



Whitepaper

# Navigating the supply chain chaos

How the circular economy can help the telecoms industry

April 2023

Phone: +44 (0)1291 623 813

Email: [hello@txo.com](mailto:hello@txo.com)

[TXO.com](https://txo.com)

Serving over 150 countries in 13 languages

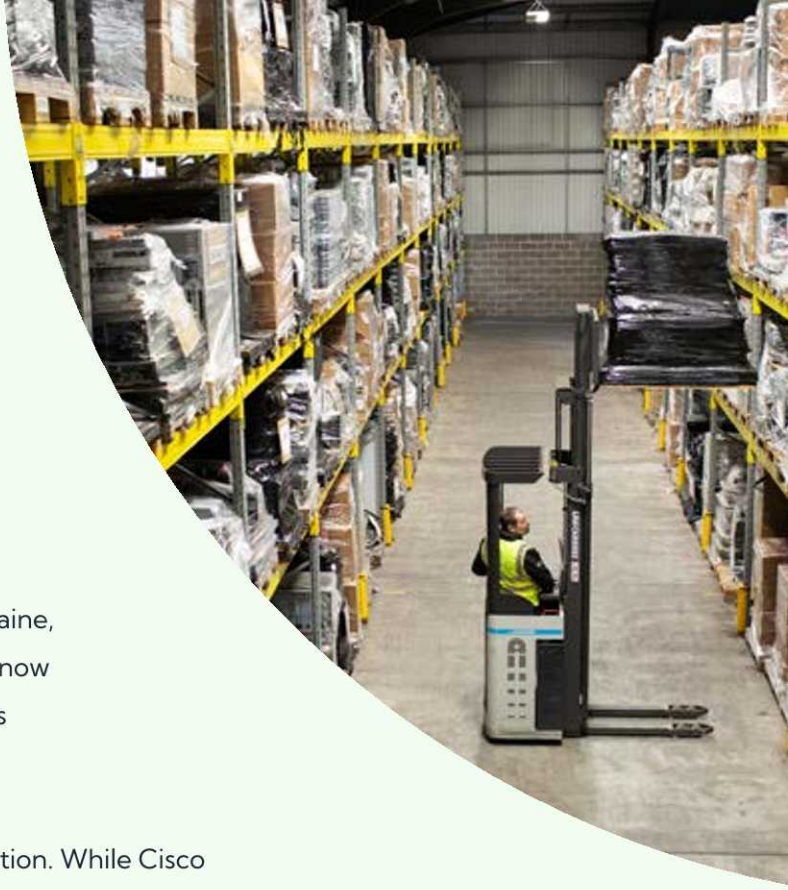


# Contents

---

<b>Executive summary</b>	<b>3</b>
<b>Impact of the supply chain crisis</b>	<b>4</b>
<b>How the circular economy provides a solution</b>	<b>8</b>
<b>What is the circular economy and how can telcos access it?</b>	<b>10</b>
<b>Conclusion: making the circular economy part of your future</b>	<b>11</b>
<b>About TXO</b>	<b>12</b>
<b>Appendix</b>	<b>12</b>
· Research methodology	





## Executive summary

The supply chain crisis is the worst it's been for 50 years<sup>1</sup> and industry leaders<sup>2</sup> expect issues to continue this year. Beset with challenges from COVID-19, the conflict in Ukraine, the fuel crisis and labour shortages, sourcing hardware is now a defining challenge for companies and a process which is increasingly complex, time consuming and expensive.

For the telecoms sector, the crisis is creating major disruption. While Cisco customers and partners<sup>3</sup> are navigating difficult delays of up to 300 days, Ericsson<sup>4</sup> blamed supply chain problems for causing an increase in costs which impacted its financial results in Q2 2022 and resulted in shares falling up to 10%. Since then, the company has announced significant job cuts<sup>5</sup> as part of major cost-saving measures.

At the same time, operators are under pressure to extend connectivity and meet government targets for 5G and fibre network deployments. In developed markets, there's a race to roll out 4G, 5G and fibre. Whereas, in the UK, 2G and 3G networks are set to be phased out by 2033 as part of new plans to increase the capacity of the nation's 5G coverage.

