 41% in 2016[10]. Only half of that amount is currently recycled, while less than 10% is eventually reused.
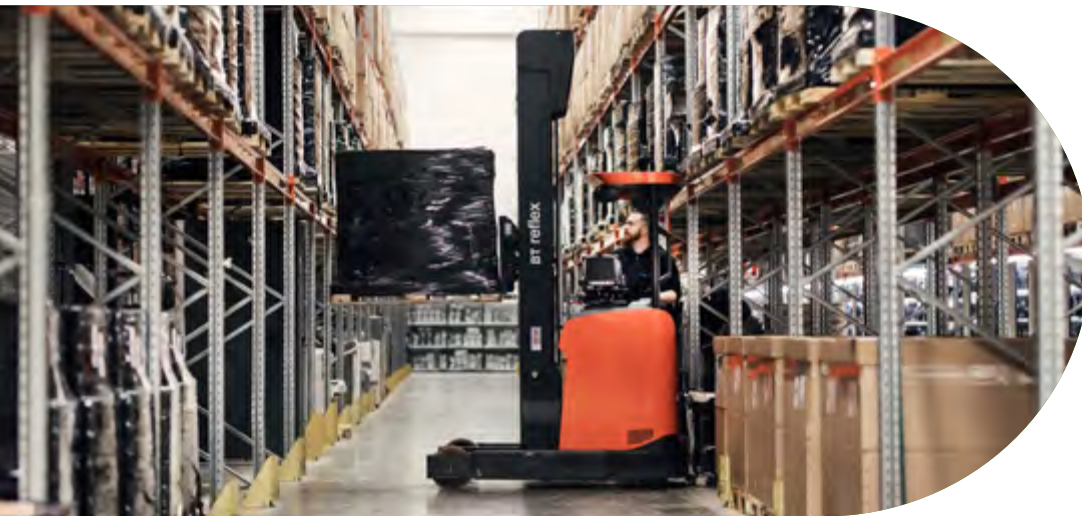
Low reuse rates may be linked to the EU's failure to set separate targets for preparing for reuse in the succession of WEEE directives since 2004. Only Spain, Belgium and France have set targets to date, although the EU is assessing the possibility of setting separate targets preparing for reuse by 2025.

That so many devices are contributing to the e-waste crisis can be largely traced to one key fact: **many businesses are neglecting to adopt sustainable IT procurement practices.**

Partnering with a Technology Lifecycle Management provider can help here. By putting in place asset management processes and tools, devices are much more likely to be returned in a condition fit for re-use once they're no longer needed.

**Technology Lifecycle Management increases the likelihood of refurbishment, reuse and the extraction of value from returned items.** Since collected equipment is refurbished and reused, the process delivers a sustainable product life extension. When handling older or damaged devices, this approach can also lead to more efficient recycling when re-use is not a viable outcome.

# Purchasing strategies
## Linear vs circular

While adoption of the Circular Economy can help to raise collection rates, many of the immediate benefits can be sought in the initial purchasing stage.

Although businesses and consumers have been reluctant to finance or lease IT equipment in the past, OPEX and as-a-Service solutions are becoming the preferred choice for a lot of businesses looking to free up capital spend. The State of Business IT 2020 report revealed 54% of organisations are more likely to use finance to acquire assets over the next two years.

It's not entirely focused on the financial advantages, however. Procuring assets this way kicks off a more sustainable process whereby devices are much more likely to be properly managed and maintained throughout their lifecycle.
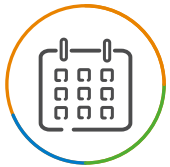
**20%**
of organisations **replace desktop PCs every one to two years**

**54%**
of businesses are looking for **new ways to acquire assets**

**34%** of companies currently **finance some or all of their IT assets**

There are various other benefits in shifting to a circular model, including increased flexibility and scalability, that many organisations are now realising for themselves. The same report found 89% of companies that financed their assets were able to make swift IT investments when Covid-19 hit and quickly make the shift to working from home for their employees. This compared to 75% of businesses that owned IT assets outright.

"For many companies, the cost of shifting to mobile working required significant capital outlay, at a time when businesses are under unprecedented financial pressure. This traditional cash ownership model places a huge burden on businesses and is a fundamental block to better performance,

Cash ownership for IT assets just doesn't make good business sense, especially when we know that many benefits technology offers are achieved through access, not ownership." says Carmen Ene, CEO at 3stepIT.

