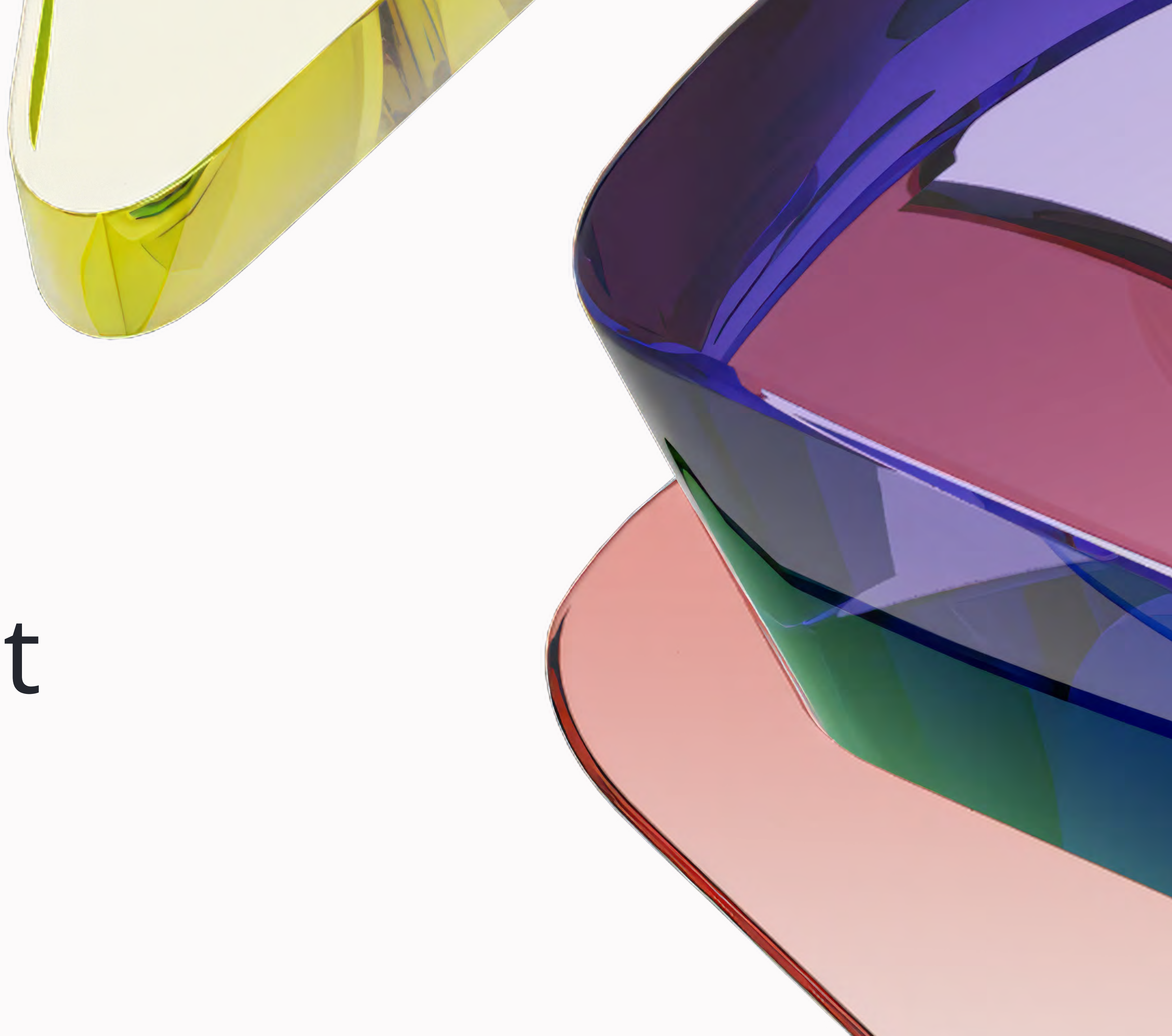




Your partner
in progress

The road to progress is built on trust

2024 Supply chain risks and
opportunities report



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Foreword



Susan Taylor Martin
Chief Executive Officer
BSI

It's been another remarkable 12 months in the global supply chain. In addition to ongoing geopolitical tensions and the recent attacks on shipping in the Red Sea, we have seen everything from economic uncertainty, to extreme weather events, and technology-powered digital disruption. These powerful factors, coupled with increased momentum for nearshoring, provide a volatile and complex backdrop for the global supply chain.

The coming year promises to be yet another transformational one. While being mindful of the challenges, I'm optimistic that the learnings of 2023 can lay the foundation for a successful 2024. Recent developments demonstrate that positive progress is being made on some key long-term supply chain challenges, offering the potential to accelerate progress towards a fair society, and sustainable world.

At BSI our focus is on shaping a better global supply chain. This report is designed to offer a considered perspective on how we can use the learnings from the last 12 months to accelerate progress in 2024 by reducing environmental impact and improving social responsibility.

Our experts work in partnership with organizations globally in industries ranging from manufacturing to energy. We've asked them to share their insights and challenges and opportunities they are seeing from the supply chain frontline.

They examine emerging global trends and industry best practice, considering the power of trust to deliver competitive advantage, the evolution of data usage in the supply chain, the importance of new business models, responding to ever-changing regulations, and much more.

For the full story, read on. I hope you find their insights instructive.

Executive summary

The convergence of such compelling factors – geopolitical tensions¹, economic uncertainty², extreme climate events³, and technology-powered digital disruption⁴ – has created a new reality for the global supply chain.

Organizations seeking to reduce environmental impact and improve social responsibility in the supply chain have an opportunity – really a necessity – to think and act differently than in years past. Maintaining competitive advance and a better, safer, more sustainable supply chain depend on it. There's one characteristic that will drive success: trust.

Building trust can facilitate the development of successful collaborative relationships: As complexity and scale increase, trust becomes the cornerstone of collaboration. From their research, discussions and work experience, our global risk management experts and advisors have identified six insights to help leaders build trust and turn challenges into opportunities in 2024:

- **Willingness to collaborate can help organizations uncover the opportunity presented by today's supply chain challenges:** No one organization can accelerate progress alone;
- **Recognizing the changing nature of risk has the potential to unlock huge opportunity** by enabling organizations to prepare for different eventualities;

- **Taking a proactive approach to risk, powered by data and actionable insights, can help manage and mitigate vulnerabilities.** These insights can be a tool to answer today's supply chain questions;
- **Approaching the ever-changing global landscape with an agile and adaptable mindset is crucial** in a time of geopolitical uncertainty;
- **Taking a 360-degree perspective on climate-related events has the potential to help future-proof operations:** A "new era" of extreme climate events requires a new approach;
- **Getting ahead of rapidly-evolving legislation, including via evidenced supply chain compliance, can deliver competitive advantage.**

Chapter one

The road to progress is built on trust





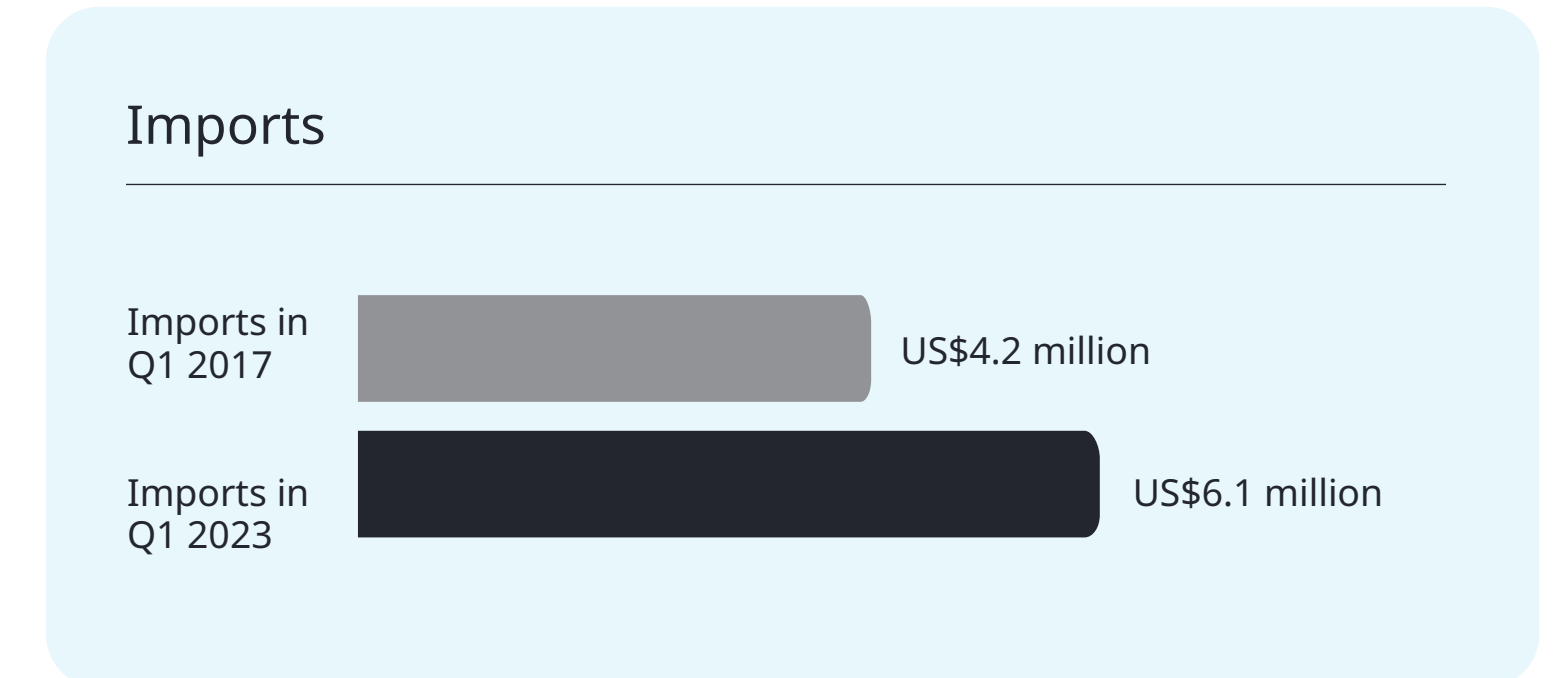
Here we examine the role of trust in supply chain operations to better understand how it can power positive progress.

When you consider that supply chain operations account for over 90 percent of an organization’s greenhouse gas emissions⁵, it follows that they should be a business priority for any organization seeking to achieve its sustainability goals. The sheer scale, complexity and immediacy of today’s global supply chain means addressing these necessitates previously unseen levels of collaboration – from nations, governments, organizations, and individuals. This is evidenced by increasing trade values of merchandise imports, which reached US\$6.1 million in Q1 2023, up from US\$4.2 million in Q1 2017, according to the World Trade Organization⁶.

To make progress on our collective challenge of building a better, safer, sustainable global supply chain, we are going to have to work together across borders, beliefs and industries. Our work in this area suggests rooting collaboration in trust offers the strongest chance of success. With trust in place, organizations can progress with confidence; without it, the entire supply chain ecosystem may be in danger of collapse.

Collaboration and trust take on even greater significance in our interconnected world. Rather than looking at security and sustainability as separate entities, we can start to see them as two sides of the same coin. Embracing this can empower organizations seeking to move beyond the challenge of today and unlock the opportunity of tomorrow.

A number of identifiable trends emerged in 2023 – key amongst them are the role of collaboration, an evolving attitude towards risk, and the opportunities being created by technology. Read on as we discuss each one in turn.



Collaboration

Jim Yarbrough, Global Director, Supply Chain Solutions, BSI, reports that focus on collaboration has increased. He sees the greater emphasis on collaboration amongst direct competitors, especially in the retail sector – collaboration to share information, share efforts, understand shared suppliers, and improve relationships across the board.

