



BELRIM
Belgian Risk Management Association



Big Data & Supply Chain Resilience

20-02-2024





Supply Chain Disruption

Peter Alexander Gijbels

P&C Director

DP Survey



Supply Chain

Full system from raw material to end product

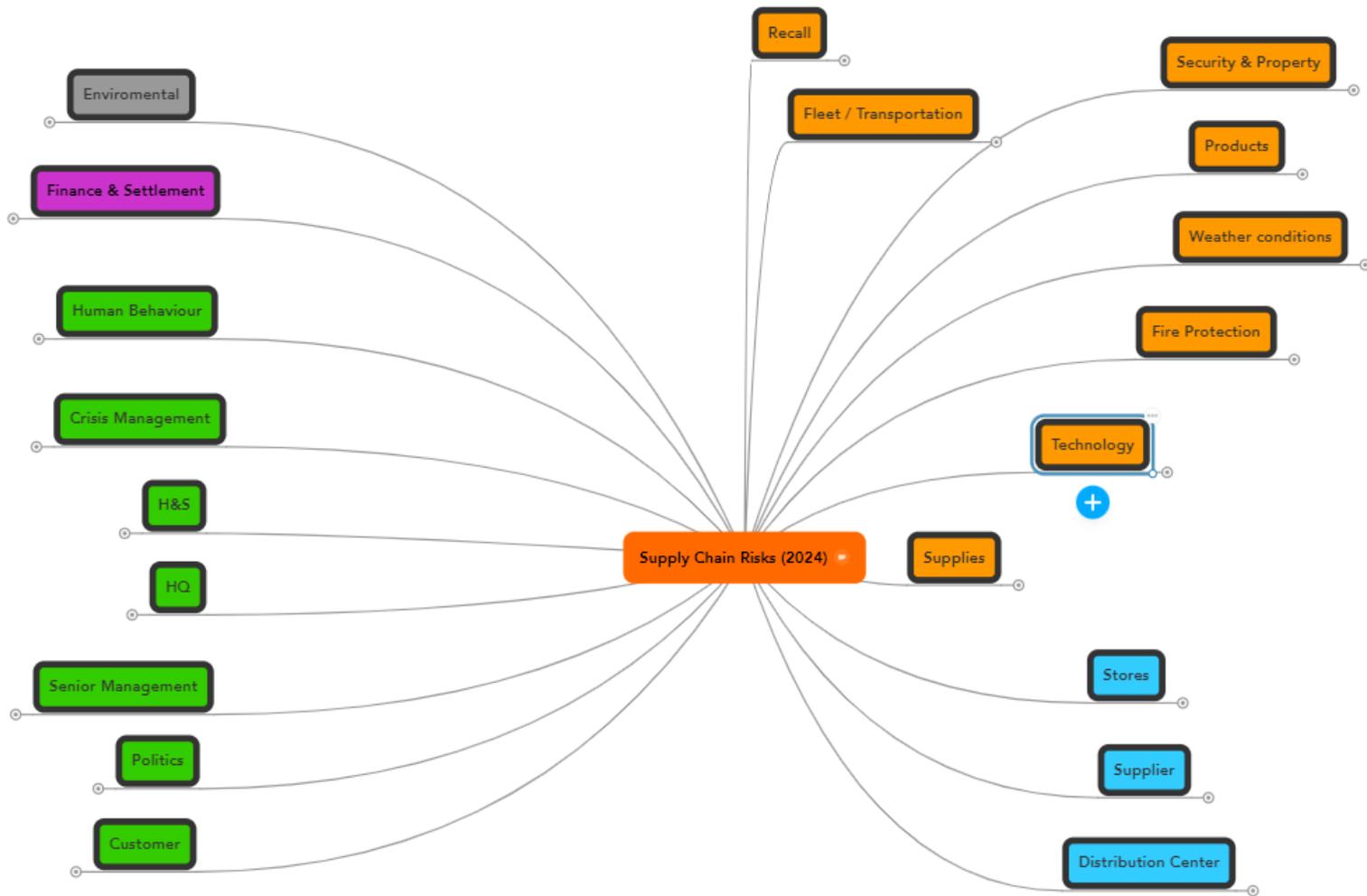
RAW MATERIAL STORE

MANUFACTURING STORE

MANUFACTURING STORE

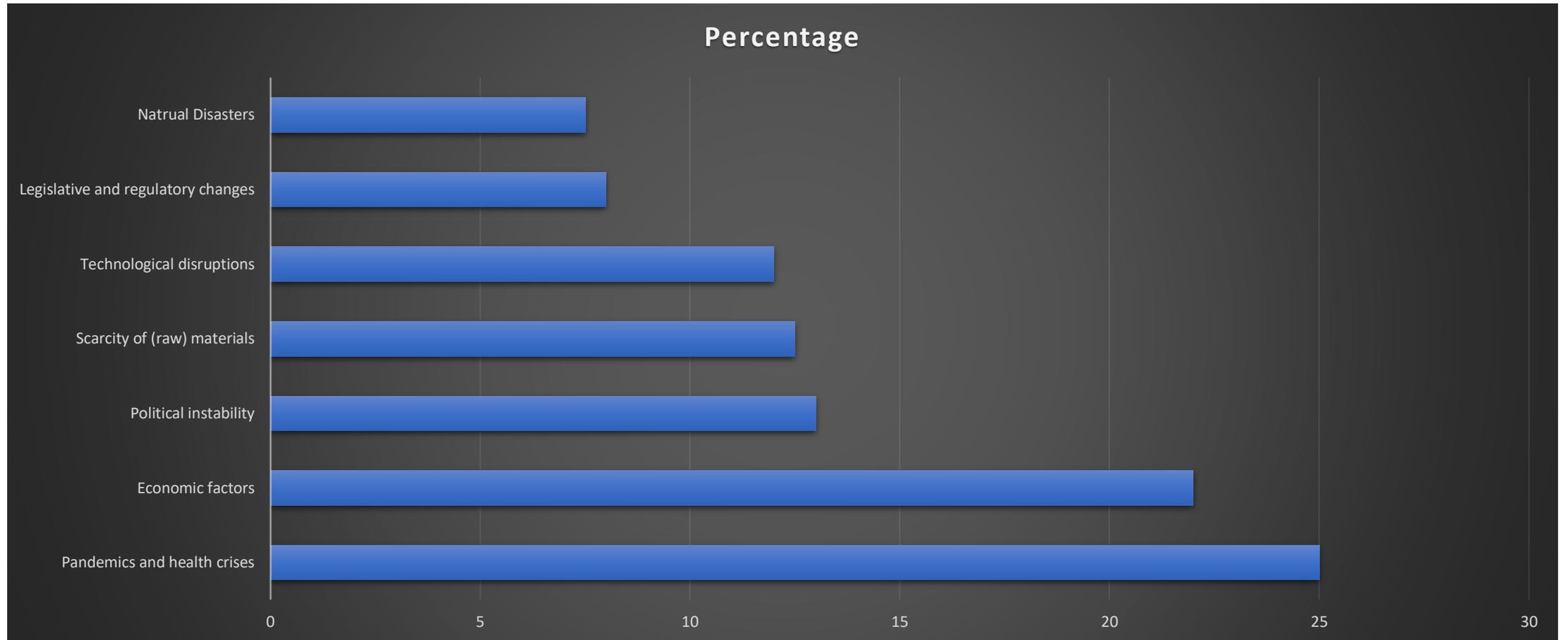
HOME STORE

HOME DELIVERY



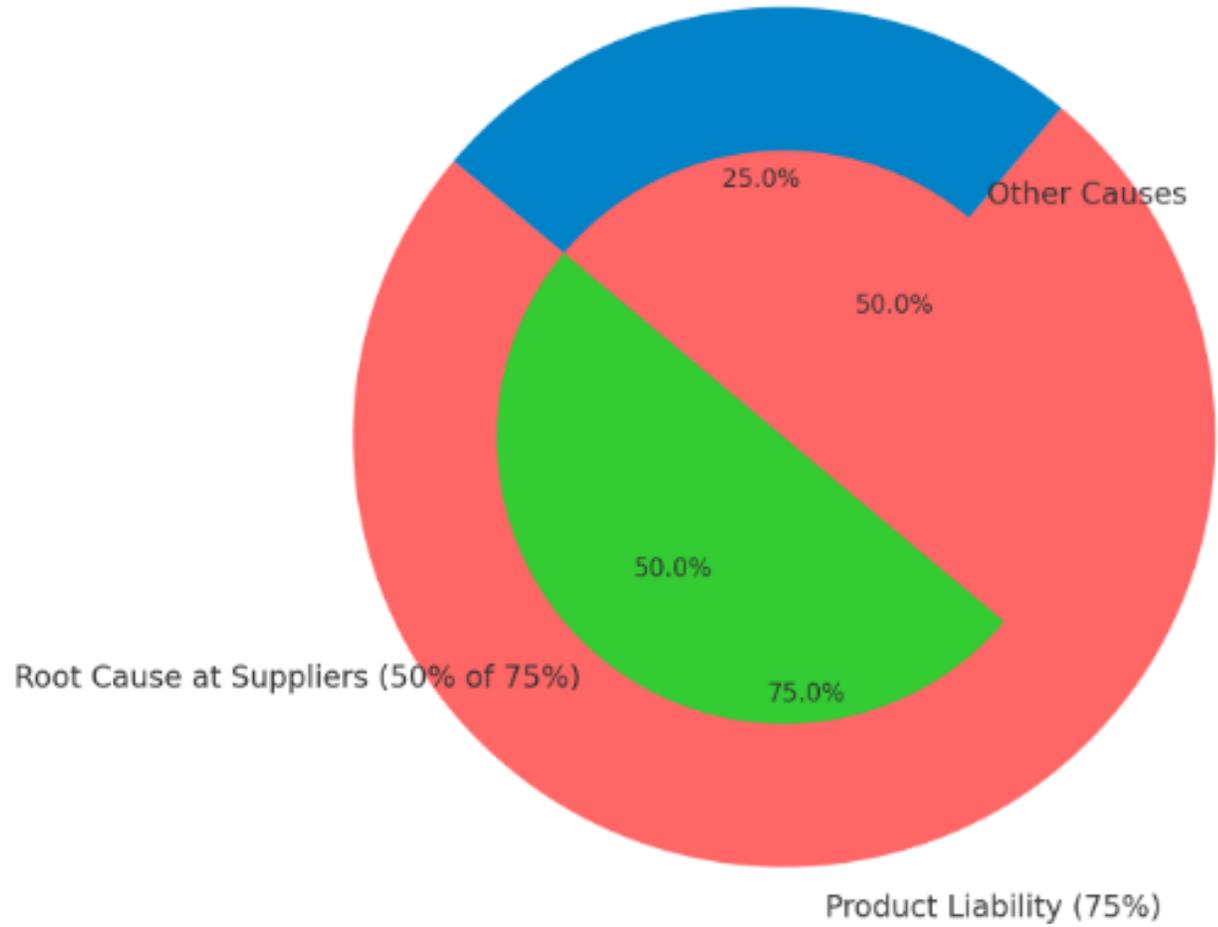
Study on
supply chain

WEF



Recent study

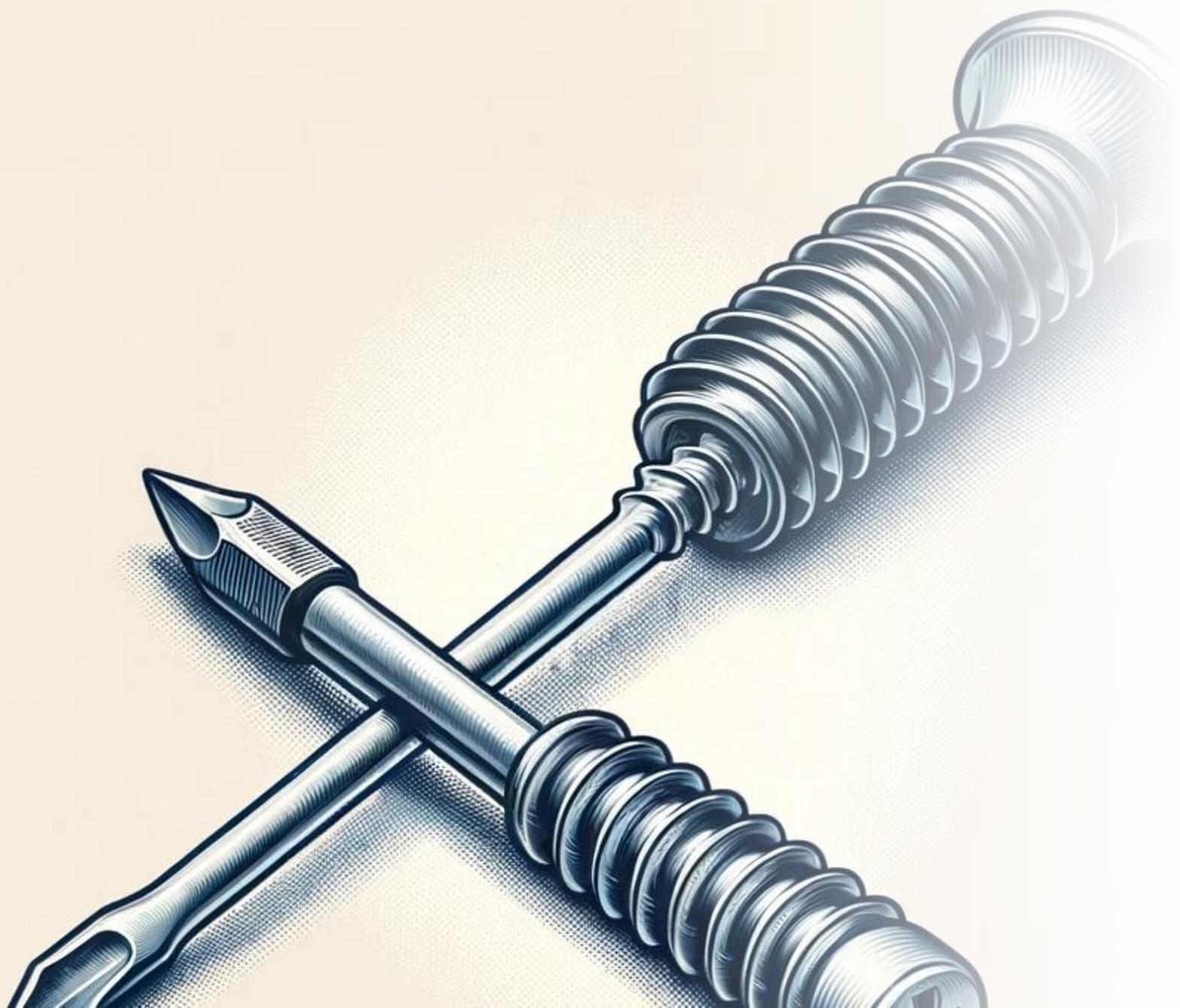
Analysis of Liability Cases and Product Liability Other Liability Cases (25%)



Case

- Cost cutting
- Cheaper parts





All | Customizable | Ready to Ship | All suppliers | Verified manufacturers

Filters

Trade Assurance
Protects your orders on Alibaba.com

Supplier features

- Verified Supplier
- Verified PRO Supplier
- ≤1h response time

Store reviews NEW

