

# Uncovering Hidden Supply Chain Risks Through Data-Driven Visibility

**Sedex** 



# Executive summary

**Every company's supply chain spans multiple regions, industries and activities, comprising millions of people and businesses. Given this complexity, identifying and managing sustainability concerns in these networks – which present operational, reputational and financial risks – is a significant challenge.**

However, it is also an essential activity. **PwC studies** indicate that 90% of a company's ethical, social and environmental impacts originate in its supply chain. **KPMG estimates** 43% of corporations have no supply chain visibility beyond their tier 1 suppliers, even though Scope 3 (supplier and customer) emissions **can represent up to 70%** of a company's carbon footprint. Sustainability-related concerns and risks extend to – and can be greater at – indirect suppliers and unseen production sites, where enterprise procurement teams have less visibility and influence.

This lack of supply chain visibility, and the efforts required to build it, further compound the challenge for teams. Despite the obstacles, this extensive risk management is precisely what businesses are expected to do by multiple stakeholders. Governments, investors, consumers and the media all demand large companies use their market power to address social and environmental issues in their supply chains, from carbon emissions to labour exploitation.



## The consequences of poor supply chain visibility

An increasing number of laws across North America, Europe and the world make these demands mandatory, while many **investors are acutely aware of the threats** supply chain sustainability issues pose to corporate growth. Although debates rage over the exact details of EU corporate sustainability regulations, additional requirements will come regardless, and some countries have already passed national laws with severe penalties.

In North America, for example, companies can face **fines, convictions** or **product seizures** for failing to assess and address modern slavery risks in their supply chains. Meanwhile, the World Economic Forum **estimates** that failing to adapt to climate hazards could shave 7% off of corporate earnings annually by 2035.

Beyond compliance demands, companies face increasing risks of disruptions in supply chain regions with immediate operational and logistical continuity impacts, from strikes and extreme weather to product seizures linked to unethical production. Walk Free's 2023 Global Slavery Survey **found** that over **\$460 billion worth of goods** imported into G20 countries were at risk of seizure in 2021 due to modern slavery laws. In 2024 alone, the US **seized \$1.7 billion of goods** under the Uyghur Forced Labor Prevention Act (UFLPA).

## Tools for supply chain visibility

**Amid this complexity and challenge, help is available.**

Companies can meet these legislative, operational and stakeholder demands, even with finite resources, by deploying scalable tools for supply chain data and intelligent technology to analyse it.

Solutions like the Sedex Platform and assessment tools enable procurement and sustainability leaders to build in-depth visibility across multiple supply chain tiers to pinpoint, prioritise and effectively manage risks.

This can provide direct departmental cost benefits and support key corporate objectives. A **Forrester Total Economic Impact Study** found the **Sedex** solution streamlines data collection and analysis, providing up to a 312% return on investment (ROI), including reducing supply chain sustainability management labour costs by up to 70%.



**Businesses failing to adapt to climate risks could lose 7% of annual earnings by 2035.**

**World Economic Forum**



# Driving business success with supply chain visibility

**Supply chain visibility is just good business. It enables legal compliance while boosting investor and consumer relations, alongside cost savings in operational efficiencies and improved supply chain resilience.**

**Data-driven supply chain visibility and sustainability risk management are increasingly essential to companies' long-term success, legal compliance and operational continuity.**

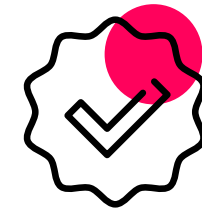
Leveraged effectively, they unlock an array of benefits:

- **Enhanced financial and stock market performance** through better risk management, including material, social, environmental and ethical concerns.
- Sustained revenue growth alongside greater efficiency and improved productivity **over a three-year period.**
- Reducing costs by 9%-16% while also boosting brand value by 15%-30%, according to **BCG findings.**
- Legal compliance in multiple jurisdictions, from modern slavery laws to sustainability reporting requirements.

**Companies leveraging supply chain visibility and risk management can experience:**



**9%-16%**  
reduction in costs



**15%-30%**  
boost in brand value

Source: **Boston Consulting Group**

Beyond these benefits, supply chain visibility also helps businesses effectively manage the social and environmental risks, and their accompanying costs, that exist everywhere in global supply chains – even in the most economically developed regions.

For example, **New York Times investigations** into child labour in US industries highlight ongoing challenges and non-compliance with federal regulations. At the same time, extreme weather events across supply regions, like hurricanes and floods, cause costly delays and disruptions. When impacted, businesses can also face increases in manufacturing costs and hidden expenses like rising insurance premiums in disaster-prone regions.