The shared experience of the global pandemic and subsequent geopolitical and economic challenges has taught us that no single organization can handle this alone – there’s a community out there and it’s getting stronger.”

Tony Pelli, Practice Director, Supply Chain Security & Resilience, BSI, highlights evidence showing the huge benefits to be realized from supply chain collaboration. “Working together can give organizations greater influence over supplier operations but it can also greatly reduce the carbon footprint, so the benefits can be transformational.” For instance, the US Customs Trade Partnership Against Terrorism program (CTPAT)⁷ program, is designed to reduce the risk of supply chain disruptions and delays from security risks, resulting in lower costs, and greater efficiency for international trade⁸.

In regard to this program, Pelli notes that “single-company savings can be between US\$1 million and US\$5 million annually, while collaborative efforts can collectively save member organizations upwards of US\$20 million, in addition to helping reduce the carbon footprint of supply chain assurance efforts.”

Success, then, starts with collaboration and collaboration is built on trust. The impact for those managing supply chains: working together could be the key to unlocking transformational benefits.



An evolving attitude towards risk

“We’re starting to see the evolution of data usage in the supply chain. What we need now are actionable insights to support this data to transform it into something that’s useful for managing risk.”

Tony Pelli

Practice Director,
Supply Chain Security & Resilience
BSI

Based on recent experience, Pelli is seeing an evolving attitude to risk: “For the past few years, perhaps understandably given the circumstances, organizations have tended to adopt a reactive approach to risk, but this is evolving quickly into a much more proactive and systematic strategy. We’re starting to see the evolution of data usage in the supply chain and what we need now are actionable insights to support this data to transform it into something that’s useful for managing risk.

“Today, organizations are trying to manage the most complex supply chain we’ve ever seen so these data-based insights are vital to identify where risks are greatest, how best to mitigate those risks, and in some cases, how to capitalize on those risks by shifting suppliers, production schedules or inventory management, all of which can ultimately drive competitive advantage.”

Yarbrough echoes this view and reports that technology is playing a crucial role. Today, 38 percent of people globally are already using AI in their job and 62 percent expect their industries to use it by 2030⁹.

“In the last 12 months, technology, and in particular AI, has opened up new ways for organizations to tackle today’s challenges¹⁰,” said Yarbrough, noting, for example, that 18 percent of people specifically identified an opportunity for AI to help ensure transparent supply chains and rout out modern slavery. “Data and insights are helping to answer more nuanced supply chain questions in a more direct way and that can save organizations time and money. I fully anticipate this to continue in 2024 and beyond.”

For those managing supply chains, what emerges is a proactive approach to risk is powered by data and insights.

The changing nature of supply chain disruption

Today's reality is that the impact of technology on the supply chain is more disruptive than ever before¹¹ meaning there's a real benefit to be drawn from having an understanding of the cybersecurity of the entire supply ecosystem. In simple terms, the technology advancing the digital supply is moving faster than the cybersecurity function can move to understand and address the risks.

The Federal Bureau of Investigations in the US notes in a report published last year that the Bureau's Internet Crime Complaint Center received 870 complaints of suspected ransomware attacks among organizations in critical infrastructure sectors in 2022. Critical infrastructure sectors include manufacturing, commercial facilities, food and agriculture, and transportation, among others, with critical manufacturing lodging 157 complaints of suspected ransomware attacks during the period.

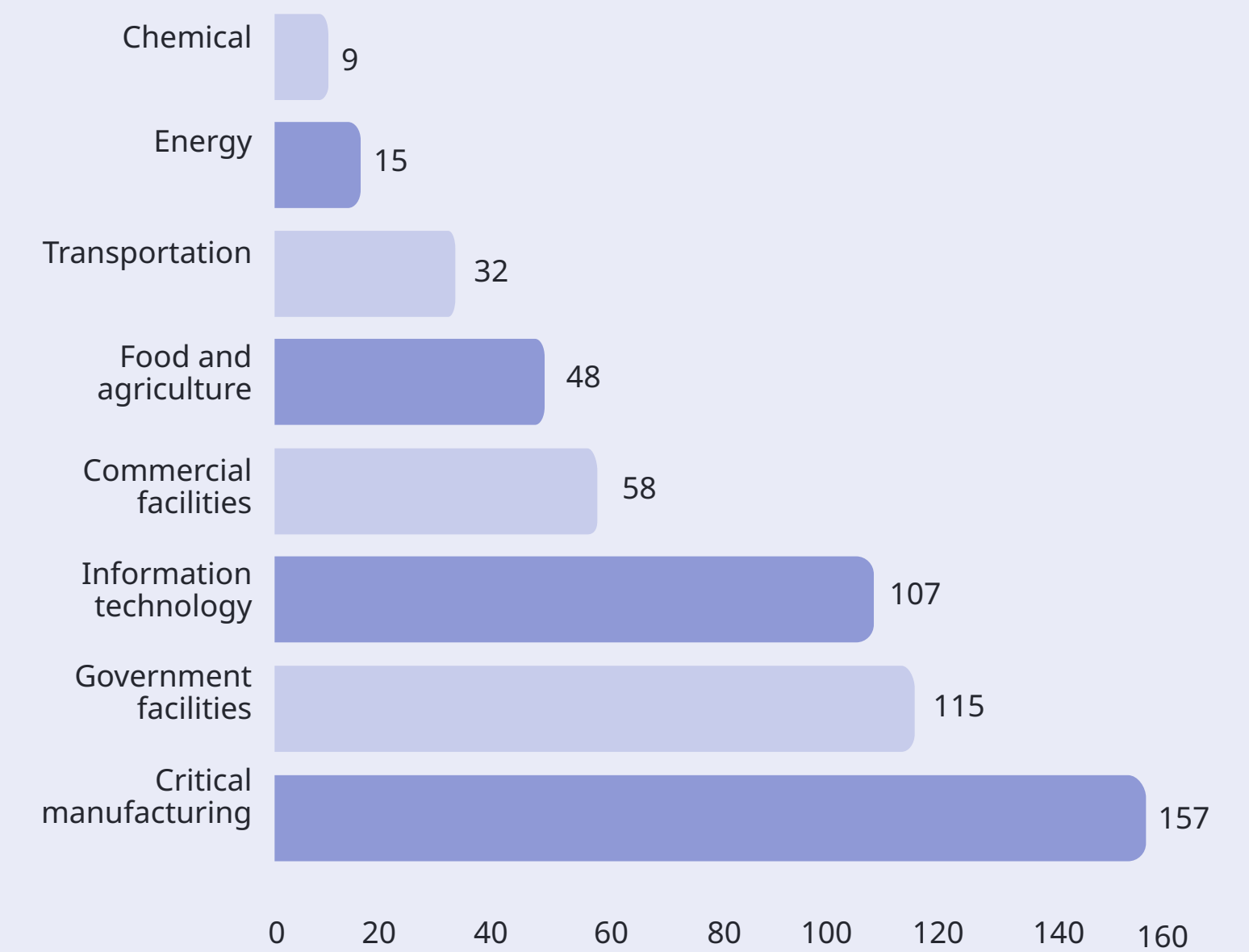
As a result, protecting against breaches remains a key theme for supply chains. Logistics remains a pressure point, with the trucking industry, ports, and railways all vulnerable to the disruption of the confidentiality, integrity, and availability of data. This is significant for the following reasons:

1. When these important sectors of the logistics and freight industry experience disruptions in confidentiality, important information regarding customers and their shipments can be left unprotected.
2. When the integrity of information is disrupted, incorrect information can be spread throughout the freight industry.
3. When the availability of information is disrupted, customers and operators may be unable to access important information regarding shipments, potentially leading to service disruptions throughout the supply chain.

To give one example, in the last 12 months the Australian Signals Directorate¹² responded to 143 incidents reported by entities who self-identified as critical infrastructure, an increase from the 95 incidents reported in the previous period. There were several high profile cybersecurity breaches in 2023 too, including one affecting the 3CX Desktop App enterprise software¹³ and another impacting that MOVEit file transfer app¹⁴.

Figure 1

Ransomware attacks reported to the FBI Crime Complaint Centre by Sector



Understanding the wider supply ecosystem

Isabel Forkin, Principal Consultant, Digital Trust Consulting, BSI, says that what is particularly interesting about the 3CX attack “is that it demonstrates a case we have been warning organizations about for some time: a supply chain attack where a supplier is compromised by its suppliers. Understanding the ‘chain’ is becoming more important from a cyber health perspective, as we understand how compromises several steps upstream can impact organizations on the ground. If a supplier is breached, it can compromise the organization’s data, movement of cargo, and how the organization’s supply chain is disrupted.”

For supply chain managers undertaking supplier reviews, there could be value in shifting focus to consider “not only the supplier themselves but how the onward supply chain is managed. To understand the exposure of any given organization, there’s a real benefit to be drawn from having an understanding of the cybersecurity of the wider supply ecosystem. It’s important to bear this in mind when working with downstream third parties who will have the same concerns and questions. The supply ecosystem needs to be collaborative so that the impact and propagation of breaches is reduced as far as possible. We can achieve this



by upskilling cyber teams and tapping into a more diverse and knowledgeable talent pool.”

Pelli assesses the landscape: “Organizations have realized that disruption is not an aberration, it’s a state of mind. Agility isn’t something that just happens once or twice a year or when a crisis hits, it’s an ongoing capability and it’s business critical. The era of ‘this is how we do things, no need to adjust’ doesn’t really exist anymore.”

Disruption by definition brings risk but, as we’ve already highlighted, this is not necessarily something to be feared, as Mark Brown, Global Managing Director, Digital Trust Consulting, BSI, explains: “The answer is not to attempt to mitigate all risk from the supply chain – if organizations pursue this, there’s a risk of becoming too brittle, and problems could arise. The key question from a cybersecurity perspective is: How does the organization catch up with the pace of technology advancement and disruption in the digital supply chain when generative AI, Internet of Things (IoT), and quantum computing are moving at such pace and are more readily accessible?”



As the supply chain digitizes, organizations are having to recognize the changing considerations this gives rise to – from the supply chain and the external business value chain. Brown continues: “This is not just third parties, it’s fourth parties and fifth parties, it’s upstream and it’s downstream. And the challenge for organizations is understanding the operating enterprise architecture landscape. Organizations regularly talk about IT process and cybersecurity processes, and you often hear supply chain teams talking about supply chain processes, but there is no such thing as a supply chain process – it’s a business process.

“My question is: Have organizations mapped out these processes to understand the parts of the value chain and processes that are fulfilled by a certain supplier? Mapping the enterprise landscape can enable identification of the risks and operational resilience impact if there’s a critical failure, a digital disruption, a cyber breach, or a critical infrastructure issue. Historically, only the procurement function typically offered a transparent, comprehensive view of suppliers. Many organizations often viewed this

from a financial perspective rather than through a critical business lens. Changing this approach is one of the biggest opportunities for organizations in 2024 and beyond.”

Against this ever-changing landscape, a key recommendation for 2024 is for organizations to understand suppliers and which businesses are supported, then to test the resilience of that supply. If it’s a critical supplier, is there an alternative supply? If it’s a critical process, what’s the maximum disruption? Thinking about the business continuity side of supply chain can only be done once organizations understand who the critical suppliers are.

For those managing supply chains, the nature of risk is changing. Recognizing that and taking pre-emptive steps now to respond could unlock huge opportunity.

A global snapshot

Here we examine the global landscape and how it impacts the supply chain of today and tomorrow.

Recent years have been characterized by high rates of global inflation. While the The Organization for Economic Cooperation and Development (OECD) forecasts that consumer price inflation will decline from 7 percent in 2023 to 5.2 percent in 2024 and 3.8 percent in 2025¹⁵, core inflation is expected to decline at a more gradual rate¹⁶.