Based on a 5-star rating system

- 4.0 & up
- 4.5 & up
- 5.0

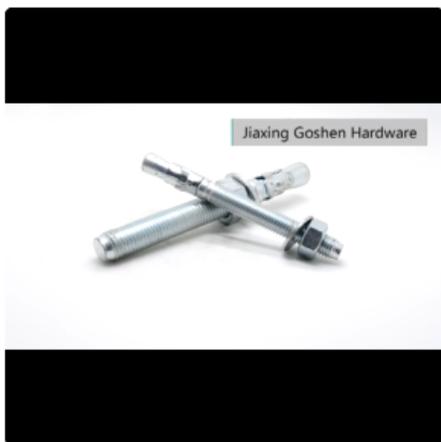
Product features

- Ready to Ship
- Paid samples
- NEW New

Price

Min. - Max.

Min. order



Jiaxing Goshen Hardware



Jiaxing Goshen Hardware Co., Ltd.

Verified Tools & Hardware

Chat now

Contact supplier



Free Sample Wedge Anchor Bolt Stainless...
US\$0.01 - US\$0.50



Low Price SS A2 stainless steel Wedge...
US\$0.24



Stainless steel A4 wedge anchor bolt
US\$0.01 - US\$0.05



China Factory SS304 carbon steel zinc plate...
US\$0.01 - US\$0.03



GS SS316 expansion anchor bolt with nut...
US\$0.01 - US\$0.05

Ad

Showing 100,000+ products from global suppliers for "bolts"



Bolt Bolt High Strength Full Thread 12.9 Allen Socket **Bolt** DIN912 8.8/10.9/12.9 M3-M52 Hex Socket Head Cap Bolt

US\$0.06 - US\$0.10

Min. order: 1000 pieces

Ningbo Yinzhou Sokun Import And Export Co., Ltd.

