

Managing Cross Border Supply Chain Risks and the Implications of Getting it Wrong

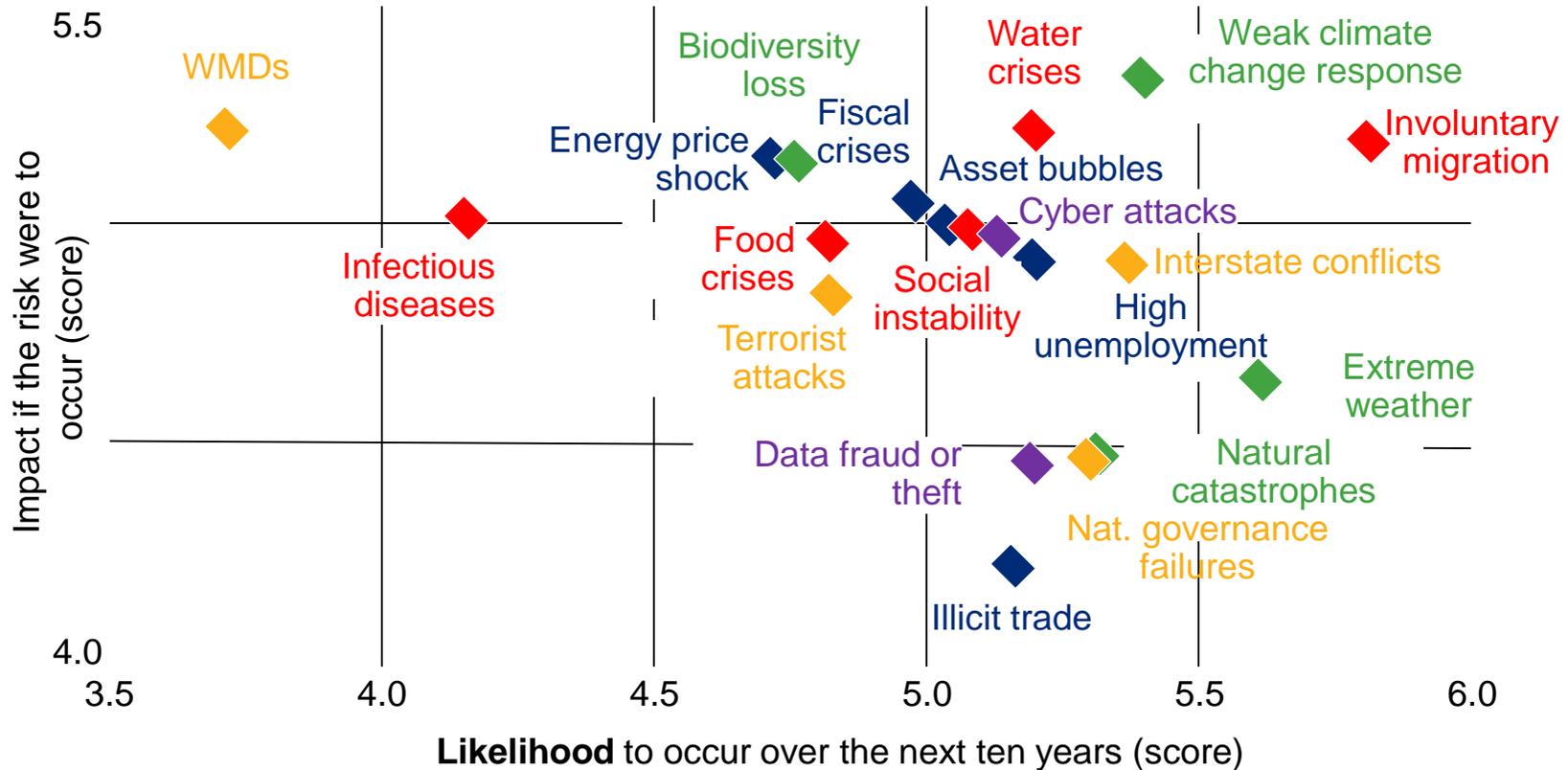
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Section 1