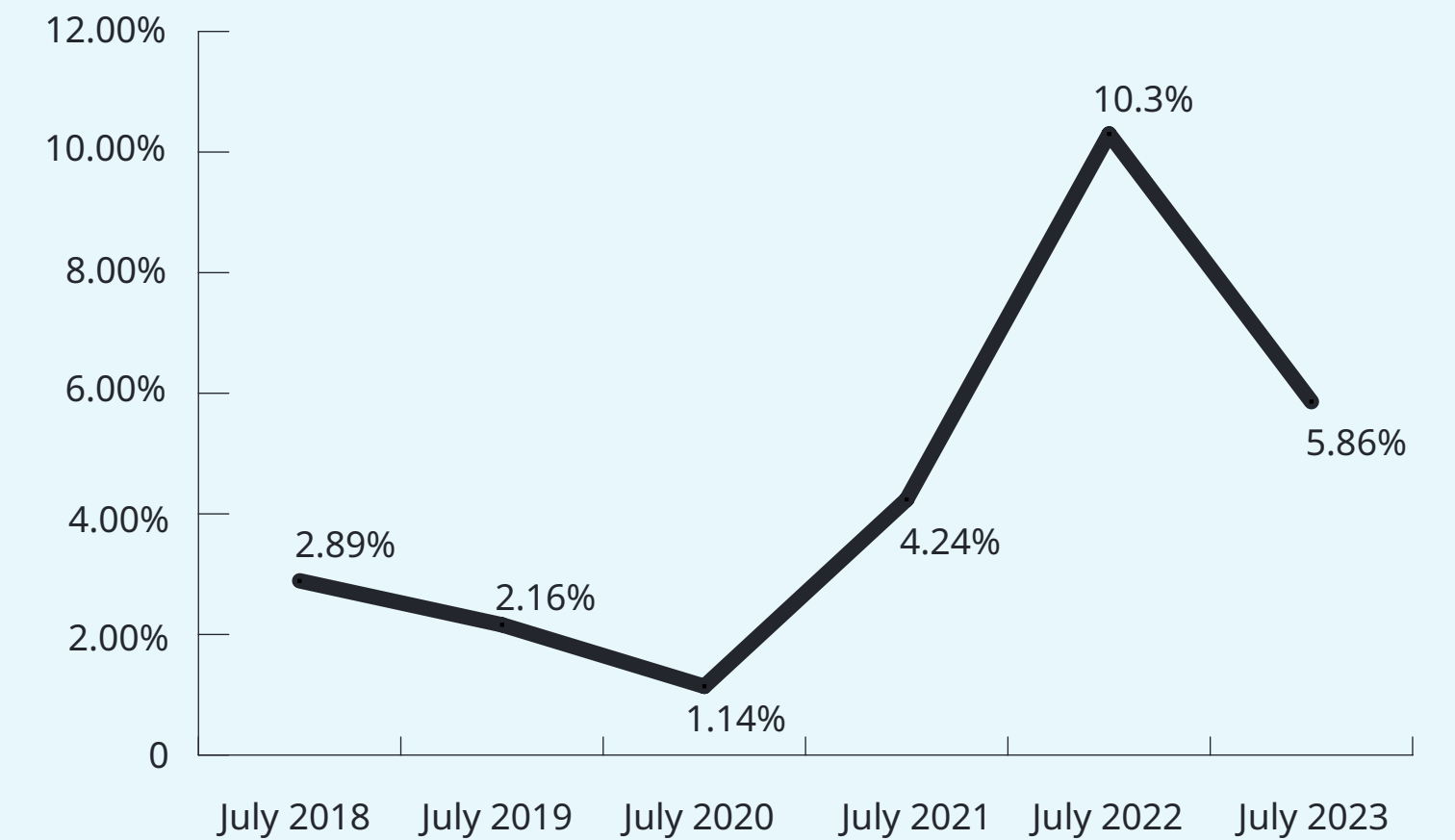
Moreover, these inflation rates have and will likely continue to be exacerbated by a variety of aggravating factors, including regional conflicts, the lingering effects of COVID-19, and climate change-related disruption.

Looking at Europe, we can focus on the linkage of macro-economic factors and disruptive events. The European Commission estimates that the GDP of the German economy, the largest in the European Union, will have declined by 0.3 percent in 2023 due to inflationary factors and a loss of purchasing power¹⁷, while year-over-year inflation will remain higher than usual, at 6.2 percent, before decreasing to 3.2 percent in 2024.

According to the European Investment Bank, slowdowns in economic growth are more pronounced in countries bordering Ukraine¹⁸. That said, countries dependent on Russian gas, including Germany and Italy, face exposure as well.

As we assess the global landscape, there are five key areas that we can consider.

Figure 2
OECD Year-on-Year Inflation Rate



01

Impact of geopolitical tension

If we consider global macro-economics, there is real tension in international trade. Organizations that are agile and adaptable, especially when factoring in the sustained advancement of digital technologies, have the opportunity to respond to this context. Most prominently, the conflict in Ukraine is nearing two years now. This, combined with more recent events in the Middle East, provides a fragile backdrop to supply chain operations. These conflicts' knock-on effects are causing further disruption, such as the Houthi rebel attacks on cargo ships in the Red Sea and Bab al-Mandab Strait prompting shipping companies to divert shipments¹⁹, in addition to protests disrupting port operations in a number of countries. Moreover, given the strategic importance of the Suez Canal, as evidenced by the high-profile blockage in 2021²⁰, organizations stand to benefit from being agile and adaptable, especially when factoring in the sustained advancement of digital technologies.

These levels of international tension have been the norm for a number of years now. However, in early 2024, they're heightened by an evolving G7²¹ rubbing shoulders with a resurgent five-nation BRICS²² community. Add in the relationship between China and Australia where the 'brain drain' from the former to the latter has impacted trade²³, plus Japan's post-COVID lag²⁴, and you have a complex picture.

In the years following COVID-19, and amid globally increasing supply chain due diligence regulations targeting forced labour, some organizations are considering manufacturing, or nearshoring, for example, in Eastern Europe or parts of the Americas. In addition, Vietnam, Poland, Morocco, Mexico, and Indonesia have been identified as 'connectors' benefiting from the current geopolitical shift²⁵, given that those countries represent 4 percent of global GDP but have attracted over 10 percent, or US\$550 billion, of what is known as 'greenfield investment' since 2017.

As Yarbrough says: "This brings with it a whole new set of challenges and things that need to be understood by both US and Western companies. It's not just about the cost of labour or the cost of shipping, it's also about understanding the geopolitical and climate issues in these markets. It's important to pause and reflect carefully on these decisions."

It is of course worth noting that 2024 will be a busy year for elections, with key votes taking place in the US, UK, India, and the European Union.

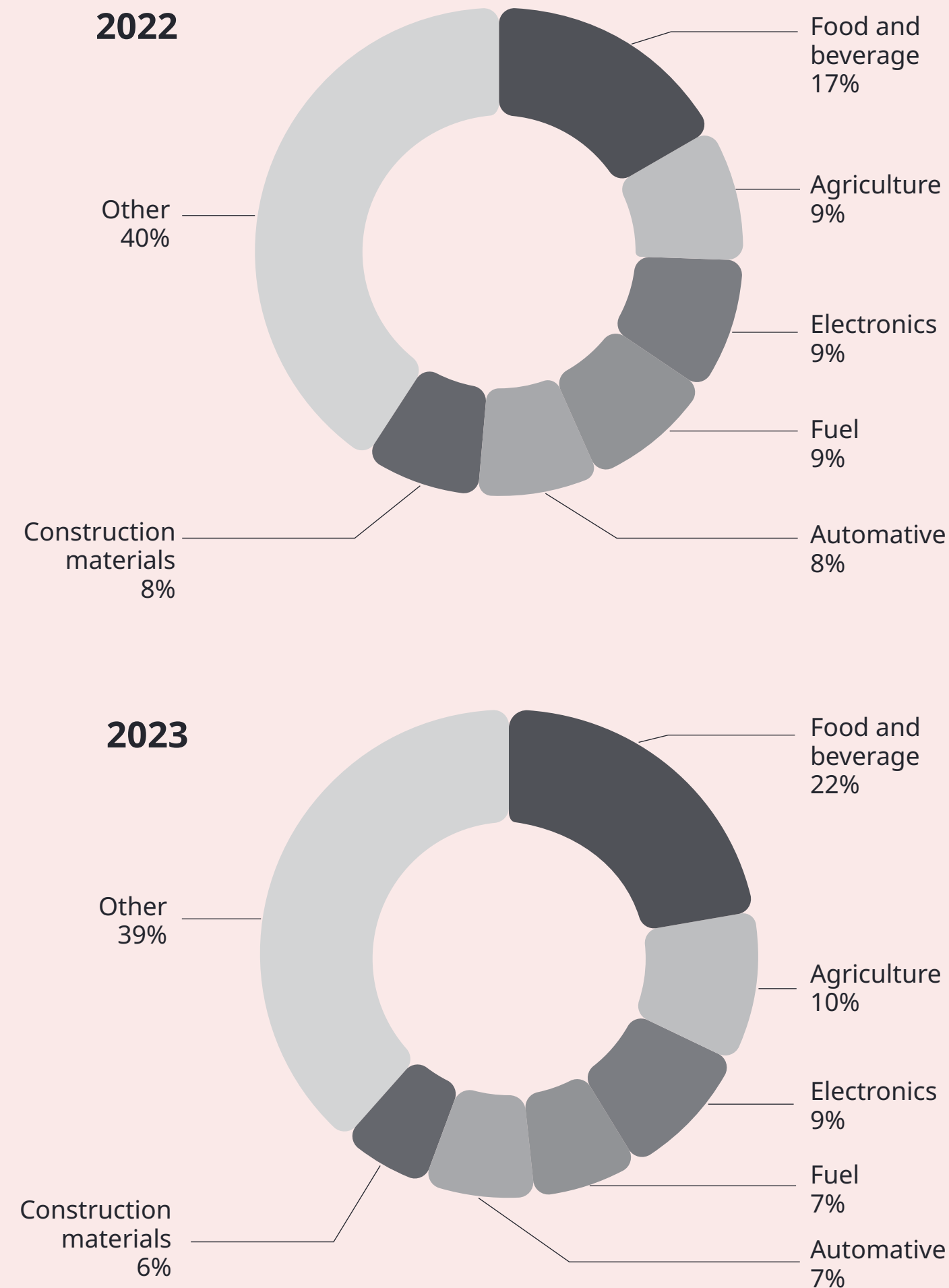
02

Inflation

Inflationary pressures continue to drive up food prices, adding another layer to supply chain complexity. According to data from the Food and Agriculture Organization of the United Nations, the effect is especially pronounced in Latin America, particularly in nations experiencing currency devaluation such as Argentina and Venezuela²⁶. This trend is expected to continue in 2024 with the United States Department of Agriculture (USDA) predicting that food prices will decelerate but not decrease²⁷.

Given this situation, it is not surprising that food and beverage thefts continue to increase with the figure leaping from 14 percent to 22 percent of products stolen in the period between 2021 and 2023. Last year's data showing agriculture as the second most commonly stolen commodity at 10 percent, underscores the ongoing impact of inflation as thieves target basic goods that have experienced significant price increases. Food and beverage items also account for a third of all hijacking incidents – up from 25 percent in 2022. In addition, thefts of high-value items, like electronics and automotive products, continue to pose a problem for organizations.

Figure 3
Theft by product type 2022 vs 2023 (by 1%)



03

Cybersecurity

The global nature of today's supply chain means that supply chain cybersecurity is now a global issue which requires global collaboration. Most suppliers operate internationally and have up and downstream third parties across the globe. This is particularly true when it comes to the use of Open-source software libraries. GitHub data reveals that the US tops the list of Open-source software contributors (24.6 percent), with China second (5.8 percent) and the UK, India, Brazil, and Russia all featured in the top ten. Two notable steps have been taken to address this risk – in the UK, the National Cyber Security Centre (NCSC) has defined 'high risk vendors' within the telecommunications industry²⁸ and in the EU, the European Cyber Resilience Act (CRA) has proposed a focus on security throughout the supply chain²⁹.