Verified 4.9/5.0 (41 reviews) 14 yrs CN Supplier

Related Categories



Contact supplier

Chat now

Compare





Quality

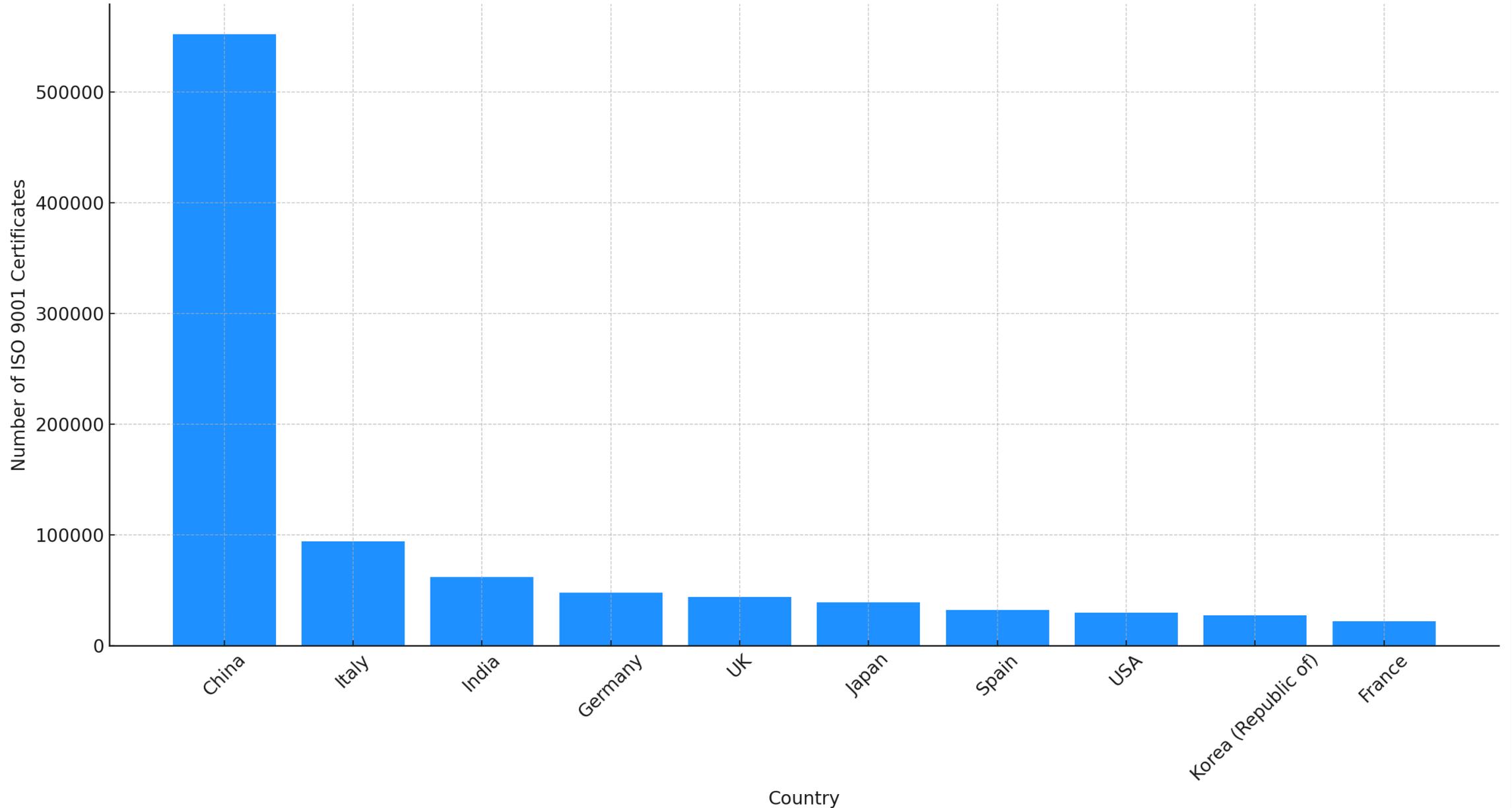
- ISO 9001
- CE label



Question

Which country has the most ISO 9001 certifications

Top 10 Countries by Number of ISO 9001 Certificates in 2022

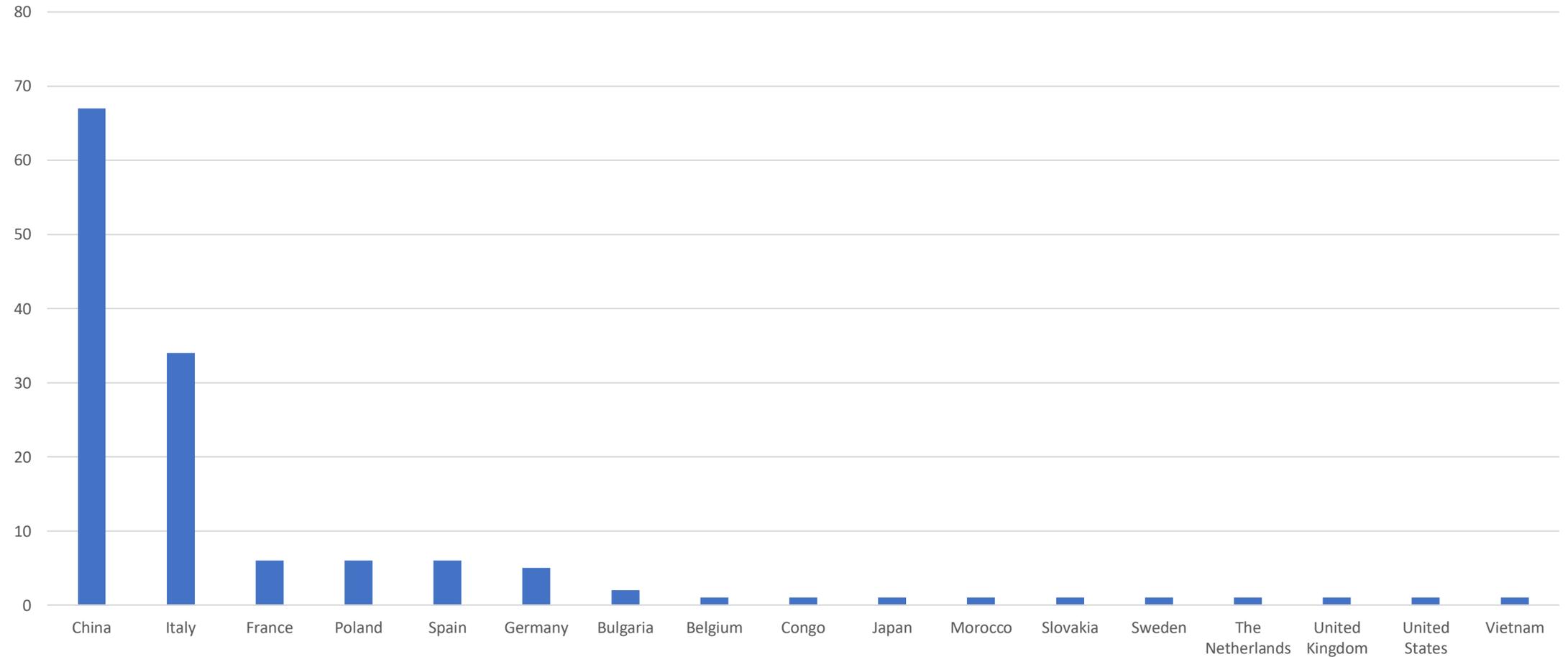


The background of the slide is a teal color with a repeating pattern of speech bubbles in various colors (red, yellow, purple, grey) containing a dark blue question mark. The word "Question" is centered in white text.

Question

Which country has the most recalls ?