While many operators are wary about scaling up their equipment rollouts due to the huge supply chain delays and costs, the looming government deadlines are putting additional pressure on them to find alternative solutions.

To understand how the supply chain crisis has impacted the telecoms sector, we surveyed fixed line network operators, mobile network operators, fixed line and mobile network operators, altnets and network integrators across the globe to find out how their business models, product delivery timelines, revenue targets and customer service had been affected. We also explored what solutions they had in place to navigate supply chain issues and asked what role the circular economy played in helping them avoid lengthy delays and spiralling costs.

<sup>1</sup> <https://www.rochester.edu/newscenter/what-is-supply-chain-issues-explained-525302/>

<sup>2</sup> <https://www.ft.com/content/2e407842-87d0-4d48-935a-f9419460cfd7>

<sup>3</sup> <https://www.channelfutures.com/sdn-sd-wan/4-ways-cisco-partners-are-navigating-brutal-supply-chain-delays>

<sup>4</sup> <https://www.mobileworldlive.com/featured-content/home-banner/ericsson-costs-hike-on-inflation-supply-woes/>

<sup>5</sup> <https://totaltele.com/ericsson-latest-tech-firm-to-announce-major-job-cuts/>

# Impact of the supply chain crisis

There's no doubt the supply chain crisis is having a severe impact on the telecoms sector. According to our research, 100% of operators say that supply chain issues have affected their business over the last year, citing four key areas.



## **58% say it impacted their new business pipeline**

"When planned business opportunities cannot be executed on time, loss of opportunity is reflected in revenue streams."

## **42% report that customer satisfaction has been affected**

"It is difficult to meet customer demand when equipment and material are not available."  
"Our Trustpilot reviews are now below 3 stars."

## **45% state that network performance has been impacted**

"Due to the delays to initiate a new project, we had to keep on using older hardware for a longer period than expected at the detriment of network performance."

## **39% say it affected their revenue**

"Revenue inflows are affected."

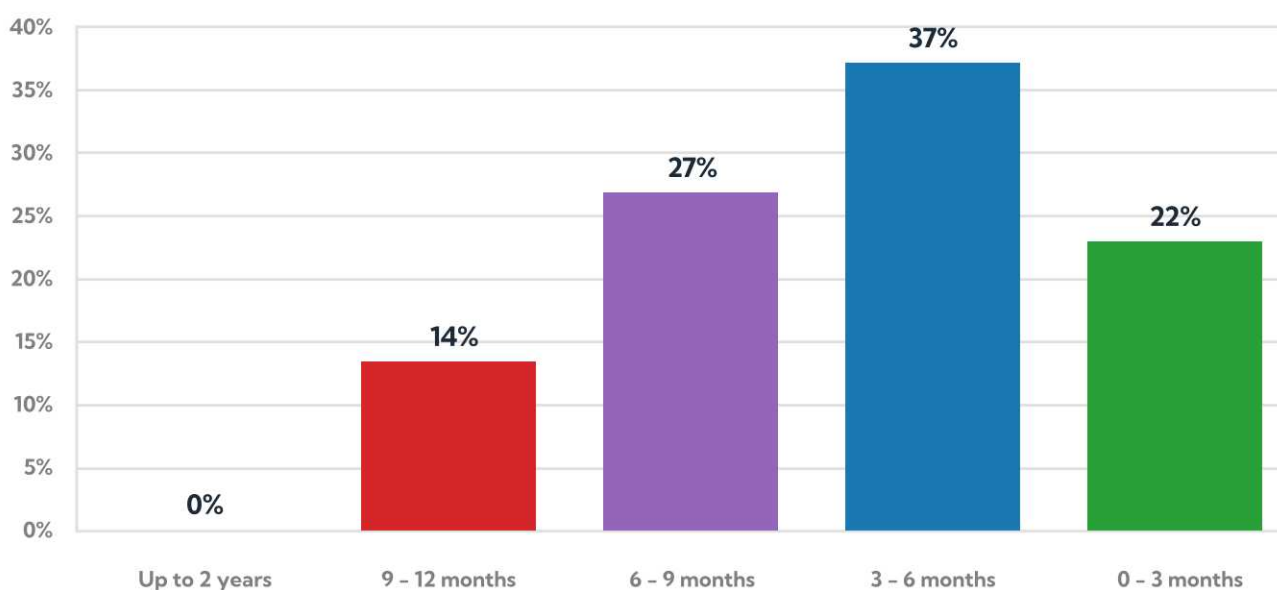




## Operators experienced lengthy delays on new equipment

Operators are unanimous in saying they experienced significant delays for equipment bought directly from original equipment manufacturers (OEMs) with 78% saying they waited more than three months, and 41% waiting over six months for critical network hardware.