04

Transatlantic ties

Another significant development to note is The Atlantic Declaration³⁰, signed in June 2023 between the UK and the US, which allows aspects of digital trade to happen tripartite between the US, Europe, and the UK. Brown believes this is a positive step which can unlock broader benefits: “I think 2024 is going to see a significant shift in post-Brexit relations between the EU and the UK as the two grow closer through Horizon Europe R&D projects³¹. So the signs are very good indeed.”

05

Green investment

In 2023, we began to see the impact of the US Inflation Reduction Act³². According to the White House, an influx of tens of billions of dollars created confidence in the US private sector to invest in clean energy infrastructure, new forms of carbon capture, and battery production—to the tune of 170,000 clean energy jobs³³. Similarly, the European Investment Bank Group announced €45 billion of funding, a 50 percent increase, for clean energy investments to end fossil fuel dependency as part of the REPowerEU plan³⁴. Meanwhile, in the UK this type of investment is a central pillar of The Labour Party’s plan³⁵ and current polls³⁶ put them in a strong position to be in government after the next election, due by January 2025. Both of these factors represent positive progress and can potentially open up major opportunities around the supply chain.

What becomes clear is that the ever-changing global landscape means that organizations that embrace an agile and adaptable mindset will have the best opportunities to thrive in 2024.

Chapter two

Cumulative and connected climate change



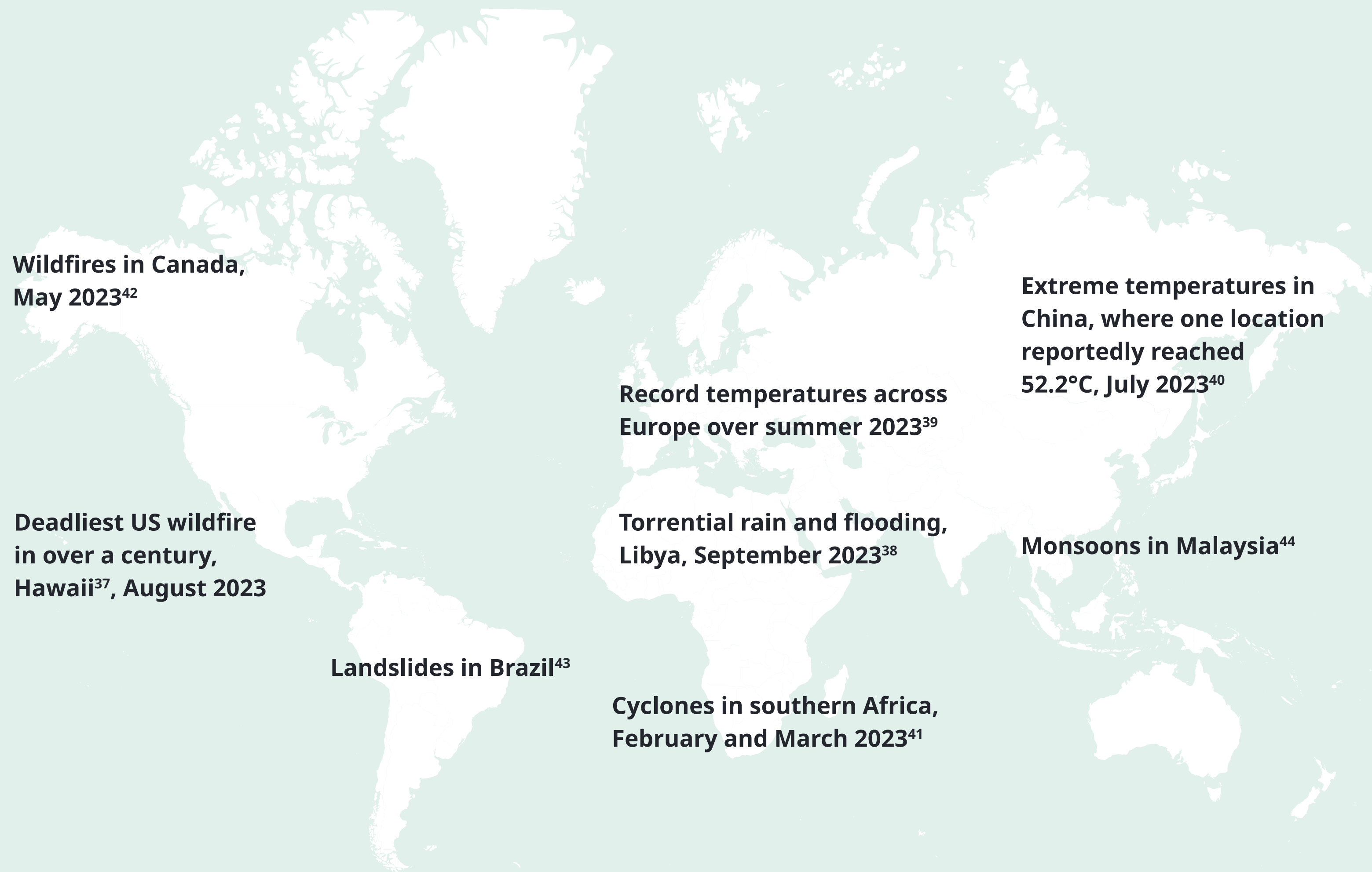
Here we examine the cumulative and connected impact of extreme weather events on supply chain operations.

Whether it involves floods, drought, forest fires, or other extreme incidents, there is little doubt we are experiencing a period in which the weather is a major factor in business decision-making.

For organizations there are a number of considerations that emerge from this – around the direct impact on supply chains, around how to best prepare, and around taking a broader view. Keeping all these in mind has the potential to safeguard organizations dealing with changing climate uncertainty.

Forkin highlights that understanding climate change and extreme weather events against the back drop of supply chain operations has to be an organizational priority in 2024.





**Wildfires in Canada,
May 2023⁴²**

**Deadliest US wildfire
in over a century,
Hawaii³⁷, August 2023**

Landslides in Brazil⁴³

**Record temperatures across
Europe over summer 2023³⁹**

**Torrential rain and flooding,
Libya, September 2023³⁸**

**Cyclones in southern Africa,
February and March 2023⁴¹**

**Extreme temperatures in
China, where one location
reportedly reached
52.2°C, July 2023⁴⁰**

Monsoons in Malaysia⁴⁴

An ever-growing compendium of statistics and records clearly demonstrates that we are moving into a new era of extreme weather. From cyclones in southern Africa⁴⁵ to wildfires in Canada⁴⁶, landslides in Brazil⁴⁷ to monsoons in Malaysia⁴⁸, these events are becoming more frequent and more ferocious which puts added strain on organizations trying to predict them. As Ryan Lynch, Practice Director, Sustainability, BSI, says: “2023 was the year that these weather events became more extreme, more direct, and more tangible.”

Apart from the devastating loss that often accompanies these events, the impact on the supply chain can be seismic. This was demonstrated by the 2011 floods in Thailand⁴⁹ which reduced the global output of magnetic hard drives by as much as 30 percent and sent the price of laptops sky-high. But, as ever, where there is challenge, there is opportunity. According to BSI’s Net Zero Barometer Report 2023⁵⁰, 82 percent of small business leaders relayed that sustainability and net zero was important to their business practice, which is double the percentage reported two years ago.

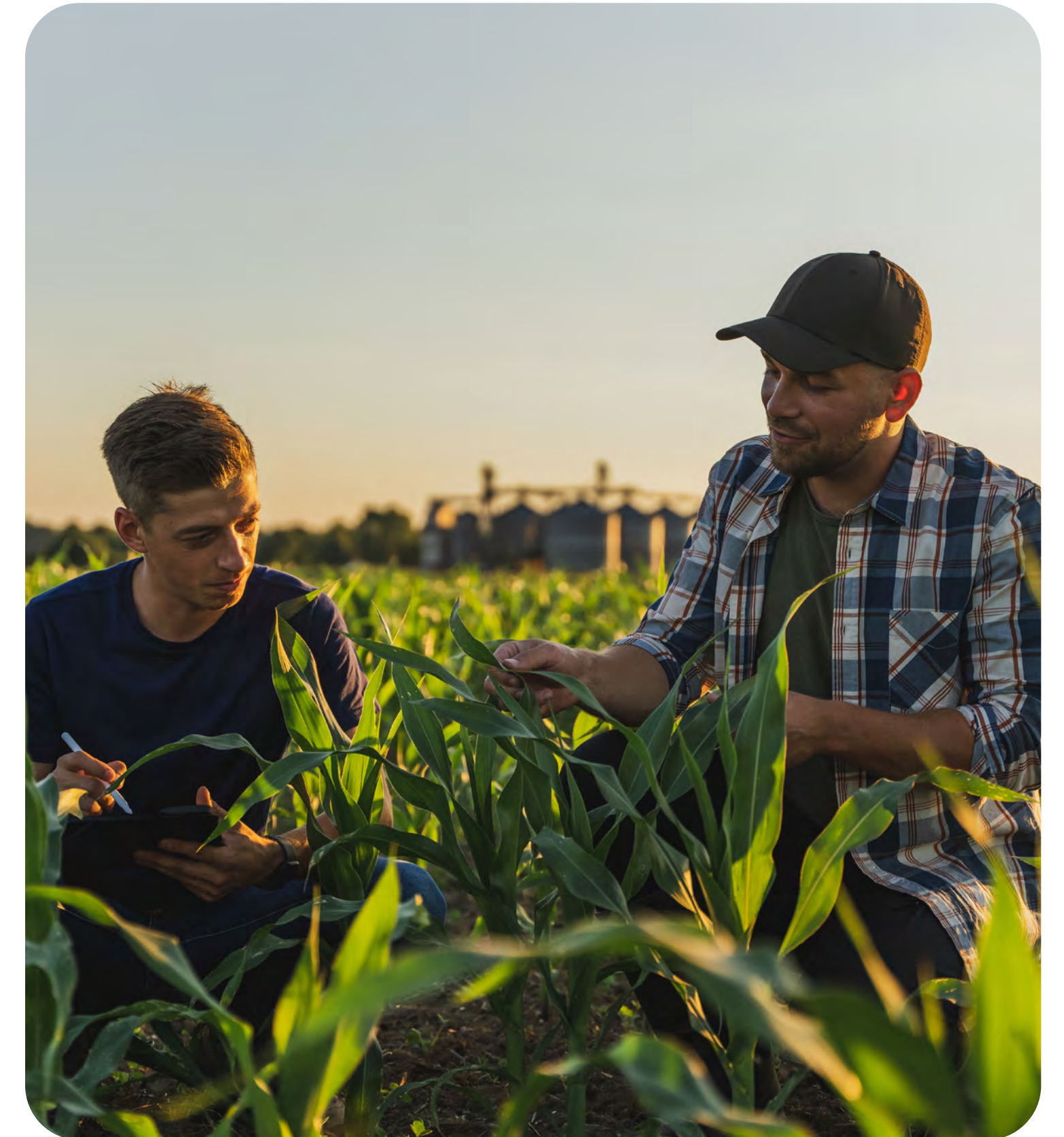
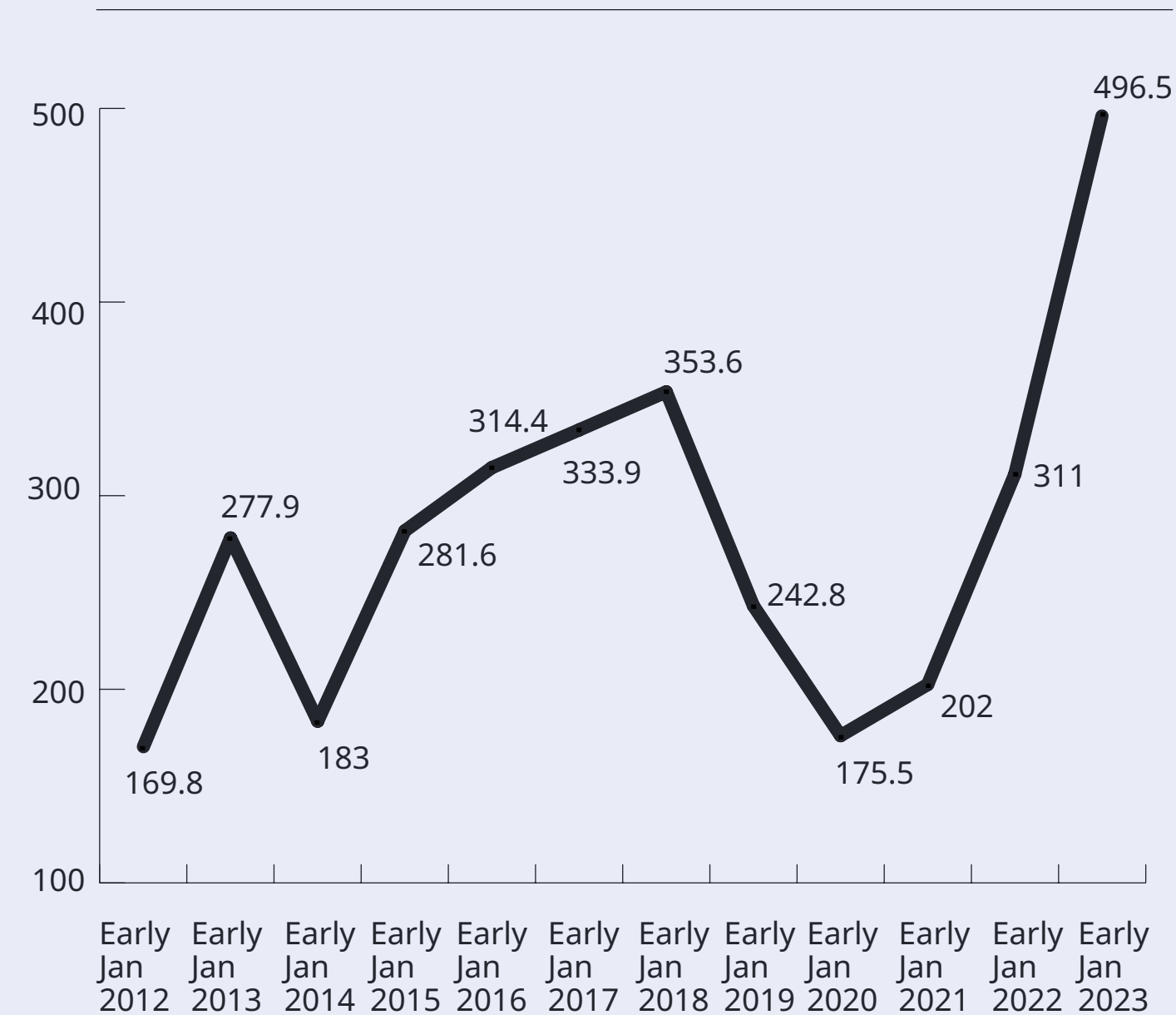
There are three key areas for organizations to consider.