Recall last 2 weeks dec 2023 (RAPEX)



CE label

C hinese E xport

Transport from Asia to Europe

- Vessel across Suez or over South Africa
- HRA coverage?
- Delay



PO / contract
with predefined
10 no-go's

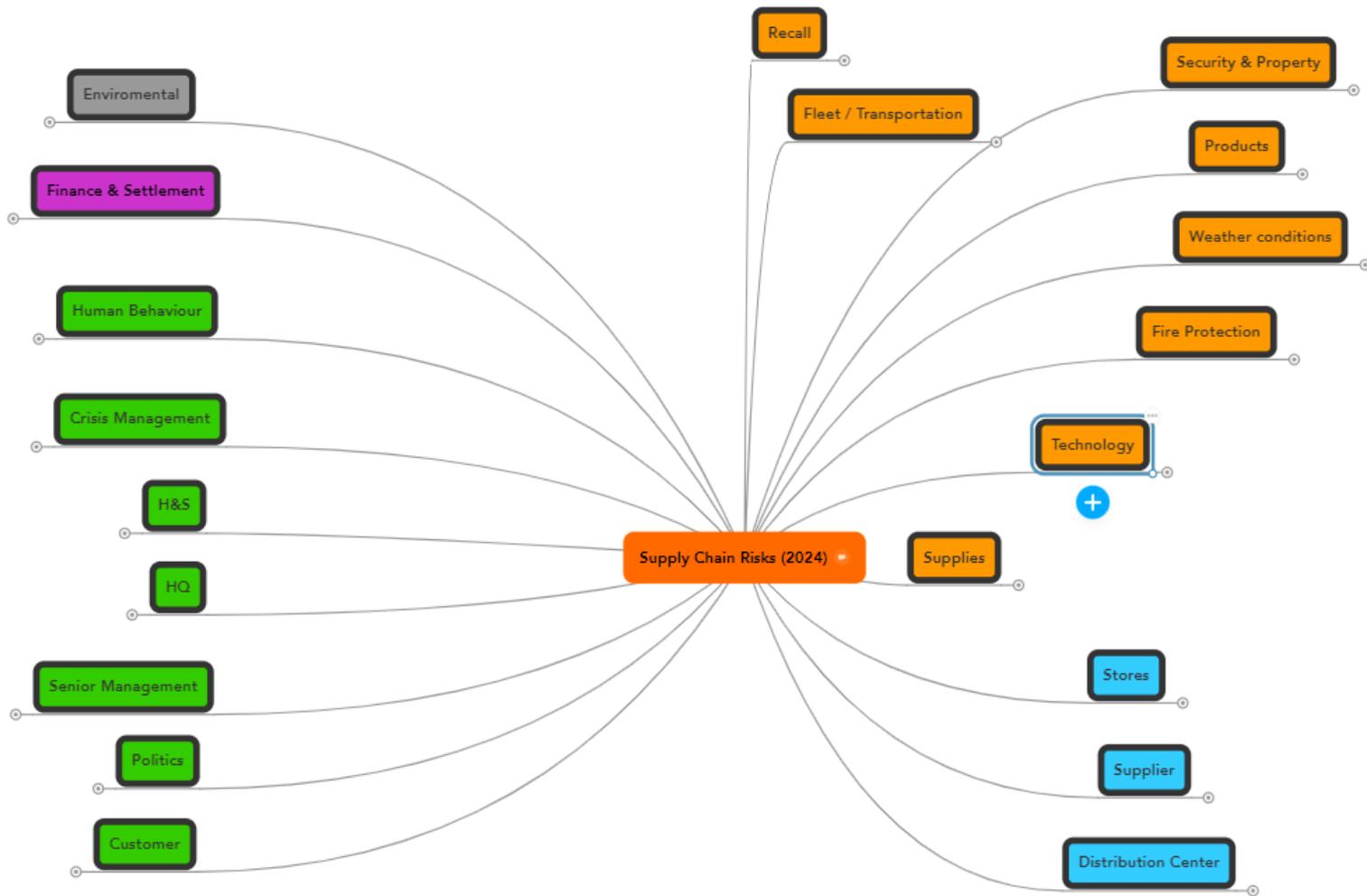
Battle of forms

Single Source supplies

Limitation

Back up

BCP



Study on
supply chain

Data

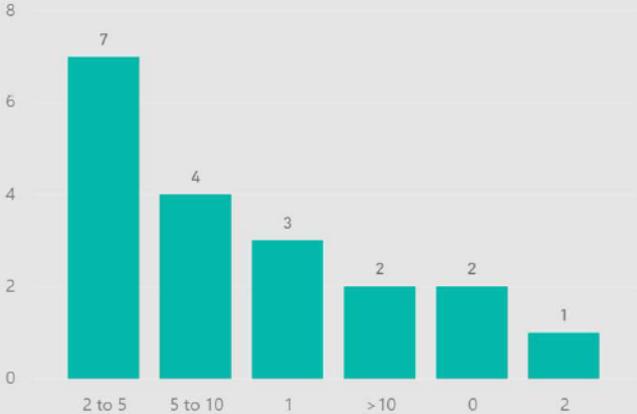


Data

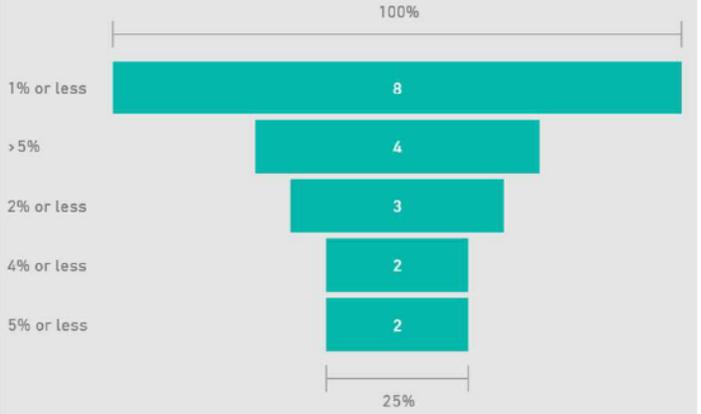
1.1. Cost of poor quality last year



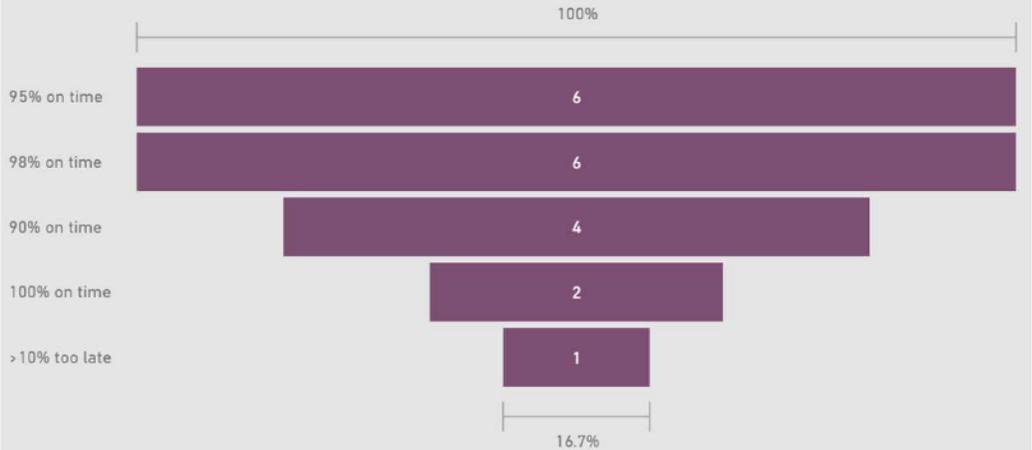
1.2. Number of incidents



1.3. Rejected works



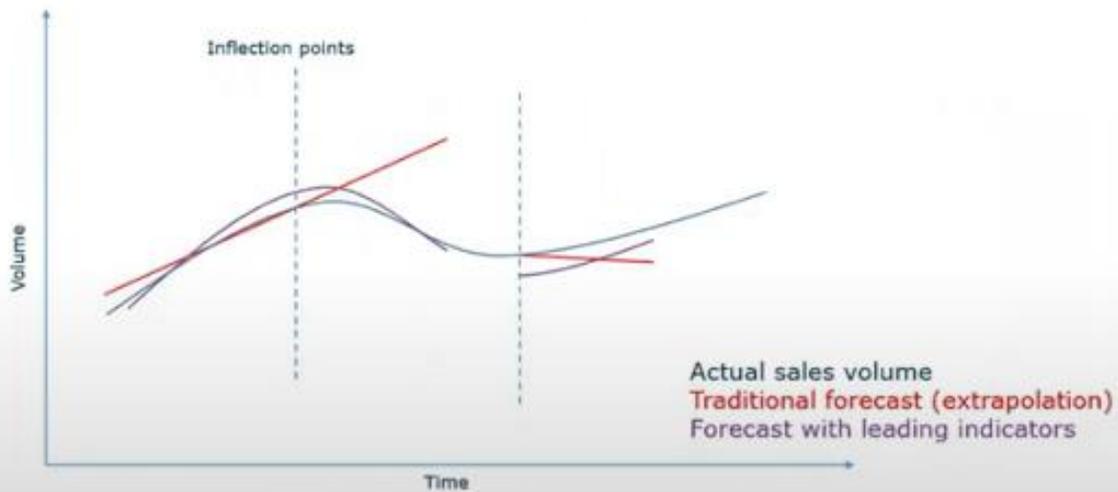
3.1. In time delivery



Data driven

S&OP tools like Solventure www.solventuregroup.com

Traditional Forecasting vs. Leading Indicator Forecasting



Our methodology: Forecasting with Leading Indicators







Supply Chain Resilience | Through the Lens of Marine Risk Consulting

Belgian Risk Management Association
February 20th 2024

Jan Rietberg
Global Head of Marine Risk Consulting | Specialty
AIG Europe S.A.

Agenda

The Global Supply Chain

What's Changed?

Finding Hidden Risk

How to Find the Risks Unique to Your Own Supply Chain

What to Do About It

Mitigating Strategies that Leverage Data and Emerging Technology

Marine Risk Consulting

When and How to Leverage Insurance Carrier Risk Consulting Services



Supply Chain | Reviewing the Likelihood and Impact of Potential Risk

- Risk – The possibility of an event, circumstance, or action occurring that could have negative consequences or impact on objectives, assets, or the achievement of desired outcomes.
- Risk Assessment- Identification of risks
- Probability - The likelihood or chance of a specific event
- Risk Analysis - Likelihood and impact
- Residual Risk- Remaining risks after mitigation actions

Risk = likelihood x impact

Risks are identifiable – Uncertainties are unknown

The deeper the dive in risk analysis, the fewer number of uncertainties

Global Supply Chain

A Network of People and Companies Involved in Producing a Product or Service



Raw Materials

It is where raw materials are procured and undertaken in the process.

Manufacturing

This is the most vital step in the process that simply converts the obtained raw materials into a final product.