# Covid-19 impact on the IT lifecycle

Covid-19 has forced one of the biggest upheavals in the makeup of business IT equipment across the globe. During lockdown, almost one third (29%) of desktop PCs were 'made redundant' and left abandoned in office spaces, as European workforces shifted to work from home. Even as businesses head back to the office, almost a quarter (23%) of desktop PCs are likely to remain unused.
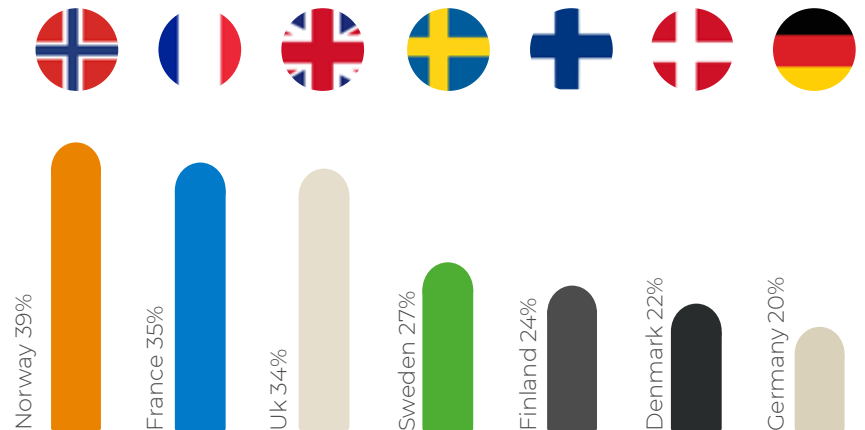
**29%**
of desktop PCs are **sitting idle as a result of increased home working**

**84%**
of companies purchased additional hardware to **enable employees to work at home during Covid-19**

## Desktop PCs that will not be needed as a result of home working

Norway 39%
France 35%
Uk 34%
Sweden 27%
Finland 24%
Denmark 22%
Germany 20%

It's difficult to know what will become of these old assets, especially as many businesses don't currently have plans in place for the sustainable disposal of these redundant IT devices. Plus, with technology lifecycles set to shorten as manufacturers rapidly innovate, the impact of Covid-19 threatens to worsen an already dire situation.

However, as many businesses were forced to suddenly provide laptops for remote working, long-standing reservations around the use of second-hand IT disappeared. Organisations of all sizes found second-hand equipment to be more than adequate throughout the period of disruption. The unprecedented demand for refurbished IT changed the technology market, which should deliver improved sustainability outcomes in the future.

The success of using refurbished equipment in their own businesses is likely to spark ideas around the value that could be gained from other devices that are no longer needed. It may also shed light on how businesses initially acquire assets, with the second-hand market opening up new opportunities and access to technology.

60% of businesses plan to allow more employees to work from home throughout the next year, and almost half (47%) are planning to increase investment in remote working. For those businesses that haven't yet made long-term investments in remote working technology this will represent a significant and unplanned upfront cost, potentially draining company cash reserves when they can least afford it.

**60%**
of companies plan to allow employees to **work from home in the future**
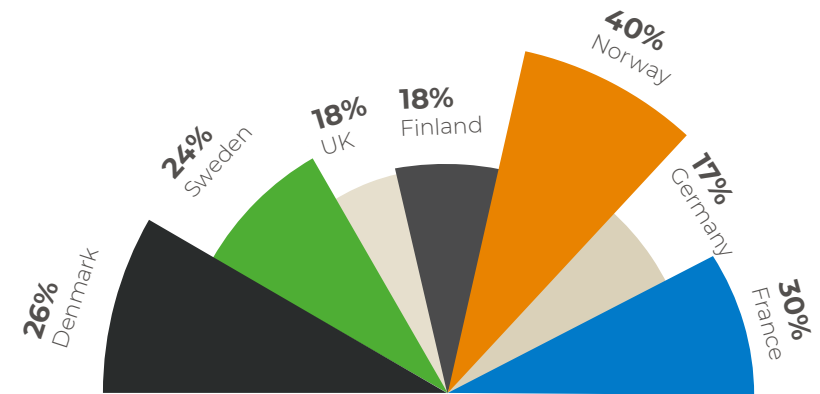


No wonder then that **over half (54%) of organisations are more likely to use finance to acquire assets over the next two years**, as companies recognise access to the right technology is more important than ownership.

This approach also helps the **31% of companies planning to make sustainability a core part of their strategies** over the next 12 months as they seek a better, greener solution to manage the IT lifecycle.

# Sustainable Technology Lifecycle Management

Sustainable Technology Lifecycle Management emphasises usage over ownership, freeing up capital budgets for a tech purchasing strategy that matches business requirements as they evolve over time. The solution is designed to eliminate waste for businesses and for the planet.