Global Risk Landscape and Supply Chain

The global risk landscape (World Economic Forum 2016)

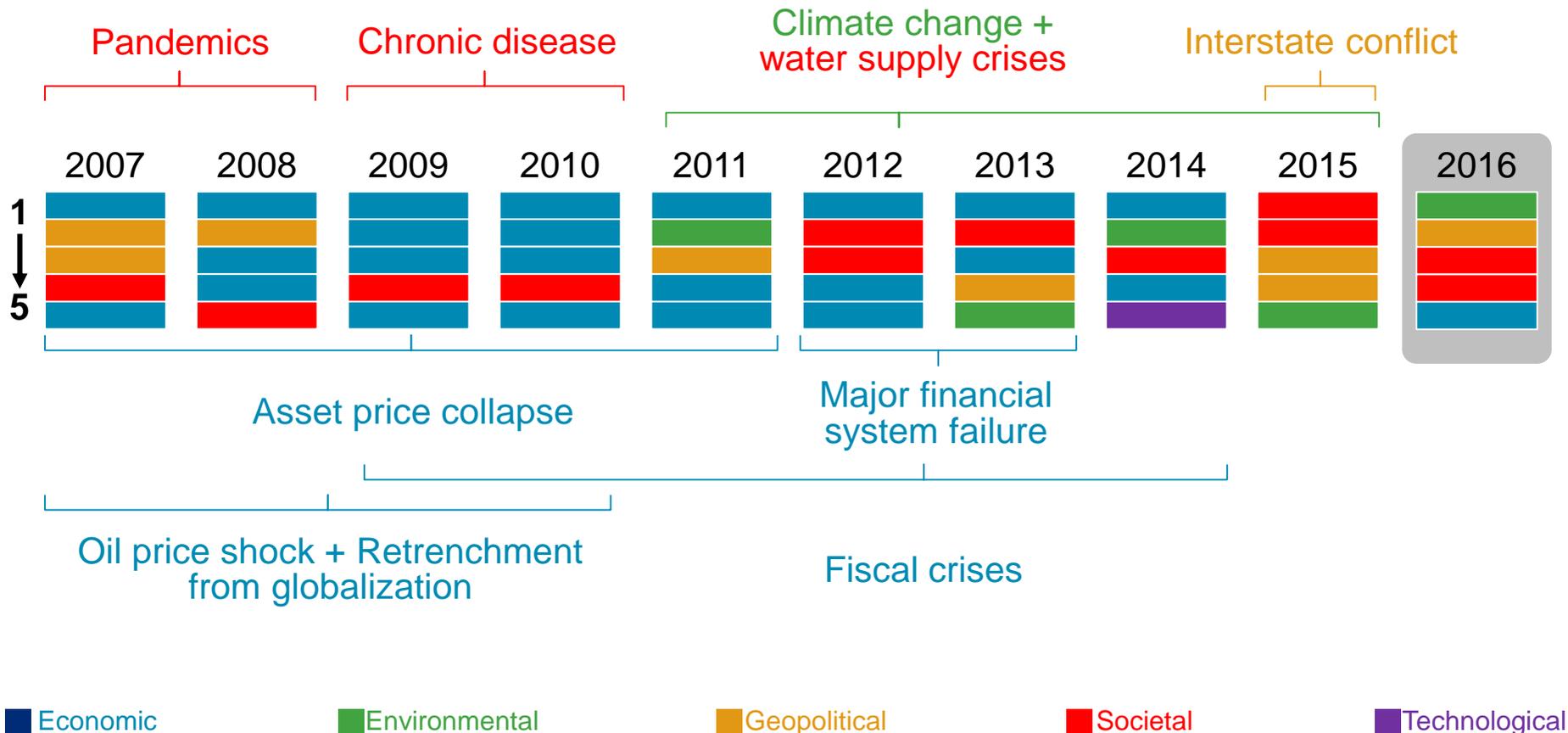


■ Economic
 ■ Environmental
 ■ Geopolitical
 ■ Societal
 ■ Technological

Note: Entire scale is from 1-7. Top 20 risks in terms of overall impact and likelihood are shown
 Source: World Economic Forum, *Global Risks Report 2016*