Distribution

This is the final step in which the product reaches out to the end user via a chain of distribution facilities, transportation hubs, retailers, and sellers

Effective supply chain management results in lower costs and a faster production cycle.

History of Significant Event Disruptions

Costliest Global Natural Catastrophes – Not new to Supply Chain

1. 2011 Tohoku earthquake and tsunami in Japan \$235 billion
2. 2005 Hurricane Katrina in the United States \$161 billion
3. 2017 Hurricane Harvey in the United States \$125 billion
4. 2017 Hurricane Maria in Puerto Rico and the United States Virgin Islands \$90 billion
5. 2010 Haiti earthquake \$50 billion
6. 2017 Hurricane Irma in the Caribbean and the United States \$50 billion
7. 2008 Cyclone Nargis in Myanmar \$10 billion
8. 2012 Hurricane Sandy in the United States \$70 billion
9. 2011 Thailand floods \$45 billion
10. 2018 Hurricane Michael in the United States \$25 billion

There are also man-made disasters like the Suez Canal Shutdown...

Suez Canal Shutdown

Grounding of the mv EVER GIVEN



History of Supply Chain Disruption

2011 Tohoku Japan Earthquake and Tsunami | \$38M Insured Loss, \$225 Economic Loss
Disrupted the global automotive & semiconductor industries



Supply Chain Vulnerability to Disruption Exposed

Supply chain used to be focused on **just-in-time, quality and cost**. That's changing.

- COVID-19 crisis & post-pandemic economic effects
 - Evolving, and increasingly volatile, customer and consumer needs
 - Labor unrest, shipping container shortage, docking access and pile-ups

- Geopolitical Uncertainty
 - Conflict in the Ukraine, re-routes and shipping contracts in the North Sea
 - Israel-Hamas war, attacks in the Red Sea
 - Dependency on containerized shipments

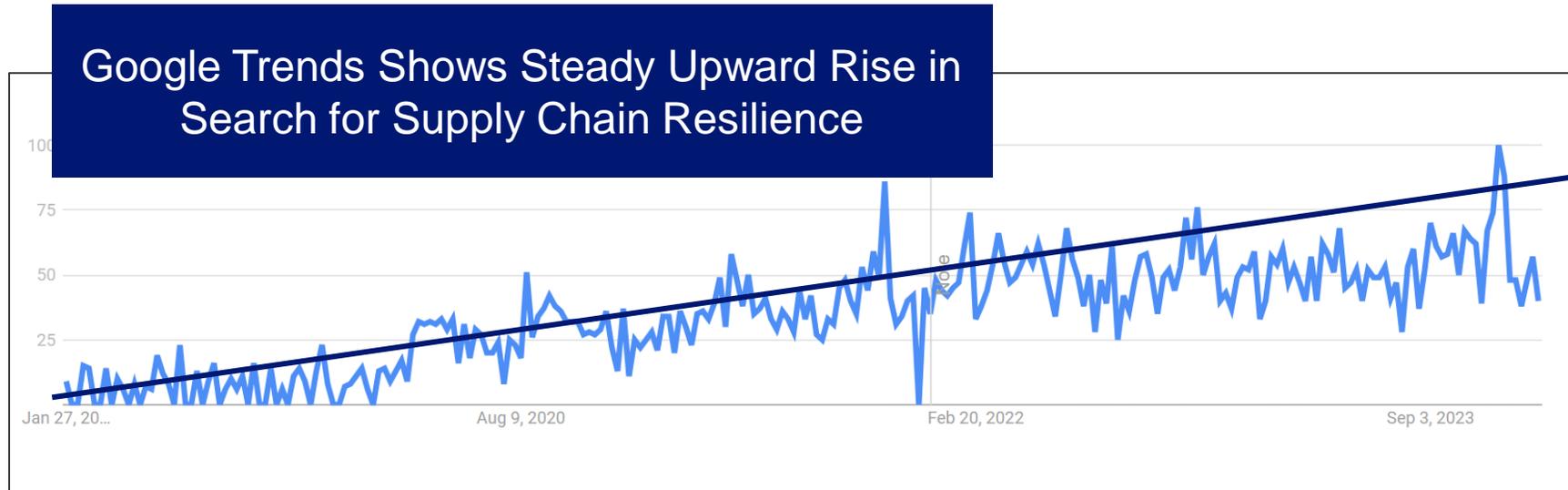
- Extreme Weather
 - Limitations to canals
 - Additional risks using re-routes

The increasing interaction of human, technological, and environmental factors has made it more difficult to anticipate, or even ascertain, the root causes behind disruptive events.



Vulnerability Leading to Increased Supply Chain Dialog Worldwide

Resilience, agility and sustainability leading conversations and solutions .