01

The reverberating impact of climate challenges

Today, the Panama Canal drought is set to lead to a 40 percent reduction of vessels by February⁵¹ – with US\$270 billion in annual trade at stake, it's critical that organizations evaluate all supply chain linkages, especially as nearshoring alters supplier locations. In Greece, as poor harvests send prices soaring, we've seen thieves target olive oil supplies – as The Guardian headline declared⁵², "They don't go for jewellery any more". According to the European Commission, olive oil prices were 75 percent higher in September 2023 than in January 2021. Incidents such as this illustrate the fact that commodities with reduced supply and significant demand are at increased risk of theft.

Figure 4
Virgin olive oil prices (Euro/100kg)



02

The importance of preparation for extreme weather

Forkin highlights two key supply chain issues: “Firstly, the extreme weather events make it more likely organizations will have to give remote access in an emergency situation, either because onsite work is impossible, or because a new supplier must replace an unavailable one. As with all resilience issues, planning and preparation is key – for example establishing remote connectivity procedures, including with alternative suppliers. And secondly, extreme weather events could be a prime source of phishing material, as there is a need for urgency, and these campaigns can easily take advantage of this.” According to CISA, more than 90 percent of all cyberattacks begin with phishing⁵³.



Where possible, it's beneficial for organizations to identify supply chain partners and providers located in regions that are less susceptible to these extreme weather events. But this list is getting shorter all the time. As Yarbrough points out, there is a significant insurance factor to be considered too: “At the manufacturing level, it's crucial that organizations think carefully about how to work with suppliers or build new facilities in the face of these challenging market terms for insurance. From a sustainability perspective – and I mean that in the wider sense of the word – it is far from straightforward when you're dealing with both extreme weather events and the requirement to have the right labour force in place. But at these moments of maximum pressure, it's essential that organizations don't slip into 'scramble mode' and start making rushed decisions – this is the time to demonstrate adaptability and flexibility.”

03

An interconnected climate ecosystem requires a bigger picture approach

It's important to note that these weather events are connected, as Pelli explains: "A lot of reporting requirements include the mitigation of climate change risk and while traditionally organizations considered these events in isolation, for example, in the instance of a hurricane in Louisiana, it's vital to consider the impact on the entire supply chain to understand the risk."

The cumulative effect of these connected weather events is also clear to see. In many cases, separate events in different parts of the world are having an impact on one single company's supply chain which exponentially increases the complexity of building a robust supply chain in the long term. Focusing on the apparel industry, climate change can complicate both the sourcing and manufacture of its products.

According to the United Nations, approximately 80 percent of cotton produced is used in the clothing industry⁵⁴. However, cotton crops globally are exposed to climactic events, such as flooding and heat waves⁵⁵. Last year, flooding resulted in the loss of nearly 40 percent of Pakistan's cotton crop⁵⁶. At the same time, apparel manufacturers in countries such as Bangladesh face significant operational risks due to flooding and extreme heat⁵⁷.



“Organizations make decisions based on certain assumptions around weather patterns that had been somewhat predictable; for example, where food can be produced, availability of water, etc. Today, these organizations can benefit from understanding that these assumptions need to be evaluated against the latest science in a rapidly changing world when making supply chain plans.”

Gouri Ganbavale, PhD

Senior Consultant

BSI

Yarbrough continues, saying “Due to the interconnected nature of climate, when certain global temperature thresholds are crossed, they trigger and amplify knock-on impacts. These include the increase in global mean temperature and the extreme weather events we’ve experienced in 2023. This can also trigger second-order climate disruptions, such as thawing permafrost that releases methane that had formerly been held in the ground⁵⁸, further amplifying and accelerating the potential for runaway climate impacts.”

Gouri Ganbavale, Senior Consultant, BSI, expands on this: “One of the effective ways for companies to prepare for extreme weather events is by having a disaster preparedness plan in place. This plan encompasses assessments of facility locations, shipping lanes, and any planned or in-transit shipments. It also involves considering assessments of any supplier locations that may be impacted.”

Moreover, she suggests companies can prepare by taking measures to improve the ability of supply chains to withstand weather-related events. “An essential step in this process is to assess vulnerabilities and risks and create mitigation plans. Companies can also leverage data analytics and advanced technologies to help monitor and manage risks and achieve end-to-end visibility with real-time alerts when disruptions occur.”

In the face of a changing climate, having a 360-degree perspective on weather-related events can enable organizations to focus on ensuring supply chains can thrive.

Chapter three

The regulation effect



Here we examine how evolving regulation is changing the supply chain landscape and opening up opportunities.

The last 12 months have seen regulatory requirements step up considerably. In the UK, the Government is bringing in the Forest Risk Commodities Scheme⁵⁹, due diligence provisions to make it illegal for larger businesses in the UK to use key commodities produced on land illegally occupied or used. The EU has passed a similar regulation obligating companies to prove that products did not contribute to deforestation⁶⁰. More significantly in the EU, the Corporate Sustainability Reporting Directive (CSRD)⁶¹ requires large and listed companies to publish regular reports on social and environmental risks, and how people and the environment are impacted.

Lynch assesses the CSRD's significance: "This legislation is incredibly deep and prescriptive; and it is also really broad in that it requires companies to determine all elements of sustainability. It examines the financial materiality as well as the sustainability impact on people and communities. In that sense, it's one of the first pieces of regulation to be so specific in acknowledging an organization's responsibilities in relation to its entire value chain. Previously there have been laws around reporting on human rights and due diligence around managing the supply chain, but this is much more explicit about managing value chain risks, whether that's upstream (supply chain) or downstream (product use/end of life)."

The CSRD regulation remains under review, with stakeholders eagerly awaiting updates and guidance. The regulatory landscape is in a state of anticipation as organizations navigate potential changes and implications tied to the CSRD.

"This legislation is incredibly deep and prescriptive. But it's also really broad in that it requires companies to determine all elements of sustainability."

Ryan Lynch

Practice Director, Sustainability
BSI



Underpinning this new law are 12 European Sustainability Reporting Standards (ESRS)⁶². Within these, one standard is solely focused on value chain workers and multiple others reference value chain impacts. In addition, the Corporate Sustainability Due Diligence Directive⁶³, introduced by the European Parliament in January 2023, requires companies to take responsibility for suppliers' environmental and social impact. These initiatives represent a key step for addressing carbon reduction in supply chain links.

Closely connected to these developments is a greater regulatory focus on Scope 3 emissions. According to Gartner⁶⁴, they account for 90 percent or more of total value chain emissions. Whilst organizations are accustomed to reporting on Scope 1 and Scope 2 emissions, Scope 3 emissions are harder to measure and manage, as Lynch explains: "Organizations are now required to report on Scope 3 emissions – everything upstream and everything downstream – and this is no longer voluntary, it's mandatory with a high level of scrutiny around it. The work required here is exponentially larger – greater scale, greater complexity and more data that organizations don't directly control. Scope 3 emissions are now referenced in CSRD, and in a recent law issued by the state of California⁶⁵, so they're taking on greater significance across the board."

Ganbavale expands on this point: “Global banking institutions, private equity firms, and venture capitalists are interested in investing in sustainable organizations and today that means a full understanding of Scope 3 data. To meet these expectations, we’re increasingly seeing organizations setting up supplier engagement initiatives by adopting a spend-based approach, using questionnaires or calculating emissions by product.”

We’re also starting to see a greater focus on water and biodiversity – a good example of this in action is the Taskforce on Nature-related Financial Disclosures (TNFD)⁶⁶ which has developed a set of disclosure recommendations and guidance for organizations to report and act on evolving nature-related dependencies, impacts, risks, and opportunities. It has emerged as a sister organization to the recently disbanded Task Force on Climate-related Financial Disclosures (TCFD)⁶⁷, reflecting the increasing understanding that biodiversity regulation is no longer a ‘nice-to-have’, it’s fundamental to the natural resources and natural capital that define our planet. Another significant development in 2023 was the introduction of new Extended Producer Responsibility regulations⁶⁸ for UK organizations that import or supply packaging – as a result, these organizations may be responsible for the costs of dealing with packaging waste.

Lynch is heartened by what he sees: “Increasingly, I’m observing organizations not only embracing this regulation but ensuring to stay one step ahead of it – this is a hugely positive sign and a clear indication that we’ve moved beyond the ‘just-in-time’ approach of the past.”