**On average, how long does it take to wait for critical equipment bought directly from OEMs?**



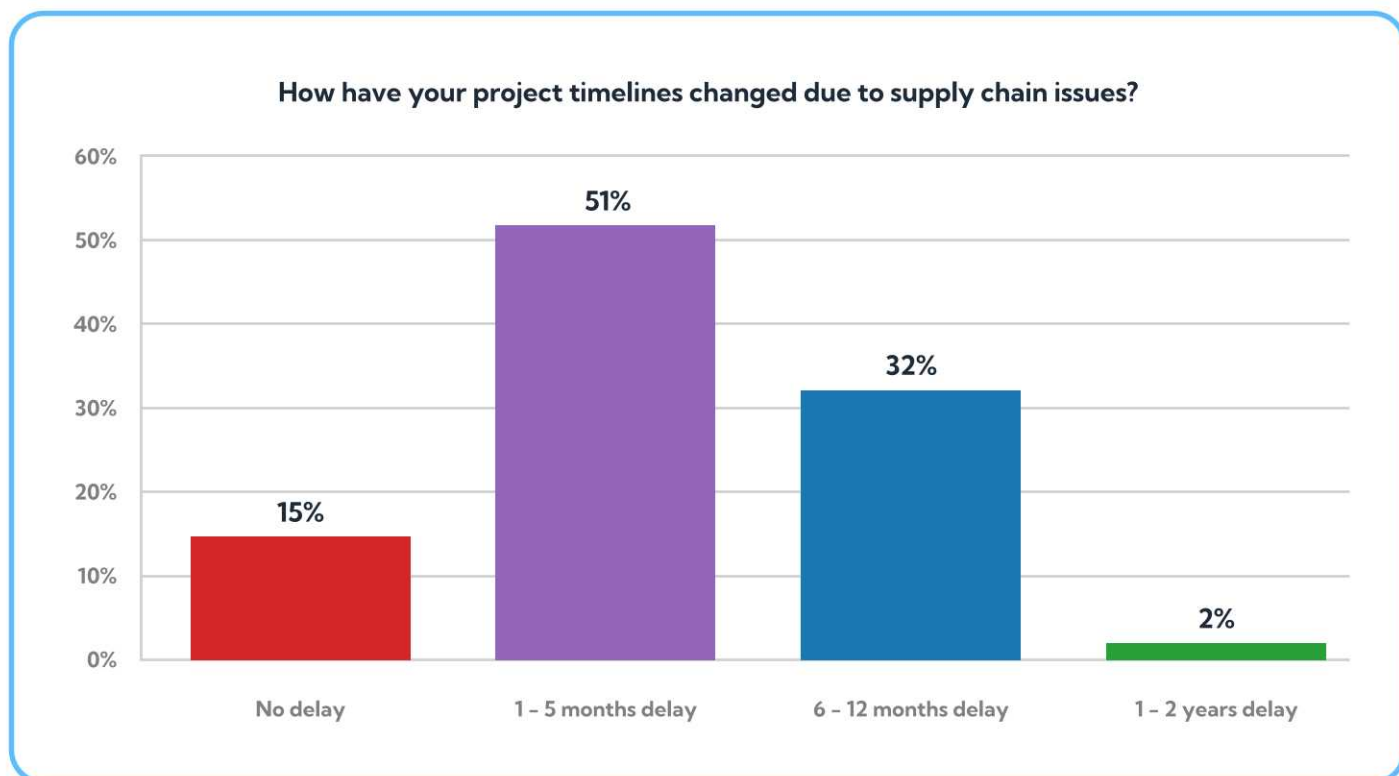
Across the different audience groups, 94% of alternative network providers (altnets) and 70% of fixed line and mobile network operators had to wait over three months.