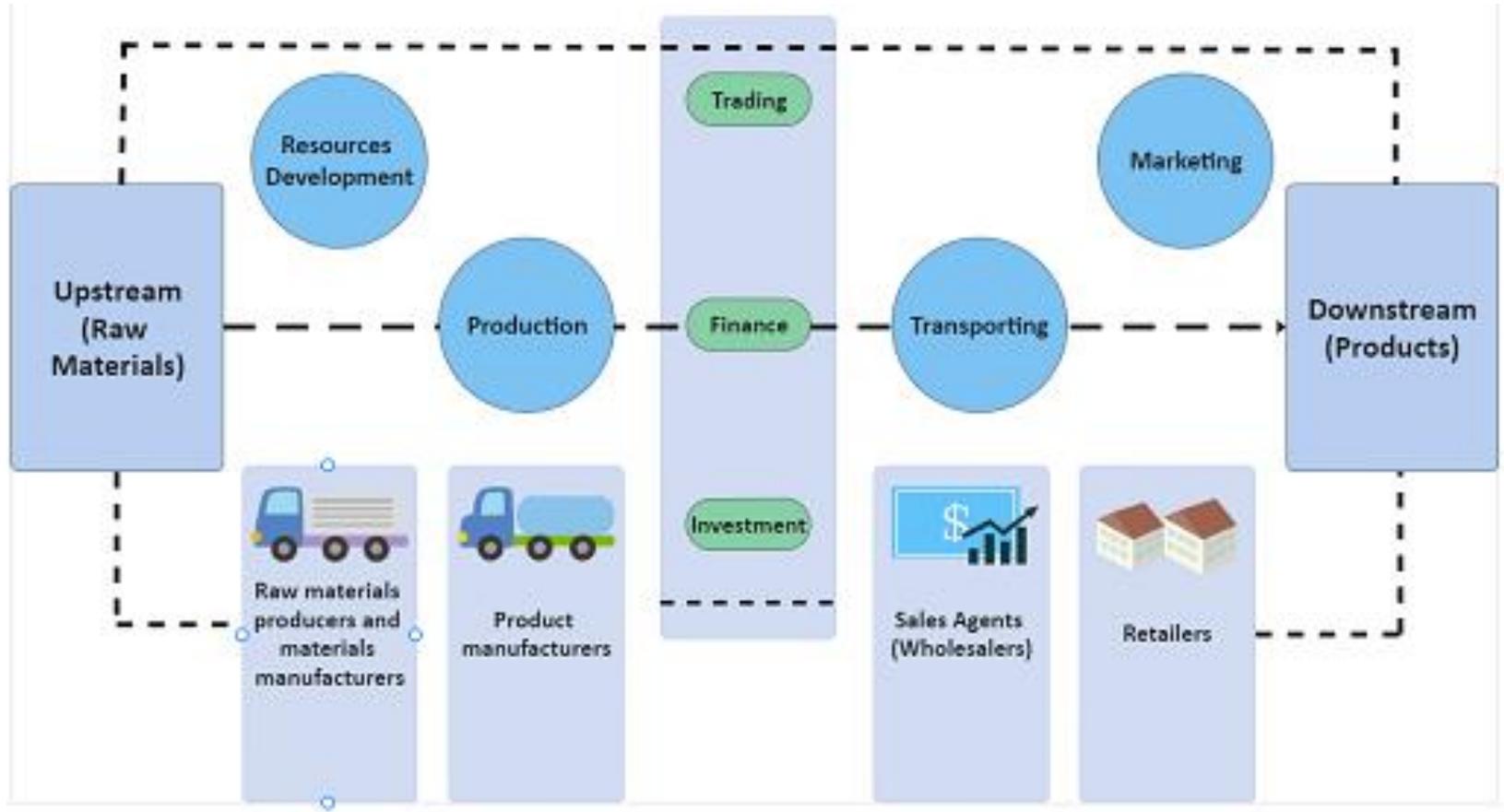
Resilience | The ability of supply chains to recover quickly from unexpected events.

A resilient supply chain can easily adapt, rebound, or recover when faced with economic shocks:

- Either idiosyncratic e.g. a local supplier plant shutdown
- Or systemic e.g. COVID-19 pandemic

Understanding Vulnerabilities

Suppliers and Trade, Distribution of Products and Services



Suppliers | Where are they?

The increasing interaction of human, technological and environmental factors has made it more difficult to anticipate, or even ascertain, the root causes behind disruptive events.

Most disruptions originate in the deeper supply chain tiers.

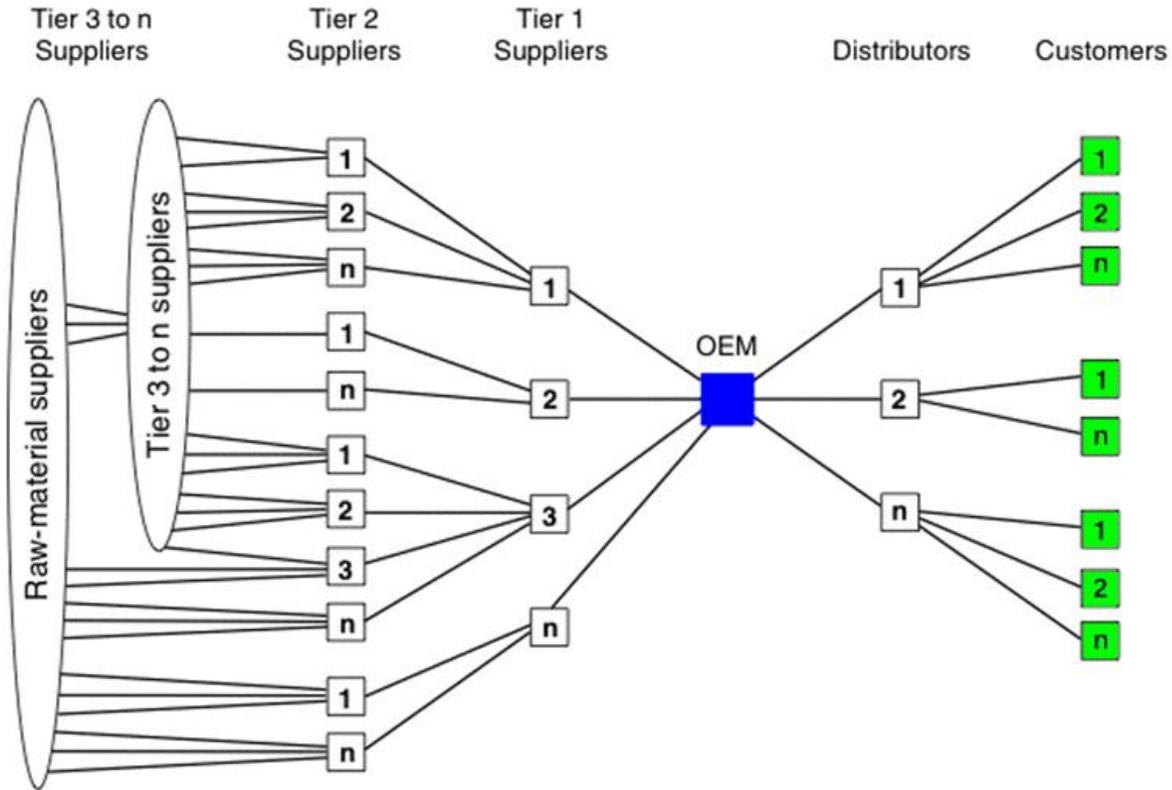
Yet Survey of Senior Supply Chain Executives Shows:

- ~50% of Senior Supply Chain Experts understand the location of tier-one suppliers
- Only 2% know the location of third-tier and deeper suppliers



Mapping the Supply Chain

This will uncover pain points, single-source suppliers, sister facilities that really can't produce like in-kind, the vulnerabilities that are not readily evident at the Tier 1, Tier 2 level



Mapping Your Company's Supply Chain can help identify vulnerabilities like single-source suppliers and unique raw materials.

The Risk Categories

- Political/geopolitical, economic
- Regulatory
- Natural disasters and extreme weather
- Cybersecurity
- Environmental, Social, and Governance (ESG) & Reputational
- Intellectual property, legal and contractual

Additional risk from within the supply chain itself:

- Shift in customer demand, financial challenges
- Procurement & supplier reliability/bankruptcies, product quality/safety issues
- Transportation disruptions
- Operational/IT disruptions, failure, capacity bottlenecks
- Staffing, strikes