Forkin is also positive about progress: “It is encouraging to see that there is engagement at board-level and a greater understanding from management and delivery teams. The increase in legislation and regulation focused on the supply chain has also meant that customers are in a better negotiating position with suppliers. Overall, this indicates that things are evolving into a more transparent and secure ecosystem.”

With a greater focus on regulation or reporting requirements, those managing supply chains are facing greater expectation around transparency and knowledge of their wider chain.

Chapter four

The benefits of evidencing compliance



Today, the need to evidence compliance is clear to see.

Brown is encouraged by the developments of the past 12 months, highlighting the introduction of the Executive Order on the Software Bill of Materials (SBOM)⁶⁹ launched in the US in response to vulnerabilities found in software libraries like Log4j and the ever-increasing concern about reliance on outdated software. Similarly in the UK, the Cyber Assessment Framework⁷⁰ is designed to offer guidance to organizations responsible for key services and activities.

“We’re starting to see the risk around digital supply chain, and the supply chain in general, being recognized as a critical risk,” says Brown. “Not necessarily by organizations but by governments. Governments are starting to impose regulatory compliance guidance as frameworks to inject that confidence into the ecosystem as to how organizations can secure trust. For instance, we have seen the passage of supply chain due diligence laws in countries including Germany⁷¹ and Canada⁷², while the EU is currently

negotiating a bloc-wide due diligence Directive (the CSDDD). These are positive steps, and organizations have an opportunity go beyond the bare minimum and realize that this is more than a compliance objective, it’s a strategic business objective.”

Brown believes there’s now an opportunity for action not words: “The main theme I observed in 2023 was the imposition of either regulatory guidance or compliance guidance for the supply chain. Traditionally, people used to talk about trusting their supplier and the right to audit, but it was generally never imposed. Today, it’s a case of don’t tell me you’re doing it, show me you’re doing it.

“We’re now seeing sectors framing those compliance requirements either in specific regulatory perspectives or in compliance mandates. If you’re unable to evidence what you’re doing, you won’t even be invited to the table as a supplier. So, whilst compliance and trust are not quite synonymous, there is a clear macro theme emerging where evidenced compliance is starting to equal trust.”

“There is a clear macro theme emerging where evidenced compliance is starting to equal trust. If you’re unable to evidence what you’re doing, you won’t even be invited to the table as a supplier.”

Mark Brown

Global Managing Director, Digital Trust Consulting
BSI



For organizations, this represents an opportunity to work out how to address these concerns from potential clients and partners. Depending on existing maturity, it may be that a reassessment of supply chain parameters is required simply to hold existing market share. But the great news for organizations of all sizes and sectors is that evidenced supply chain compliance and evidenced supply chain trust can become a competitive advantage in 2024 and beyond.

Yarbrough also notes this as an opportunity: “In the past year I’ve really noticed organizations have a much greater emphasis on the quality of audits and assessments. Many companies are hyper-vigilant – are asking all the right questions and, quite rightly, expecting strong evidence that the right steps are being taken. I’m seeing the levels of trust increase right in front of my eyes. But the reality is that even the world’s leading climate scientists can get it wrong occasionally. As the old saying goes: You don’t know what you don’t know. This is exacerbated by the fact that these weather events often happen with very little warning, meaning very little time to prepare.”

What is emerging is that evidenced supply chain compliance is more important than ever and could deliver competitive advantage.

Conclusion

In 2024 trust can be seen as the most valuable commodity in the supply chain. But it has to be earned and the way to do that is through collaboration. As we said at the start of this report, no single organization can unlock today's opportunities alone. That's why now is the moment to come together and partner to succeed – the prize of a better, safer, more sustainable global supply chain can be earned together.

Achieving this is far from straightforward in today's volatile and complex supply chain ecosystem, but as agents of positive change, our role at BSI is to help navigate the way ahead. This starts with an understanding of the interconnected landscape around us. Just as challenge and opportunity are two sides of the same coin, security and sustainability can be viewed in the same way. Recognizing this interconnectivity could offer an important step towards progress.

As we've seen in the report, powered by the impact of technology, the nature of risk is changing fast. Organizations that embrace a proactive attitude to risk are well placed to prosper in 2024 and beyond. Central to this are data and insights. With an increasingly complex supply chain, the ability to transform raw data into actionable insights has the potential to help organizations answer today's increasingly difficult questions and, in turn, drive cost and time efficiencies.

Approaching these challenges requires agility and adaptability, qualities that are essential for operating in the prevailing global conditions. This report identifies five factors having a major impact on the global supply chain – geopolitical tension, inflation, cybersecurity, transatlantic ties, and green investment. With more change to be expected in 2024, agility and adaptability are likely to continue to be vital to supply chain performance.

2023 will be remembered as the year weather events became 'more extreme, more direct, and more tangible' and our report points out three key areas to focus on in this respect. Climate change is connected and cumulative and a 360-degree perspective is required. Again, understanding interconnectivities is key.

And finally, with regulation evolving quickly, our experts highlight the fact that evidenced supply chain compliance is starting to deliver competitive advantage. This competitive advantage and the collaboration that enables it are both built on trust. That's why the first step on the road to a successful and sustainable 2024 is to put trust at the heart of your strategy.

Advisor profiles



Mark Brown
Global Managing Director,
Digital Trust Consulting
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Mark has over 30 years of expertise in cybersecurity, data privacy, and business resilience and has previously held global leadership roles across industry and professional services. He brings a wealth of knowledge on the expanding cybersecurity marketplace as organizations grapple with digital transformation and addressing new technology that brings new business opportunities and risks, with a sharp focus on proportional and pragmatic response based on his practical industry leadership experience. Mark is internationally recognized as a leading authority on the management of digital risk, presenting a focus on the way technology can enable business strategies.



Isabel Forkin
Principal Consultant,
Digital Trust Consulting
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Isabel is an experienced security expert in the areas of audit, architecture, and penetration testing, having spent almost fifteen years in the security industry. She provides guidance and leadership to clients across a range of sectors. In addition, Isabel is experienced in providing assurance services for government clients, specifically focused on evaluations for products and systems and is known for delivering high quality, complex projects.



Gouri Ganbavale, PhD
Senior Consultant
BSI

Gouri, PhD, is a Climate Science and ESG professional with experience analyzing and interpreting innovative methods and data to inform sustainability and environmental firms. Her years of expertise include data quality assessments and supporting projects with a focus on climate change policies, climate change adaptation & mitigation, nature-based solutions, life cycle analysis of products & services, energy finance, renewable portfolio standards, GHG accounting, ESG reporting and standards.



Ryan Lynch
Practice Director,
Sustainability
BSI

Ryan has worked with organizations across multiple regions and industries to design creative solutions to drive organizational improvement, improve upon social/environmental impacts, and mitigate and remedy risks. He leads BSI's strategy to align standards, services, technology, and global resources to the UN Sustainable Development Goals. He and his team work with their clients to develop and deliver innovative approaches related to clean energy and climate action, circular economy and waste, decent work in global supply chains, among other challenging areas.



Tony Pelli
Practice Director,
Supply Chain Security & Resilience
BSI

Tony is an experienced supply chain risk consultant with a broad range of specialized skill sets, including conducting end-to-end, enterprise-level supply chain risk assessments for clients and their supply chain partners. As a member of BSI's Advisory team, he designs and implements supply chain security programmes and management systems. Tony has also designed loss prevention and security assessments, mapped security and business continuity risk in supply chains for Fortune 500 companies, and assisted in the successful implementation of supply chain security procedures, including for CTPAT certification.



Jim Yarbrough
Global Director,
Supply Chain Solutions
BSI

Jim leads BSI's team of supply chain risk analysts and assesses the potential threat of security, corporate social responsibility, and business continuity risks to countries and businesses worldwide. These assessments are integral to the Supply Chain Risk Exposure Evaluation Network (Screen) tool. He also provides information and analysis about the threat to international cargo to governments around the world and to a number of Fortune 500 companies.