There are three key goals for sustainable Technology Lifecycle Management:

**1. Acquire IT assets simply**
**2. Manage them efficiently**
**3. Refresh them sustainably and securely**

A powerful asset management platform makes it possible to streamline IT administration, providing a single, centralised view of all devices as they are acquired, used and renewed.

Companies not only know what IT assets are in play, where those assets are, when they are due for refresh and how much they cost the business – they can also think strategically about how they build, manage and refresh the IT infrastructure.

With device information stored in an asset management platform, it is much easier to refresh equipment at the right time and dispose of redundant assets.

**3stepIT provides an all-in-one sustainable Technology Lifecycle Management service that combines the three key elements: acquire, manage and refresh**. We specialise in helping businesses to think responsibly and strategically about how they acquire, manage, refresh and dispose of IT assets.

We also offer an IT asset disposal service that helps businesses to recover value from redundant IT assets and reduce e-waste. We buy the assets at market value and securely refurbish them using best-in-class data erasure techniques. Using our European reseller network, the devices are resold, extending the product life and reducing the environmental cost of manufacturing new devices.

# Making the Circular Economy a reality

The Circular Economy may eventually become the biggest economic revolution for centuries. Accenture's prediction of $4.5tn additional economic output by 2030 is built on the adoption of five business models to deliver the full potential of the Circular Economy:
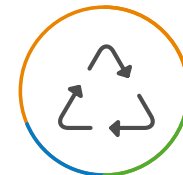
1. Sharing Platform

2. Product-as-a-Service

3. Product Life Extension

4. Circular supply chains

5. Recovery & recycling

In today's linear economy, management and maintenance of IT assets accounts for 80% of the total cost of ownership (TCO). Over the lifetime of a device, businesses will pay more to look after it than to use it.
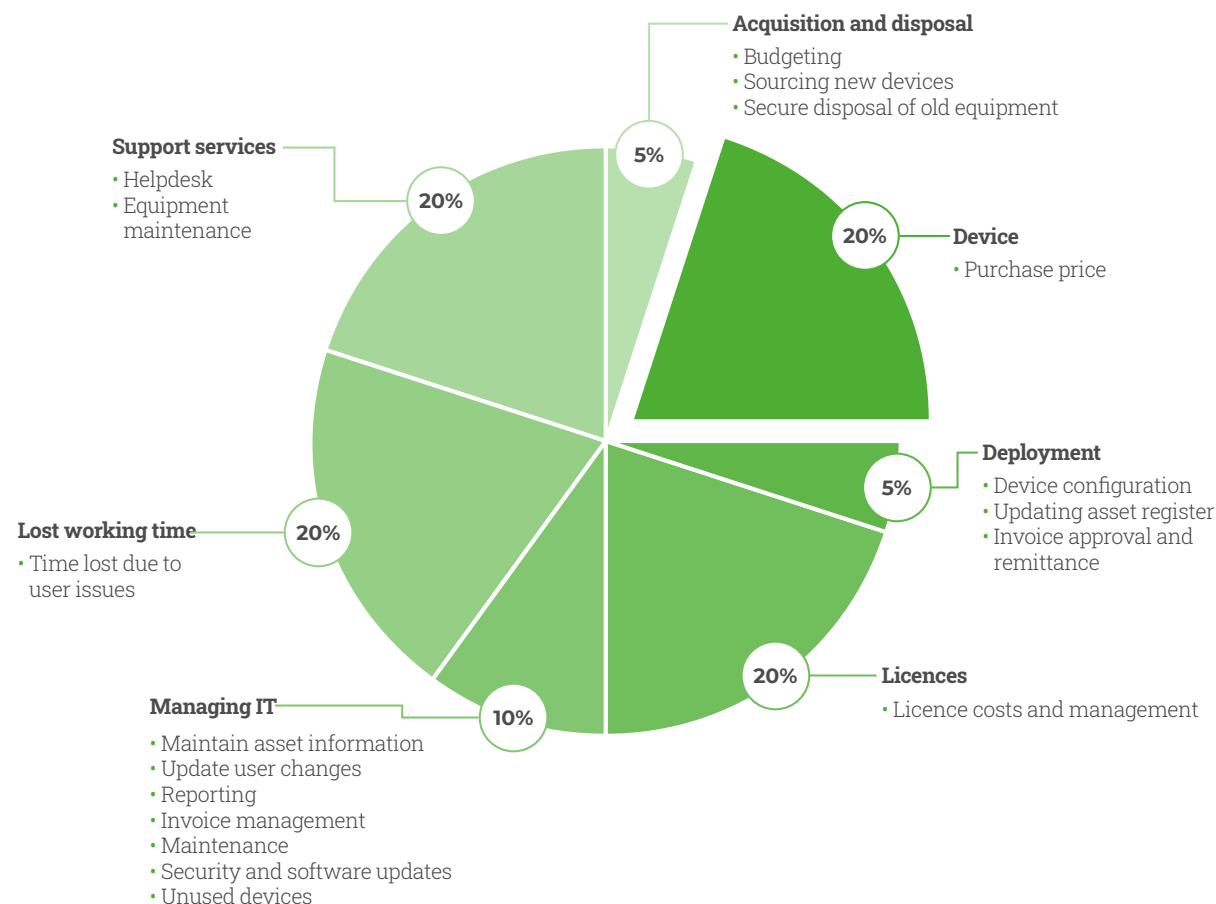
Businesses spend a considerable amount of their budget paying for maintenance and upkeep. Over time, this cost becomes unpredictable and can increase significantly as it becomes harder to update devices reaching the end of life – either because software support is discontinued or hardware fails more often.