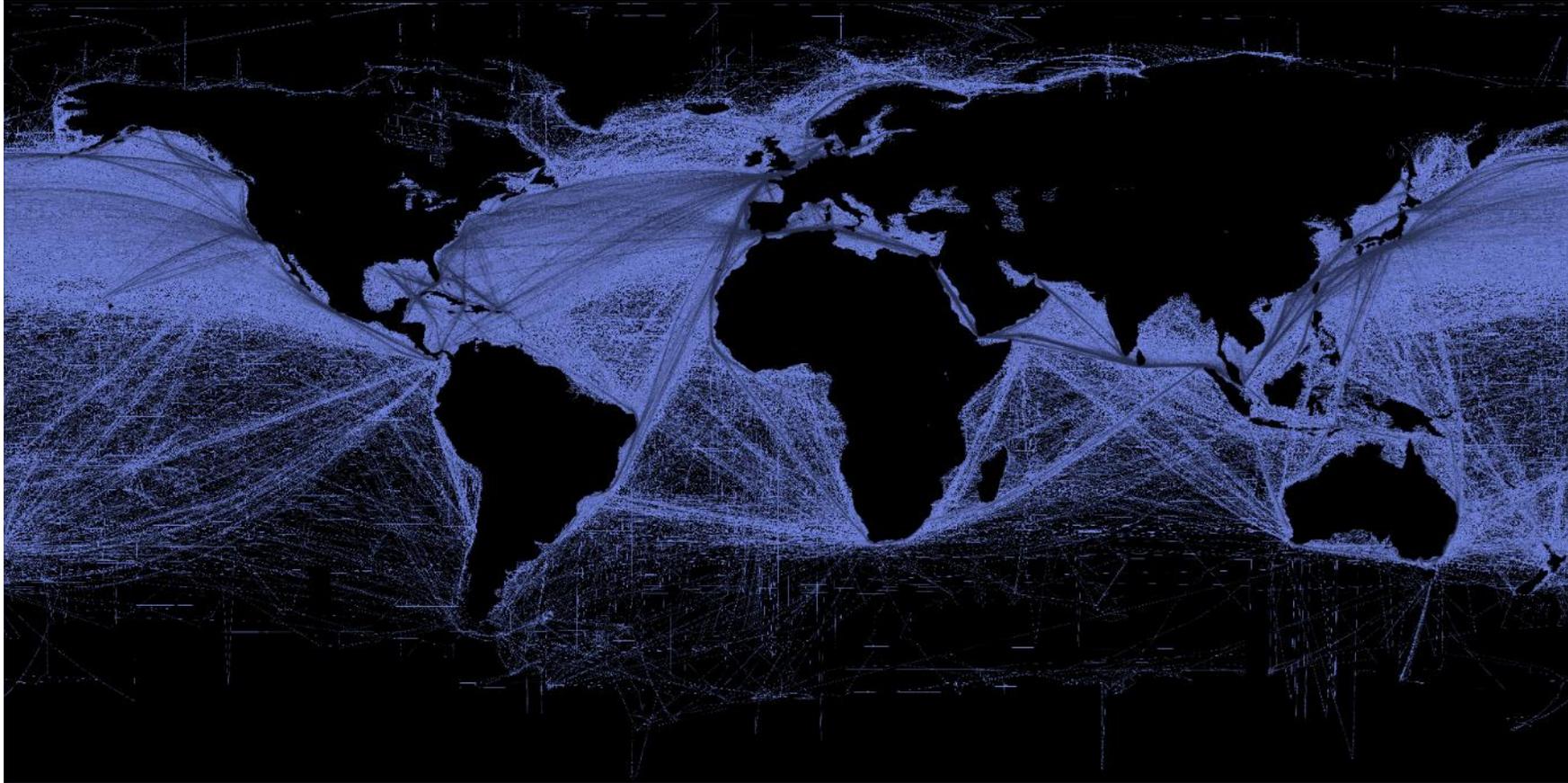
Recent Transport Threats, Increasing Costs to the Supply Chain

Re-routing | Extensive waiting | Inability to get raw materials | Lost product

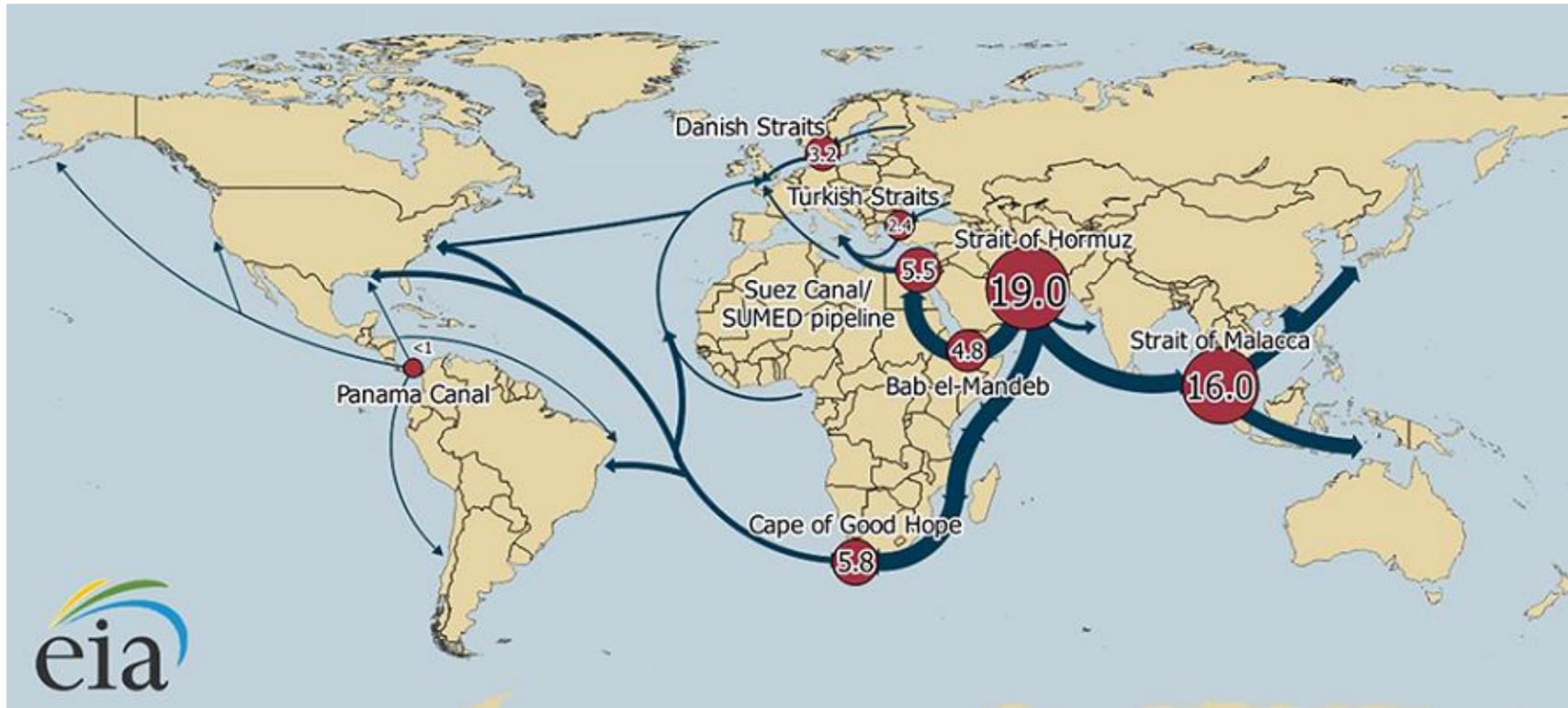
- Choke Points → "narrow parts of main trade lanes", usually "straits or canals"
- GeoPolitical Situations → War and Political Disruptions
- Piracy
- Cyber Attacks
- COVID (still!)
- Extreme Weather

Knowing your company's supply chain geographically can also help identify shipping route vulnerabilities.