The incentives are clear – the need for enhanced supply chain visibility to uncover hidden sustainability risks is greater than ever.



**\$1.7 billion – Value of goods seized under the US UFLPA in 2024**

Source **US Customs and Border Protection**



**Scale your supply chain visibility with Sedex – [get in touch to learn more.](#)**

## Example

### Hidden risks in copper and nickel extraction

The raw materials copper and nickel provide perfect examples of how social and environmental risks exist in the earliest stages of many supply chains. These commodities are regularly used in all kinds of everyday products, from stainless steel and batteries to building materials and consumer electrical goods.

Using Sedex's pre-screen risk assessment tool combined with global trade data, we can see the high-risk sustainability issues present across the major sources of copper and nickel for the US and Europe: Brazil, Canada, Chile, Mexico, Peru and the US itself<sup>1</sup>.

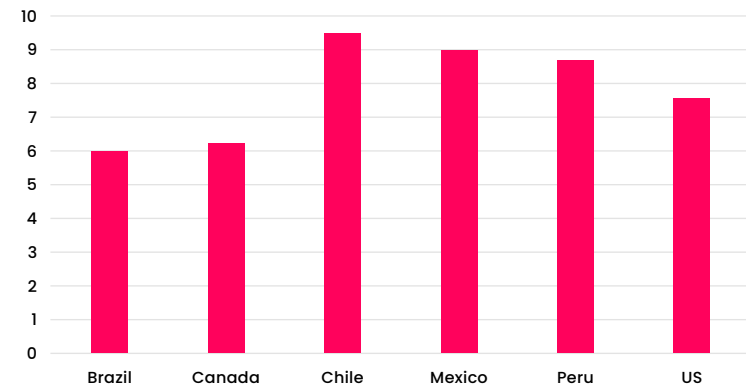
If a company's own products or purchased items include mined materials, like copper or nickel, these risks could be prevalent in their supply chain.

**The right tools highlight these concerns, enabling companies to proactively address them and reduce the risk to their business.**

<sup>1</sup>Source: See World Bank's World Integrated Trade Solution, e.g. [EU nickel imports](#) and [US copper imports](#)

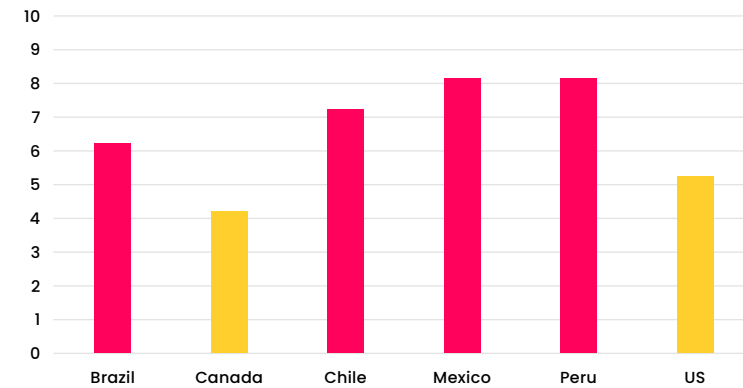


## High water stress <sup>2</sup>



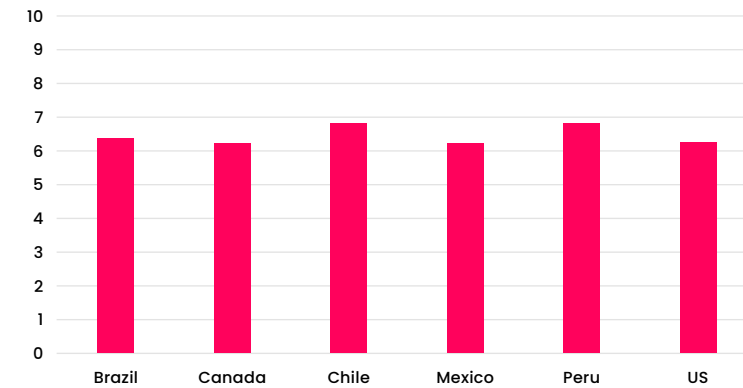
**The metal ores mining industry is at high risk for water stress in all of these source countries.** This means it's highly likely there isn't enough water available for businesses' and communities' needs, exacerbating drought risks and water shortages.

## Excessive working hours



**Workers mining for metal ores in most of these countries are also at high risk of excessive working hours.** Excessive overtime is illegal in many countries and can have a direct impact on operational efficiency – for example, costing the US **\$136 billion in lost productivity annually due to fatigued workers** who are more prone to errors, injuries and absences. Excessive working hours are also an **indicator of forced labour**. Where this risk is high, it's important to look at other forced labour indicators to see if this exploitation is taking place – harming workers and putting imported goods at risk of seizure.