For passive network equipment, i.e. components which require no input power to function such as fibre optic connectors, adaptors and patch cords, just over half of all operators (53%) had to wait more than three months when buying directly from OEMs, and 15% waited over six months. While this number dropped to 33% among altnets who waited over three months, it increased to 60% of fixed line and mobile network operators.

51% of operators also waited over three months for network housing equipment (e.g. cabinets) bought directly from OEMs, and 14% waited more than six months. Among altnets, 53% waited for more than three months, and 56% of mobile and fixed line operators waited the same time.

## Equipment delays significantly impacted project timelines

Project timelines are also affected by the supply chain chaos, with 85% of operators saying they've had project timelines disrupted due to supply chain issues. Just over half of operators (51%) say they experienced 1 – 5 months delays, just over a third (32%) cite 6 – 12 months whereas only 15% say they experienced no delays at all.



Although, for altnets, project timelines are less disrupted by the supply chain crisis with 67% reporting a 1 – 5 months delay and 33% saying no delay at all. However, nearly half (48%) of fixed line and mobile network operators report a 1 – 5 months delay, with 30% citing a 6 – 12 months delay and 19% saying no delay at all.

## Supply chain delays have driven up costs

From our research, it's clear that cost increase on equipment is a key fallout of the supply chain crisis. Just over half (54%) of operators say they experienced an 11 – 30% cost increase on all their network hardware purchased from OEMs, with nearly four in ten (38%) saying a 0 – 10% increase. However, an unfortunate 6% even experienced a 31 – 50% increase.

Breaking down by audience; nearly half of altnets (47%) say they experienced an 11 – 30% cost increase, with 40% seeing their costs rising by 0–10%. For fixed line and mobile network operators, the number rose to 52% for an 11 – 30% cost increase and dropped to 44% for a 0 – 10% increase.

## Finding a solution

In response to the crisis, operators are forced to take significant measures to try and offset the impact:

- 70% are increasing their stock level
- 61% are expanding the network of suppliers they source from
- 46% are sourcing from the secondary market/using refurbished equipment
- 35% are repairing/reusing more of their existing equipment
- 38% are redesigning their technology/network architecture to reduce reliance on OEMs



**"We handled the (supply chain) issue by purchasing more from the refurbished market and increasing stock levels."**



## Network integrators also impacted

Network integrators face similar supply chain issues to operators. 100% of them say they have been impacted by supply chain issues which affected their new business pipeline (47%), customer satisfaction (79%), revenues (58%) and network performance (47%). Overall, 84% say they waited over three months for critical network hardware, bought directly from OEMs, with 53% waiting for more than six months.

For project timeline delays, just over four in 10 (42%) say they experienced delays of 1 – 5 months, just over a third (32%) had to wait 6 – 12 months and 5% say they had no delay at all.