International Trade, Shipping Routes



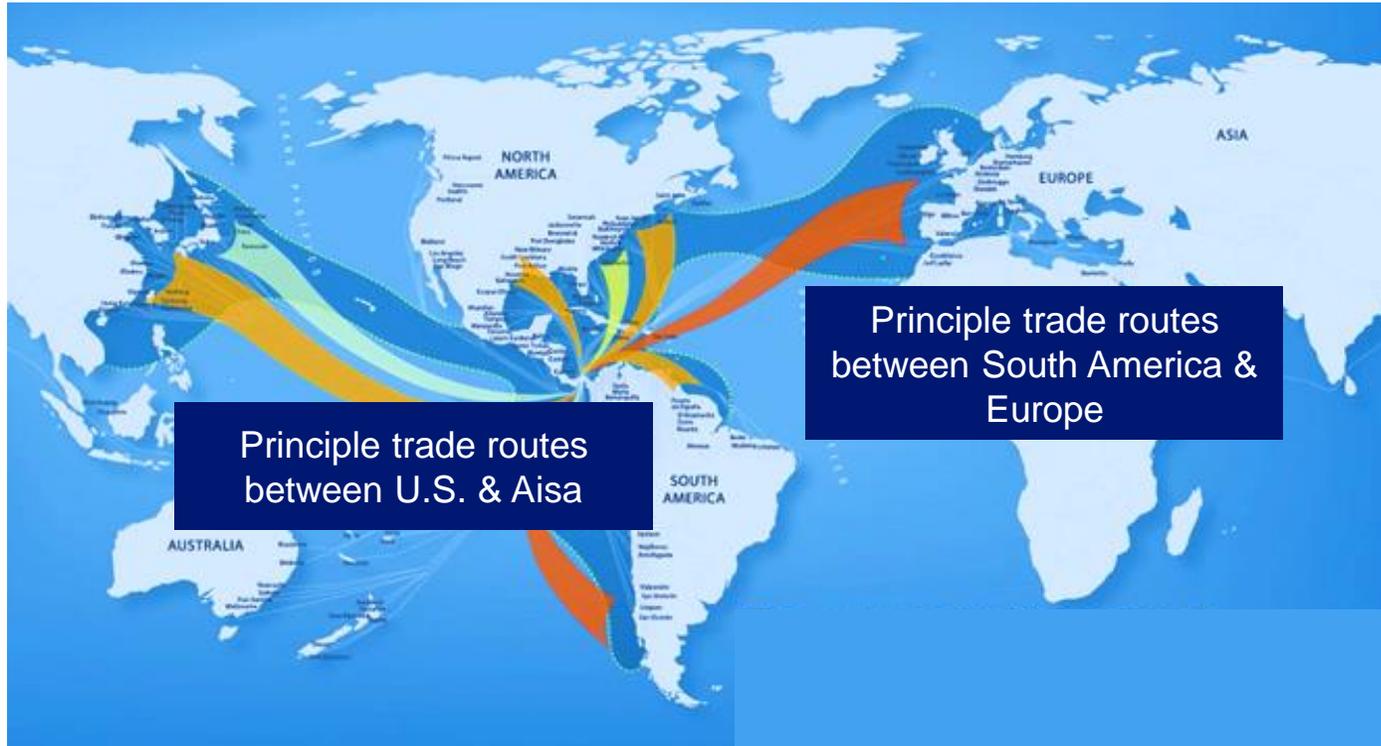
Choke Points | Global Oil Trade Flow



(Million barrels per day, 2016 data)

Choke Points & Extreme Weather | Panama Canal

*Low water levels have led to a traffic jam at one of the world's busiest maritime passages – the Panama Canal. **This equates to increased wait times, shipping costs, and loss of market share.***



The drought is anticipated to continue throughout 2024, going from 34 to 18 safe passages daily.

Choke Points | Panama Canal Workarounds

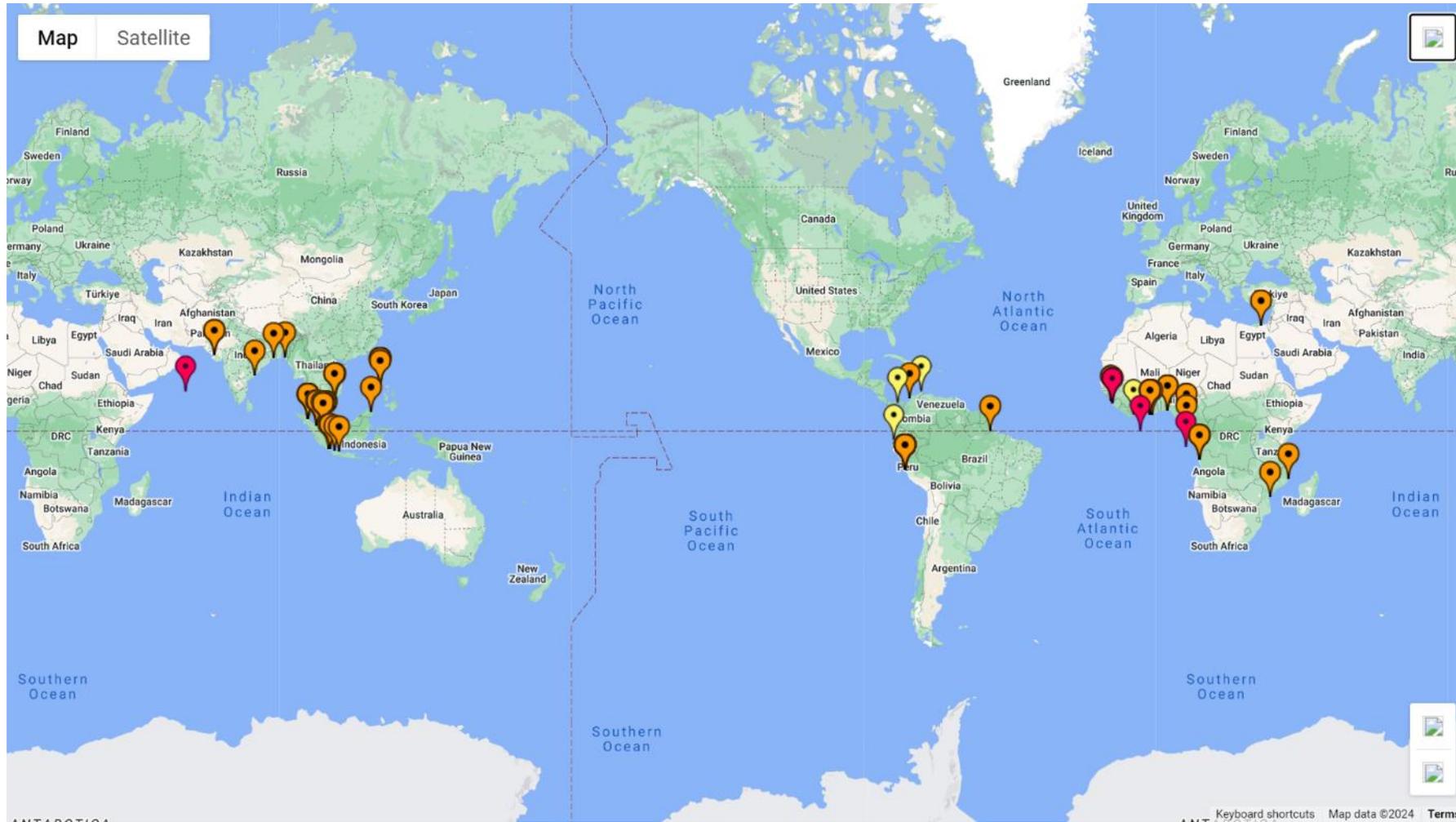
Uncertainty of closures | additional cost to ships waiting to get through the canal and those that sailed up and then had to reroute back down the coast of South America around the Cape.



40% of Panama Canal transit is U.S. based.

Delays caused shipping rates through the Panama Canal for Very Large Gas Carriers (VLGCs) to reach record highs, which increased the cost of shipping [liquefied petroleum gas](#) (LPG) from the United States.

Piracy



Source: [Piracy Map 2023 \(icc-ccs.org\)](https://www.icc-ccs.org/) – Permission Requested

INITIAL – DO NOT COPY

Five Recommendations to Help Minimize Logistics Risk

Managing Your Supply Chain Through Uncertainty

Avoid/Terminate the Risk | Accept the Risk | Mitigate the Risk

Specifically, Logistics/Transit Risk Mitigation:

1. **Visibility** – Map Your Supply Chain, Keep it Current
2. **Tracking** – Implement Continuous Monitoring & Tracking for Route Deviations
3. **Routes** – Keep Current with Alternate Route Options, especially when transporting through areas of unrest or areas known for extreme weather
4. **Plan** – Create a Contingency Plan for Unique and Single Source Suppliers, Create Redundancy Where Possible
5. **Customer Demand** - Use technology and data to anticipate customer buying patterns e.g. get ahead of the storm with your shipments to ensure local warehouse space and products are on the shelf

Marine Risk Consulting (MRC) A Partner in the Risk Management Process



Global

Multilingual and Diverse
15 Marine Risk Consultants
Global Network of 3rd-party Surveyors



Experienced

Average 25 Years of Sea-going Experience
Licensed Master Mariner
Former Cargo Surveyors, Port Captains and Claims Specialists

MRC Services



CONSULTATIONS & RISK ASSESSMENTS

Special transport risks:

selection of transport route
means of conveyance
packaging
security requirements

Temperature controlled goods:

packing & controls
security



LOSS CONTROL PROGRAM DEVELOPMENT

New business plans, large claims or noticeable loss trends:

handling and securing procedures
packaging standards
security protocols
organization and carrying out load-
securing surveys
warehouse surveys



COMMUNICATOR & OVERSEER

Open lines of communication:

ensure close coordination
and cooperation with all
parties to ensure client
needs are met

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NOTE: Need to add in the EMEA About AIG





Don't miss out on our next events



- 12/03 Ladies Mind Risk – Office Politics, number 1 career blocker
- 21/03 Kick-Off BELRIM Sustainability Academy (online)

20-06-2024
SAVE THE DATE



Go the extra mile