## Energy & emissions



**All these source countries' metal ore mining industries are high-risk for high greenhouse gas emissions.** This mirrors what other research has also identified – that the majority of a company's carbon footprint is likely in its supply chain, rather than its own operations.

**In the last three years, 25% of issues identified in SMETA audits at global mining and quarrying sites were labelled as critical or business critical – the most severe breaches of standards.**

Source: Sedex, SMETA findings 2022-2024

<sup>2</sup>Source for charts: Sedex Platform, pre-screen risk assessment tool. Scores are on a scale of 0-10, with 10 being the highest risk. This tool uses third-party data from multiple sources to provide harmonised scores across 14 social, environmental and ethical topics, available for all countries and industries globally. The resulting insights are used to identify the highest-risk issues and areas of a supply chain, from direct supplier activities and locations through to the lowest tiers of raw material extraction.

## Credible risk-based prioritisation through global data

Each country's metal ore mining industry has a unique risk profile, with higher or lower risks across different sustainability topics. While these risks are unavoidable in mining activities anywhere in the world, companies can leverage data insights such as these and the knowledge of their particular supply network to identify where the highest risks are for them, prioritising their mitigation activities accordingly.

This approach, known as **"risk-based prioritisation,"** is a core principle of sustainable sourcing and supply chain due diligence, reflected in most relevant laws and frameworks for corporate sustainability.

**Addressing priority ethical and environmental risks strengthens supply chain operations and resiliency while optimising resources in a data-driven, justifiable way.** For example, dedicating resources to water efficiency is a clear priority for companies purchasing nickel or copper from top-exporting countries.

Companies must build a complete picture of their end-to-end supply chains to accurately identify the priority sustainability risks.



# Understanding and mapping hidden risks across a supply chain

Knowing what risks are present and where across a supply chain is essential to managing the potential impact on a company's own operations.

Scalable data tools enable procurement, sustainability and supply chain teams to identify hidden risks across diverse industries and regions – whether in nearby supply regions or at production sites further afield.

For example, the **International Labour Organization** (ILO) highlights the agriculture, construction and manufacturing industries – activities typically buried many tiers down in a supply chain – as the most hazardous for workers anywhere in the world.

Our **illustrated example** using an everyday item, orange juice, shows how sustainability risks can change at each supply chain tier.

## Example

### Sustainability risks in the orange juice supply chain

While every company's supply chain is different, an example orange juice supply chain reveals the pervasive nature of hidden risks – issues that can easily remain undetected with the complexity of today's supply chains.

Using three countries that are top exporters for different components of this product, we see how different risks exist at different supply stages.

Teams can use the pre-screen risk tool to look further into these issues, like evaluating different forms of transportation, and combine this risk data with evidence from other assessments, like **SMETA audits**, in the **Sedex Platform**. Such insights enable companies to unearth hidden risks, prioritise action on high-risk areas, safeguard supply chain operations and demonstrate their commitment to sustainable, responsible practices.

**See how it works with our interactive Sedex Platform demo.**



## Example: Sustainability risks in the orange juice supply chain

### Stage 1: Growing

Spain is the largest exporter of oranges globally.<sup>i</sup>

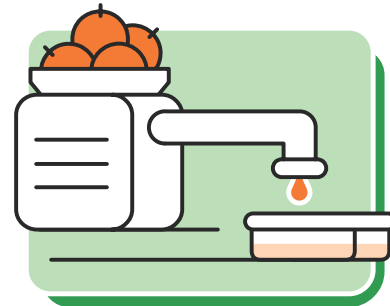
- Sedex data shows that forced labour is a prominent risk in its agriculture industry.
- **28%** of agricultural sites in Spain haven't carried out a modern slavery risk assessment for their own, suppliers' or subcontractors'/business partners' workforces, despite the high risk of exploitation.
- Workers are at high risk of insufficient wages. **SMETA audits** have identified **wage issues at 22% of agricultural worksites in Spain.**<sup>iii</sup>



### Stage 2: Juicing

Brazil is the world's biggest exporter of fruit juice, where forced labour, pollution and other risks in the drinks manufacturing sector are high.