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Appendix

Figure 5
Cargo theft types 2022 vs 2023

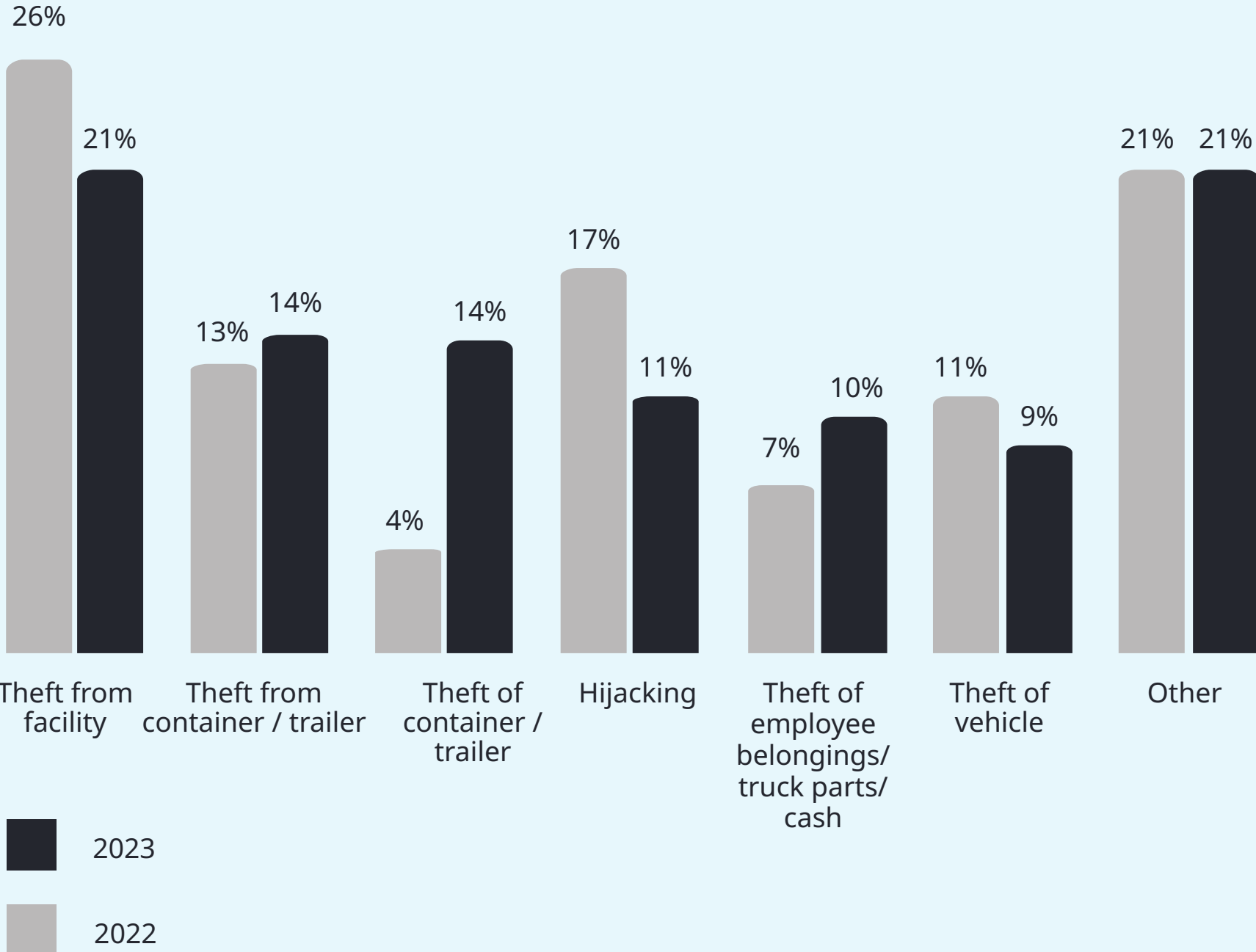


Figure 6
Top cargo theft types in 2023

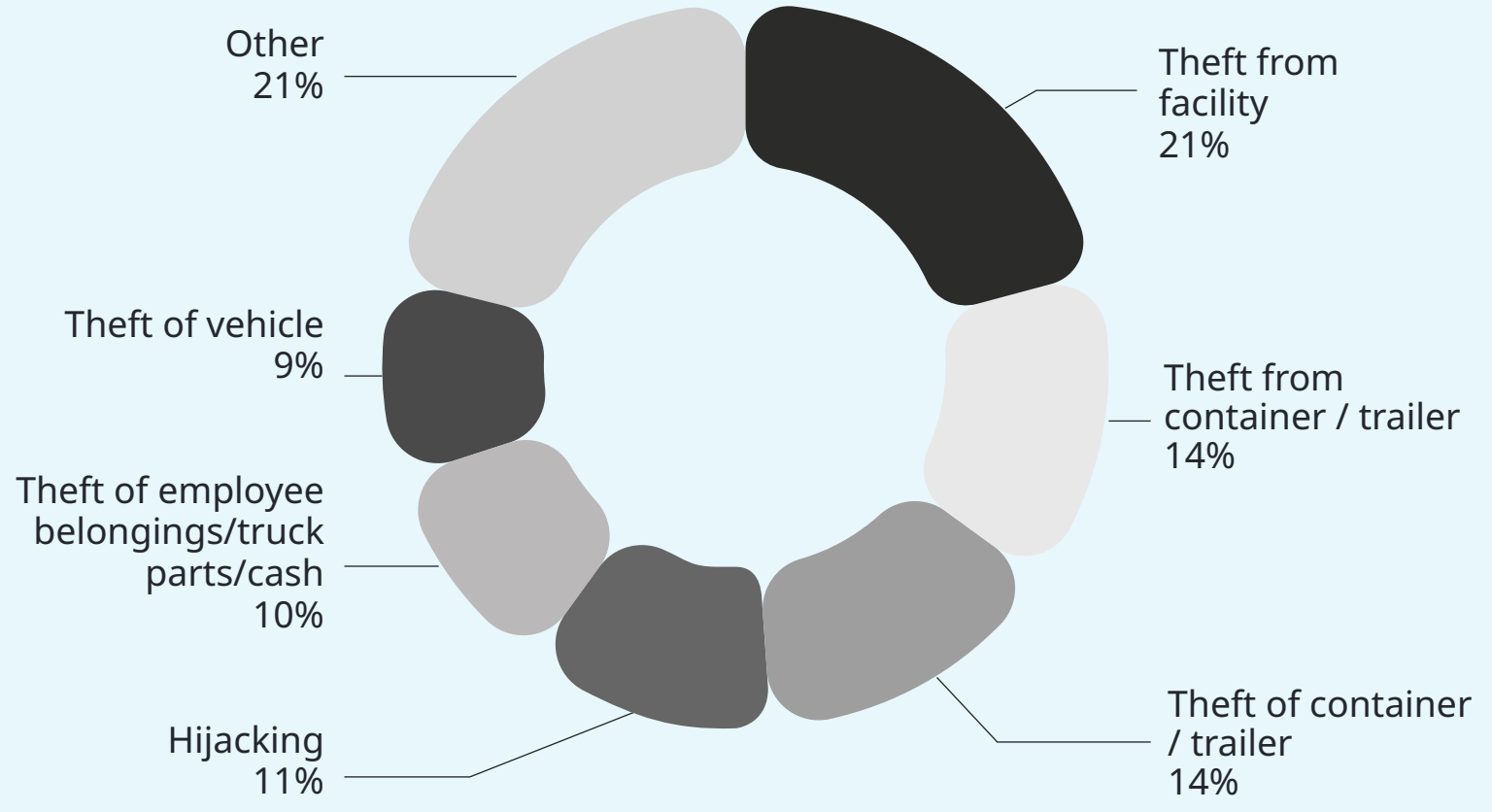


Figure 7
Top modalities of theft 2022 vs 2023

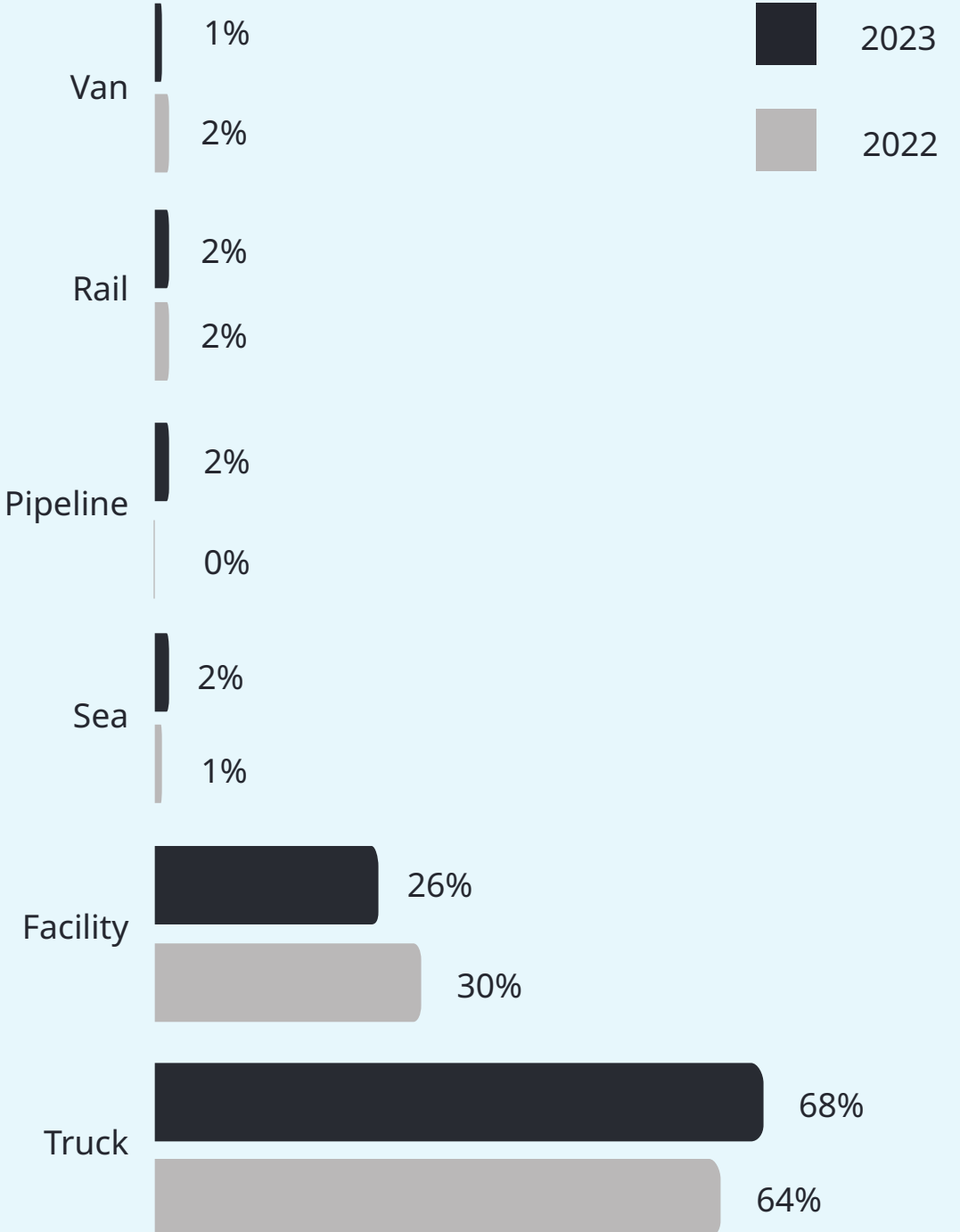


Figure 8
Virgin olive oil prices (Euro / 100kg)