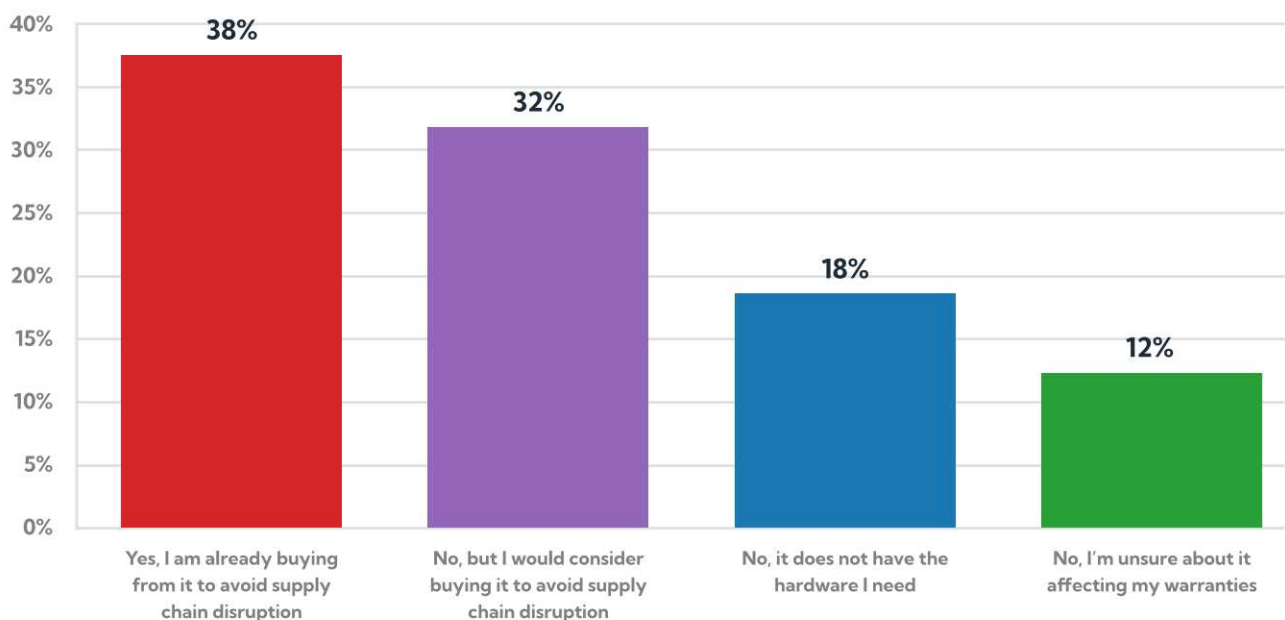


## How the circular economy provides a solution

As supply chain issues continue to disrupt operators, more and more of them are aware of the circular economy and its benefits. 58% have already begun to reuse, resell and/or recycle excess/legacy telecom network equipment within their business, whereas 23% say they are aware of excess/legacy telecom network equipment in their company that could support the circular economy but haven't done anything with it yet.

Nearly four in ten (38%) operators say they use the circular economy to help alleviate long wait times caused by supply chain disruptions, with 32% saying they don't use it but would consider buying from the circular economy to avoid supply chain disruptions.

Are you using the circular economy to help alleviate long wait times caused by supply chain disruptions?



Across the audience groups, more fixed line and mobile network operators use the circular economy (37%) than altnets (20%). But over half (53%) of altnets and just over two in ten (22%) of fixed and mobile network operators say they would consider using it in the future to avoid supply chain disruption.





But operators aren't just buying from the circular economy, some are repairing legacy hardware instead of replacing it with new equipment from OEMs.

However, just under a third of operators have negative perceptions about the circular economy: 18% say it doesn't have the hardware they need and 12% are unsure how it affected their warranties.

### **New criteria for selecting suppliers**

But when selecting new suppliers, only 55% of operators cite 'sustainability considerations' as an important factor. Whereas the majority (92%) say 'cost', 83% state 'lead times' and 58% say 'company reputation'. So, when a supplier can tick all four boxes, it's an easier decision for operators.

### **Operators see the circular economy as a way to reduce costs**

Joining the circular economy is considered to be a way to help reduce costs, with the majority (82%) saying they would consider buying refurbished network equipment for this reason. The number decreased to 74% for fixed line and mobile network operators and increased to 93% for altnets. This indicates that reducing costs seems to be more of a priority for altnets, which are emerging as an alternative to major operators but don't have the same purse strings.



"All refurbished products from TXO go through a rigorous screening and/or testing process before being sold and typically have a minimum one-year warranty, so the question mark about warranty is more lack of awareness than fact. Also, refurbished equipment often comes from a live working environment, proving that it's as reliable and efficient as new equipment."

**Darren Pearce, Group CEO, TXO**



"The supply chain crisis has had a profound impact on the telecoms sector, from project timeline delays to cost increases, problems sourcing equipment and impacting customer service.

"But, while operators explore different options to circumnavigate the crisis, many have turned to the circular economy for a solution. Buying pre-owned equipment instead of new enables them to avoid the year-long wait for new equipment, save money and accelerate their network deployment in line with government targets. This is all while moving closer to achieving their sustainability goals. For telecom operators, it's a clear win."

**Kieran Crawford, Group Sales Director, TXO**



## What is the circular economy and how can telcos access it?

The European Parliament<sup>6</sup> defines the circular economy as “a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible” to extend the lifecycle of products.