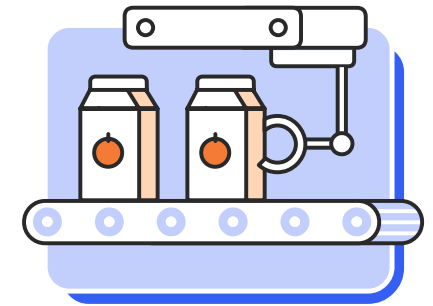
- **25%** of factories in Brazil haven't carried out a modern slavery risk assessment for their own, suppliers' or subcontractors'/business partners' workforces, despite the high risk of exploitation.
- **70%** of factories may not be paying workers for their rest breaks.
- SMETA audits have identified issues regarding working hours at **55%** of Brazilian factories.



### Stage 3: Packaging

Germany is the second-largest exporter of paper containers and a country typically considered safer from social and environmental violations. However:

- Sedex risk data identifies **high water stress** associated with Germany's paper products manufacturing industry, indicating there may not be enough water to meet operational and societal needs.
- SMETA audits have highlighted **environmental management issues** at German paper product factories.



### Stage 4: Storing and transporting

Transporting everything needed to turn oranges into orange juice and the finished product to global markets is full of sustainability risks, no matter where in the world these activities take place.

- This sector is **high risk for half of the ESG topics** in Sedex's pre-screen risk tool.
- Sedex data shows thousands of severe social and environmental issues have been identified at transport and storage sites around the world. These include **+ 1,500 severe health, safety and hygiene issues globally and issues regarding working hours at nearly 50% of assessed sites** in the sector.



#### SOURCES

- <sup>i</sup> E.g. see research from EY, PRI, BCG
- <sup>ii</sup> Trade data source: OEC.World
- <sup>iii</sup> Sedex data sources: Self-Assessment Questionnaire; SMETA findings 2022-2024

Get in touch

See your global supply chain's risk profile in the Sedex Platform – contact our team for a live demo.

# Enhancing site-level visibility with data-driven tools

With extensive supply chains, vast amounts of data and dozens of competing stakeholder demands, businesses must leverage the tools available to support them with their supply chain sustainability goals.

With over 20 years of expertise, Sedex empowers procurement, sustainability and compliance leaders with a comprehensive, data-driven platform for supply chain sustainability, risk management and reporting. Our network, spanning over 90,000 members and 115,000 supplier sites across 180 countries, enables companies to accelerate key due diligence tasks and draw actionable insights from their global supply chain data.

[Discover more](#)

## Departmental supply chain challenges

CHALLENGE	PROCUREMENT / SUPPLY CHAIN LEADERS	SUSTAINABILITY LEADERS	COMPLIANCE LEADERS	THE SEDEX SOLUTION
Scalable, cost-effective and proactive sustainability risk management	Manual processes are highly resource-intensive, slow and fail to detect emerging risks. Keeping everything in-house is expensive and inefficient, resulting in duplication across industry supply chains and assessment fatigue.	Managing social, environmental and ethical risks across extensive multi-tier supply chains, with limited visibility into lower tiers. Internal buy-in is a challenge when competing against more immediate operational and financial priorities.	Mitigating legal risks related to social/environmental non-compliance and ethical violations.	The <b>Sedex Platform</b> offers a centralised, scalable system for global supply chain sustainability data collection, storing, sharing, analysis and reporting. Identify high-risk suppliers and topics earlier, to avoid operational disruptions and regulatory penalties. Standardised data supports efficiency, benchmarking and gathering accurate supplier information. Streamline and scale essential supply chain due diligence tasks, and <b>save up to US\$263,000</b> in supply chain sustainability management labour costs.
Sustainability-related compliance and supply chain due diligence	Adapting to current and impending regulations that introduce new supply chain requirements. Evolving from limited to detailed supply chain visibility to satisfy due diligence and risk management requirements.	Identifying business priorities across 3,000 sustainability-related laws and voluntary ESG frameworks. Delivering an achievable, practical strategy within cost and time constraints.	Compliance in an evolving regulatory landscape with complex requirements	The <b>Sedex Platform</b> and tools, like the <b>Self-Assessment Questionnaires (SAQs)</b> and <b>risk assessment tool</b> , streamline multi-tier ESG data collection, reporting and compliance monitoring globally.
Stakeholder expectations for responsible business and ESG risk management	Balancing procurement goals and stakeholders' sustainability-related demands.	Stakeholders demand commitment, action and demonstrable improvement on social and environmental concerns.	New laws bring increased requirements for supply chain sustainability due diligence and corporate accountability. Some of these, along with investors, demand assurance and verification on sustainability data.	Combine self-reported and third-party data with in-person observation through the <b>SMETA on-site audit</b> - with information automatically integrated into Platform reporting and risk assessment features. Demonstrate a robust, diversified approach to supply chain due diligence, with a credible methodology based on international standards.
Supply chain transparency - managing sustainability risks, compliance and improvement beyond Tier 1	Building multi-tier supply chain visibility and assessing supplier performance, compliance and improvement capability across ESG topics.	Driving measurable supply chain improvement beyond compliance requirements.	Identifying and addressing the highest compliance risks across multiple supply tiers, and defining the level of accountability the company has.	<b>Sedex's Supplier Engagement</b> service provides tailored support, with a dedicated, multilingual team for supplier outreach and onboarding. <b>Sustainability Coordinators</b> function as an in-house role, deeply integrated with your team to support with supply chain due diligence tasks and Sedex integration.