With 3stepIT's Technology Lifecycle Management service, companies can eradicate this problem by using an advanced asset management platform to manage the health and efficiency of every device as it ages, instigating the renewal and refurbishment process at the right time.

An effective renewal process means that instead of sending old devices to landfill, we can refurbish and resell them. 3stepIT extends the lifetime of every device that we manage, reselling 98% of returned devices and recycling the remaining 2%.

Technology Lifecycle Management helps businesses make the shift towards a circular model of IT investment, eliminating waste for themselves and for the planet. This circular model helps our customers achieve their sustainability targets.

For every device acquired through Technology Lifecycle Management instead of traditional ownership, we like to think we are doing our bit to help save the planet, one device at a time.

**Acquisition and disposal**
• Budgeting
• Sourcing new devices
• Secure disposal of old equipment

**5%**

**Support services**
• Helpdesk
• Equipment maintenance

**20%**

**Device**
• Purchase price

**20%**

**Deployment**
• Device configuration
• Updating asset register
• Invoice approval and remittance

**5%**

**Lost working time**
• Time lost due to user issues

**20%**

**Licences**
• Licence costs and management

**20%**

**Managing IT**
• Maintain asset information
• Update user changes
• Reporting
• Invoice management
• Maintenance
• Security and software updates
• Unused devices

**10%**

# The benefits of the 3stepIT service

At 3stepIT, we specialise in sustainable Technology Lifecycle Management, helping businesses adopt Circular Economy principles and think more responsibly and strategically about how they acquire, manage, refresh and dispose of IT assets.

Through properly managing IT assets throughout their entire lifecycle, we enable businesses to reduce the cost of IT investment, increase the lifetime of assets, achieve enterprise-wide visibility of devices and exercise greater security.

Because we are independent of manufacturers and suppliers, customers can order equipment from high-street technology brands while benefiting from our core Technology Lifecycle Management services.

But don't just take our word for it - check out some of the benefits we've delivered for businesses with sustainable Technology Lifecycle Management:

**University of Wales Trinity St David >**
**Wedlake Bell >**
**Alma Media >**

# We simplify every stage of the IT lifecycle

## We call the approach Technology Lifecycle Management

### 2. Manage

**We help customers to:**

- Track and manage all devices
- Ensure all devices are secure and compliant
- Simplify budgeting, invoicing and inventory management

### 1. Acquire

**We help customers to:**

- Execute their technology roadmap
- Optimise budgets and cashflow
- Simplify IT procurement

### 3. Refresh

**We help customers to:**

- Manage timely renewal of IT devices
- Dispose out of contract devices sustainably and securely

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# About 3stepIT

3stepIT is a Technology Lifecycle Management provider with an ambition to reduce e-waste by helping businesses to consume technology more sustainably. 3stepIT offers an end-to-end approach to accessing, managing and refreshing IT devices that is costefficient, secure and environmentally friendly.

Our asset management platform provides IT managers complete control and visibility of all devices to simplify budgeting, upkeep and renewal. The system also minimises IT security risks by providing real-time insights into device health and features a powerful reporting engine which provides complete visibility of every asset by cost centre, product group and location.

Today we serve more than 3,000 customers worldwide and play an active role in the circular economy by refurbishing and reselling end of life IT devices. In doing so, we prevent over half a million

**More information:**  3stepIT

# References

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