What this means is that the circular economy keeps materials and products in the economic system for as long as possible by extracting the most amount of value from them while reducing the environmental impact by creating fewer new products. There are two sides of the circular economy:

- **Demand side:** Operators that want to source pre-owned equipment because they need resilience in their network from parts no longer available from OEMs, or they want to source an alternative to buying new.
- **Supply side:** Operators that want to resell or recycle old equipment so they can generate revenue and save space and resources. Many operators have networks and warehouses full of equipment that has often not been catalogued, tracked or effectively added to inventories which could be reused, resold or recycled. To resell, they'd work with a specialist intermediary to source a buyer and manage the sale.

### Additional benefits to joining the circular economy

Aside from alleviating the delays and rising costs caused by the supply chain crisis, the circular economy offers many other benefits:

- **Lowering carbon emissions:** The number one reason for joining the circular economy is reducing carbon emissions. According to Boston Consulting Group<sup>7</sup>, almost every major company in the telecoms sector now has a net-zero target to meet by 2050.
- **Minimising waste:** Joining the circular economy offers huge advantages by minimising waste. Waste is an increasing problem in the telecoms industry and the GSMA estimates that around 50 million tonnes of e-waste is produced every year<sup>8</sup>. E-waste is electrical or electronic devices either discarded or reaching the end of their useful life. If e-waste isn't recycled, it goes straight to landfill and is hugely damaging to the environment.
- **Benefits for customers:** Operators believe that joining the circular economy can improve their reputation amongst customers and provide a competitive advantage.

<sup>6</sup> <https://www.europarl.europa.eu/news/en/headlines/economy/20151201STO05603/circular-economy-definition-importance-and-benefits>

<sup>7</sup> <https://www.edie.net/report-uk-telecoms-giants-leading-sectors-global-net-zero-transition/>

<sup>8</sup> <https://www.gsma.com/mobilefordevelopment/e-waste-legislative-framework-map/>





## Conclusion: making the circular economy part of your future

---

There's no doubt the supply chain crisis has adversely affected telecom operators and network integrators by impacting their new business pipeline, customer service, network performance and revenues. It has also left them under huge pressure with looming government targets to roll out 5G and fibre deployments.

But as the industry continues to grapple with the supply chain crisis, our research shows that the circular economy is emerging as a clear solution to help mitigate the impact. By sourcing refurbished equipment, operators can avoid lengthy delays, reduce costs as well as lower their carbon footprint to support sustainability targets.

To survive and thrive in the current supply chain chaos, operators need to consider integrating the circular economy into their business strategy by expanding their supplier base to include those which offer refurbished equipment. This will not only help safeguard their business model and revenue stream as we navigate the supply chain crisis, but it will also significantly reduce their carbon footprint, support their sustainability goals and help protect our planet.





## About TXO

---

TXO is the world's leading provider of critical telecom network hardware and asset management services.

With close to one million parts, our huge stock of multi-vendor networking equipment sets us apart from the rest. Through a combination of our products and services, we can enhance your productivity and secure the future of your telecom operation. Additionally, we design solutions specifically tailored to your business and using our extensive product knowledge, help with the maintenance and progression of your telecom network.

We also provide asset recovery solutions for our clients across a wide variety of disciplines, such as telecoms, data centres, utilities, oil, gas & renewable energy and civil, government & critical comms. Here our goal is to support your company to achieve its sustainability targets while maintaining your high standards.

We're certified with ISO 9001, ISO 14001, ISO 45001, ISO 27001 and TL 9000 and we are a licensed AATF adhering to WEEE compliant processes. In addition, we hold certification from EcoVadis in recognition of our exceptional levels of corporate social responsibility and we are keen to share this with all of our clients.

Our vision is to be the world's local partner for sustainable communication networks. We view this as our contribution to the circular economy and a greener planet.

To find out more about TXO and how you can join the circular economy, please email us at [hello@txo.com](mailto:hello@txo.com)

## Appendix

---

### Research methodology

TXO conducted the research in Q4 2022 and Q1 2023, interviewing 90 global telecom operators and network integrators including:

- 15 Altnets
- 17 Fixed line network operators
- 12 Mobile network operators
- 27 Fixed and mobile network operators
- 19 Network integrators