# Case study: Implementing a multi-tier risk assessment and management strategy

Establishing multi-tier supply chain visibility and effective sustainability risk management are not overnight tasks. It's not just about compliance – it's about proactive risk prevention and continuous improvement to increase resilience.

**Co-op, a leading retail conglomerate, has built detailed supply chain visibility and a robust supplier risk management programme using Sedex's solutions. Over 5,000 improvement actions in recent years have improved sustainable practices within their supply chain, ultimately strengthening Co-op's operational resilience.**

Co-op's success and positive impacts from these efforts highlight how visibility, supplier collaboration and early risk identification support long-term business goals. A structured approach to supply chain visibility and risk management is essential.

[Read the full case study on Sedex.com](#)



## 1. Build the foundation

- Map all direct suppliers, and engage these suppliers' support for mapping additional tiers.
- Connect with your Tier 2 and 3 suppliers who are already part of the Sedex network of more than 90,000 businesses globally. Use tools like Sedex's Self-Assessment Questionnaires (SAQs) to collect detailed, standardised data from additional suppliers and the pre-screen risk tool to pinpoint high-risk areas based on sector, country and site-specific information.
- **Example:** Co-op mapped over 650,000 workers across nearly 2,500 supplier sites, including more than 1,500 beyond Tier 1, gaining a more comprehensive view of its supply chain.

## 2. Identify and prioritise risks

- Use a global risk tool to generate risk scores and identify your highest-risk issues, regions and suppliers.
- Conduct further, in-depth assessments, like on-site **auditing**, to understand on-the-ground impacts and suppliers' risk mitigation efforts.
- Collaborate with suppliers to address issues identified and their root causes. Work together to build improvement plans with mutually beneficial outcomes.
- **Example:** Co-op prioritised 17 high-risk countries for their activities, covering 75% of their supply chain workforce, and adopted a "beyond audit" approach for meaningful collaboration with suppliers, focused on long-term investment in capacity-building and improvement.

## 3. Monitor and improve continuously

- Track supplier performance regularly through a centralised, data-driven **platform**, requesting updates to self-reported information and additional assessments where necessary. For example, these could be annual audits for suppliers in very high-risk regions and industries.
- **Example:** Over five years, Co-op has seen more than 5,000 corrective actions across its supply chain, each one an improvement in health and safety, labour practices, ethical business or environmental management.

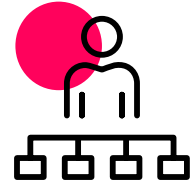
## 4. Report transparently

- Share results internally and with stakeholders to foster trust and accountability.
- Use a centralised platform to **streamline supply chain reporting**, align teams and demonstrate improvements in ethical sourcing.
- **Example:** Using the Sedex Platform and its reporting features, Co-op creates monthly reports on supplier performance against defined KPIs, ensuring alignment across teams and cross-functional support to advance their ethical trade goals. The company publishes an annual sustainability report, gender pay gap report and modern slavery statement, satisfying legal and other stakeholder requirements.

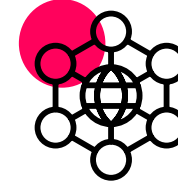
# Conclusion



As global supply chains grow more complex, multi-tier visibility and effective sustainability risk management have become business imperatives to successfully balance sustainability-related requirements with day-to-day operational demands.



By adopting proactive strategies and leveraging effective, data-driven technology to scale them, companies can safeguard their supply chains, drive operational efficiency, protect their reputation and reduce compliance risks – while strengthening long-term resiliency and unlocking market advantages through innovation and differentiation.



**The path to a responsible and resilient supply chain begins with visibility, building a foundation for sustained success.**

**Get support today - contact the Sedex team**



Ready to strengthen your supply chain risk management?  
We're here to help.

Email: [new.business@sedex.com](mailto:new.business@sedex.com)

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