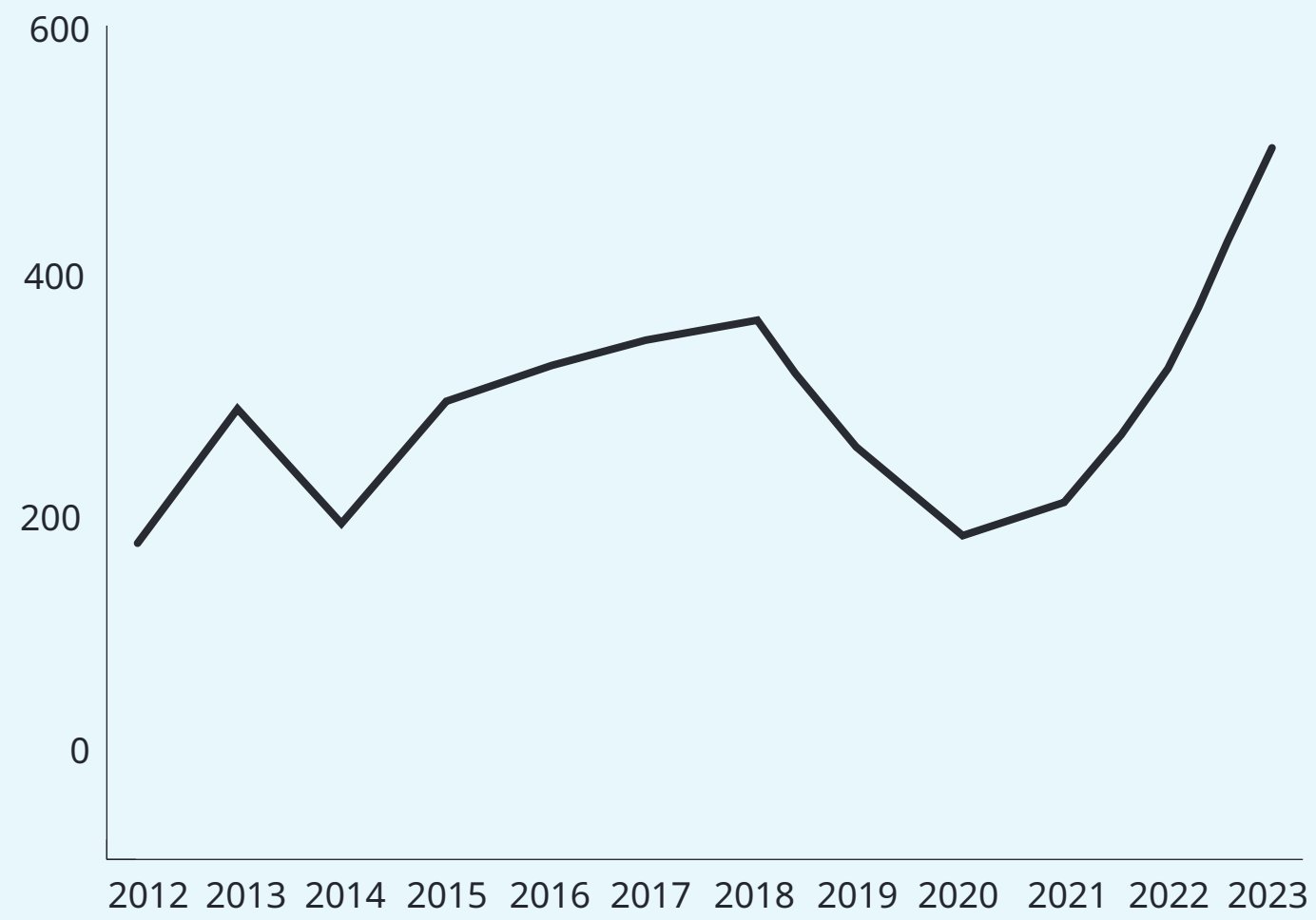


Figure 9
OECD year-on year inflation rate

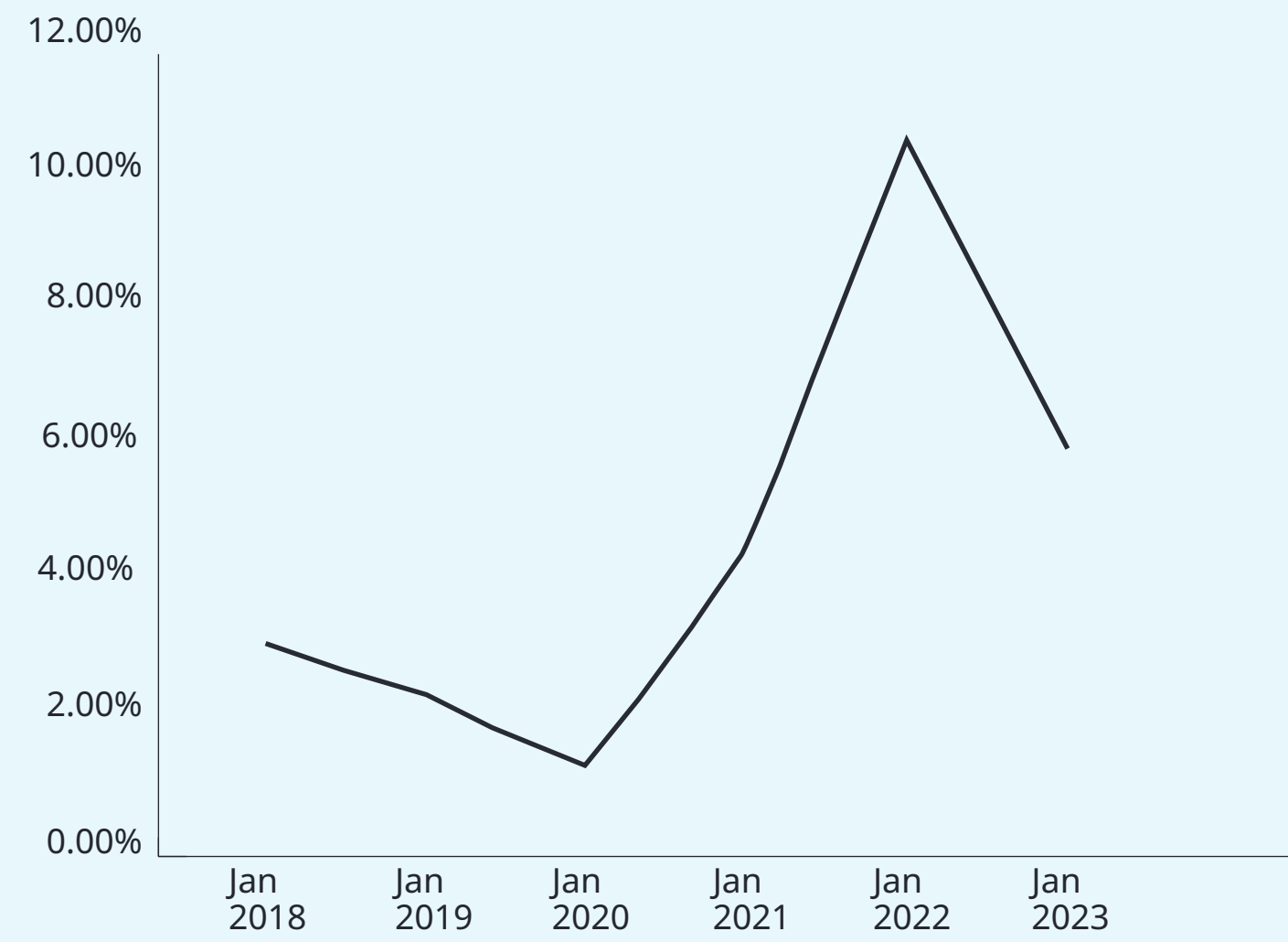


Figure 10
Top commodities stolen 2022 vs 2023

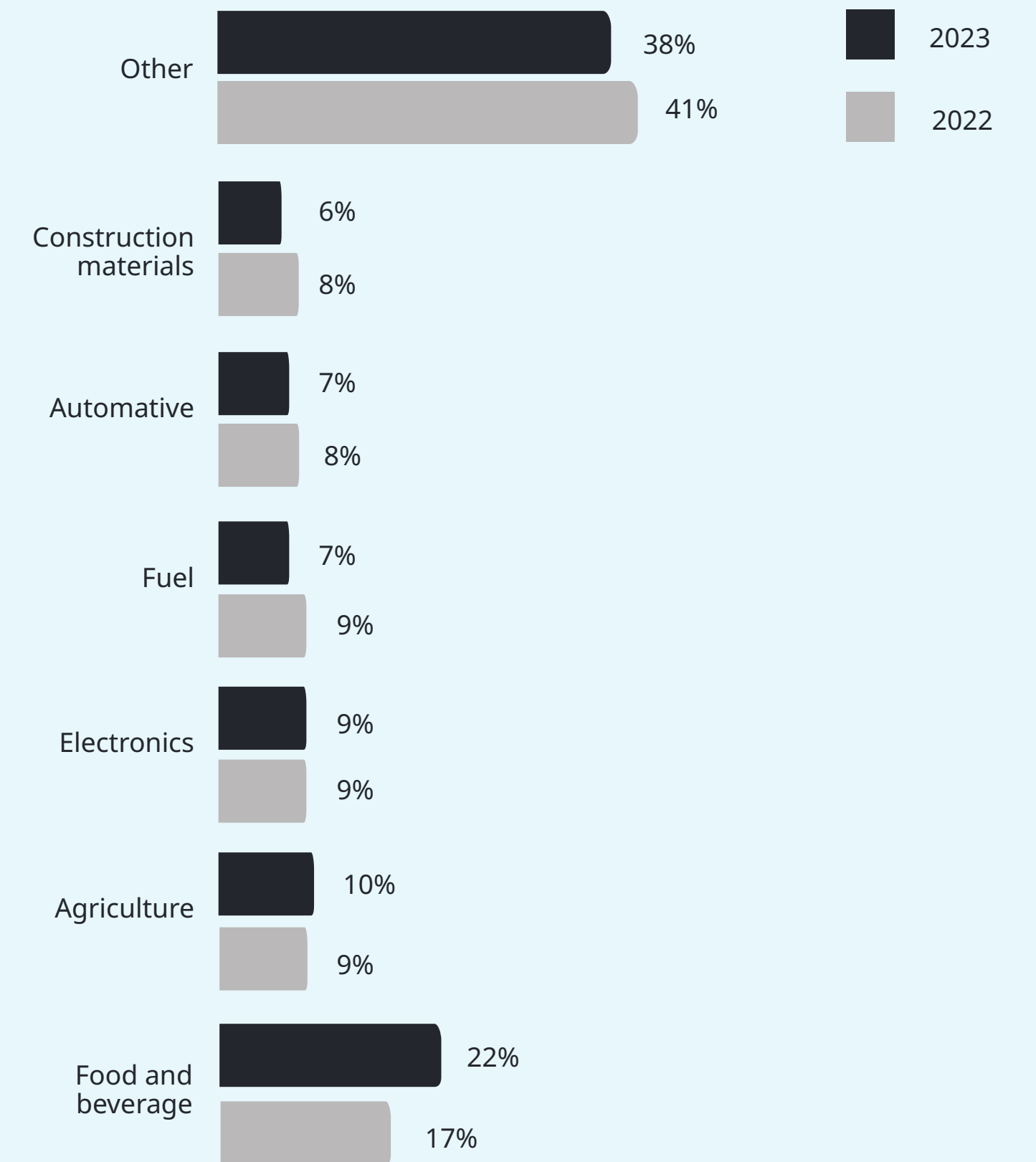
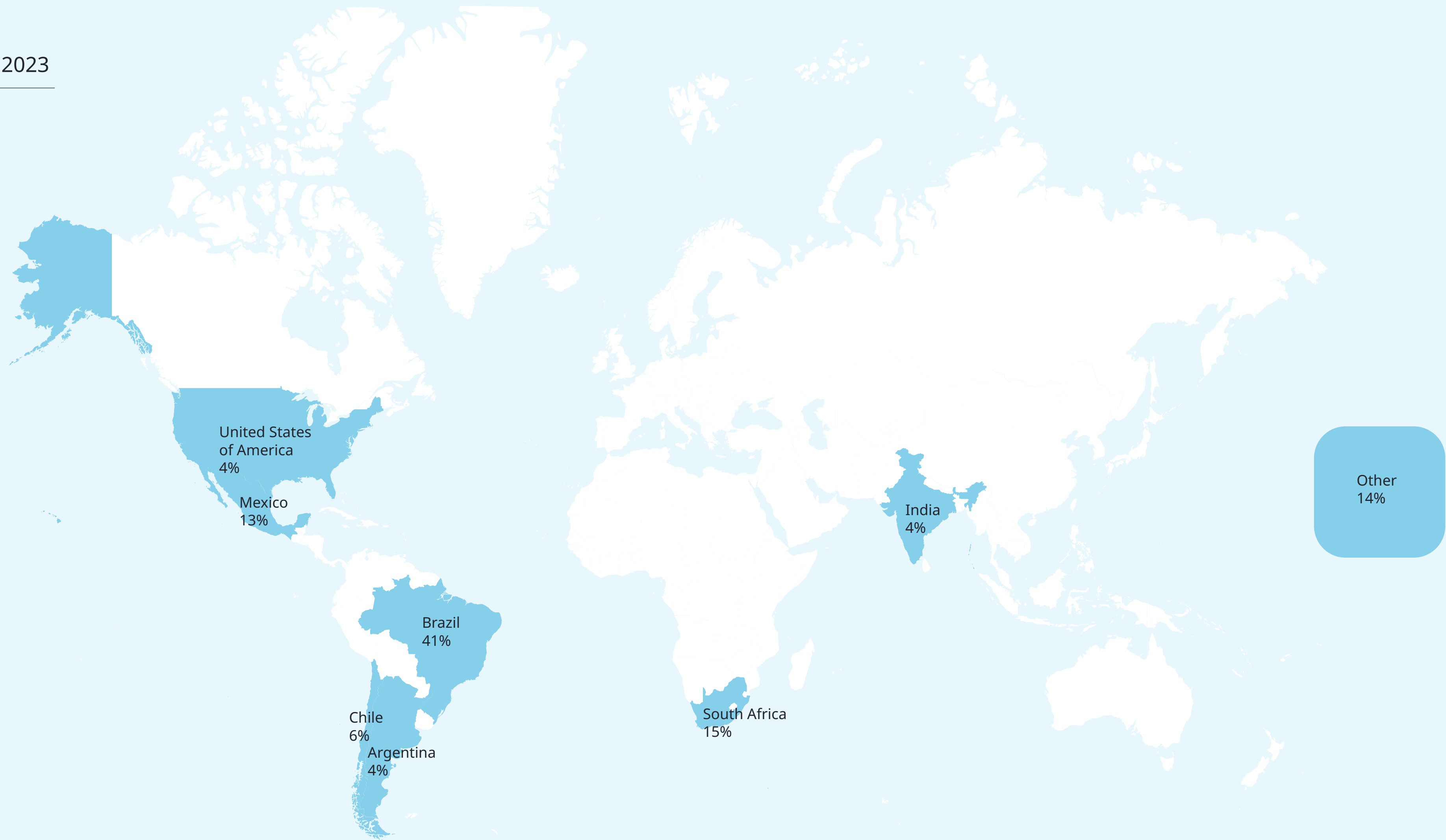




Figure 11
Top country hijackings for 2023





“More than ever, trust is considered the most valuable supply chain commodity. Collaboration is the cornerstone of trust-building. Now is the moment to partner and successfully create a united, safer, and more sustainable global supply chain.”

Susan Taylor Martin
Chief Executive Officer
BSI

An abstract graphic consisting of several overlapping, translucent, curved shapes. The top shape is a reddish-pink oval. Below it is a white, curved shape. At the bottom, there are blue and green curved shapes. The overall composition is dynamic and modern.

Your partner in progress

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