Societal, geopolitical and environmental threats rising to the fore

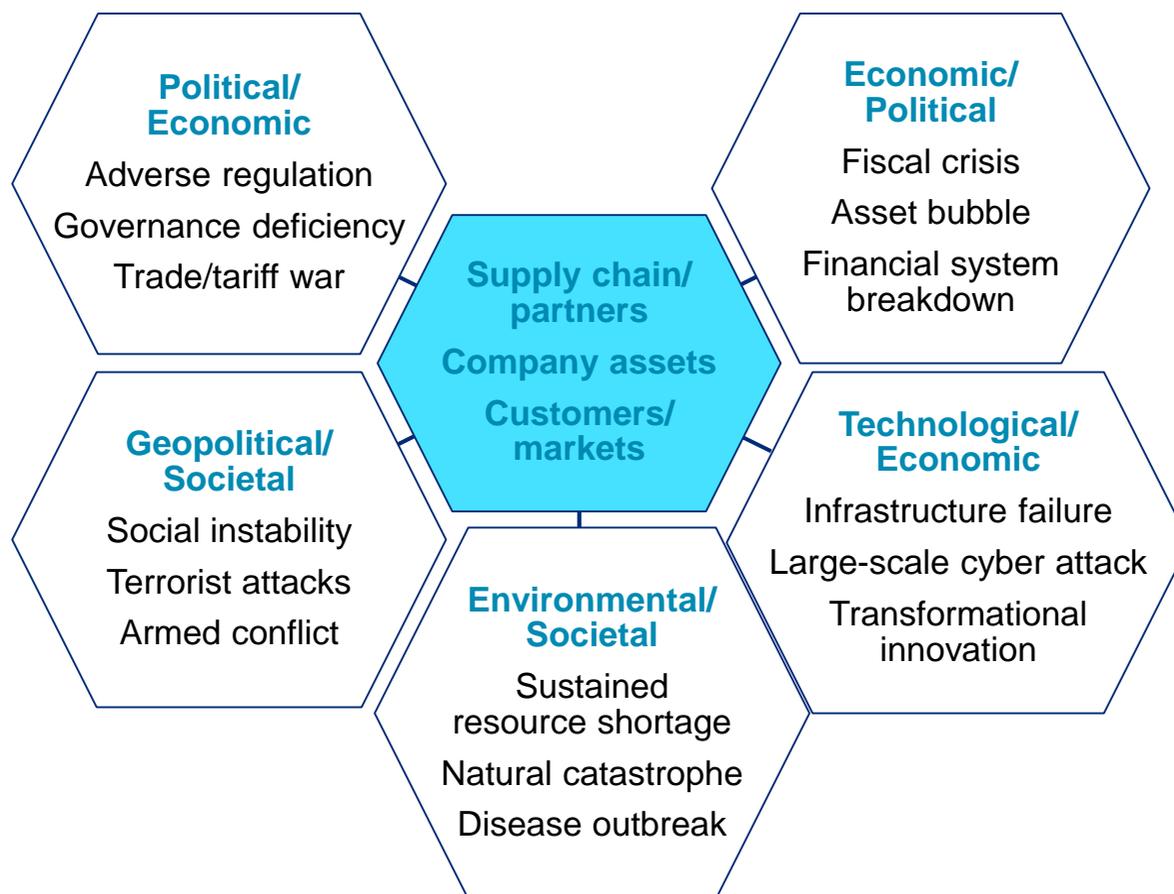
Top 5 risks in terms of potential impact 2007–2016



Note: This depiction assigns constant categories to some risks which have changed categories over the report's 11 editions
Source: World Economic Forum, *Global Risks Report 2016*

Besides the current and near-term risk exposure, it is vital for companies to think about emerging risks to anticipate more fundamental shocks across borders and within supply chains

Global and emerging risk sources – examples



Key principles of the supply chains

The “7 Rights” of supply chains:

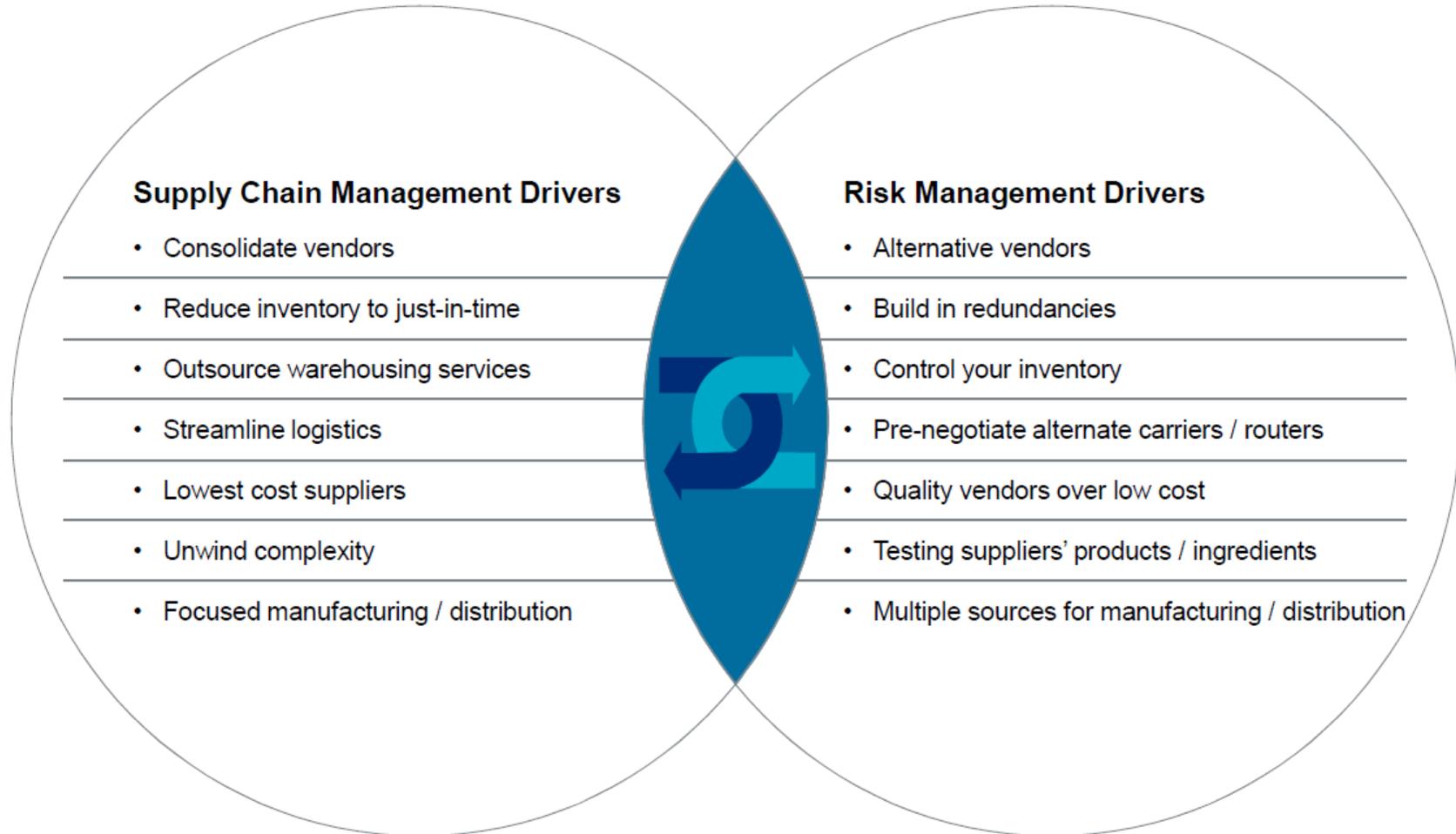
1. The Right product.
2. Delivered to the Right place.
3. At the Right time.
4. In the Right condition.
5. In the Right quantity.
6. At the Right price.
7. Delivered to the Right customer.

Key questions to inform operations and supply chain management

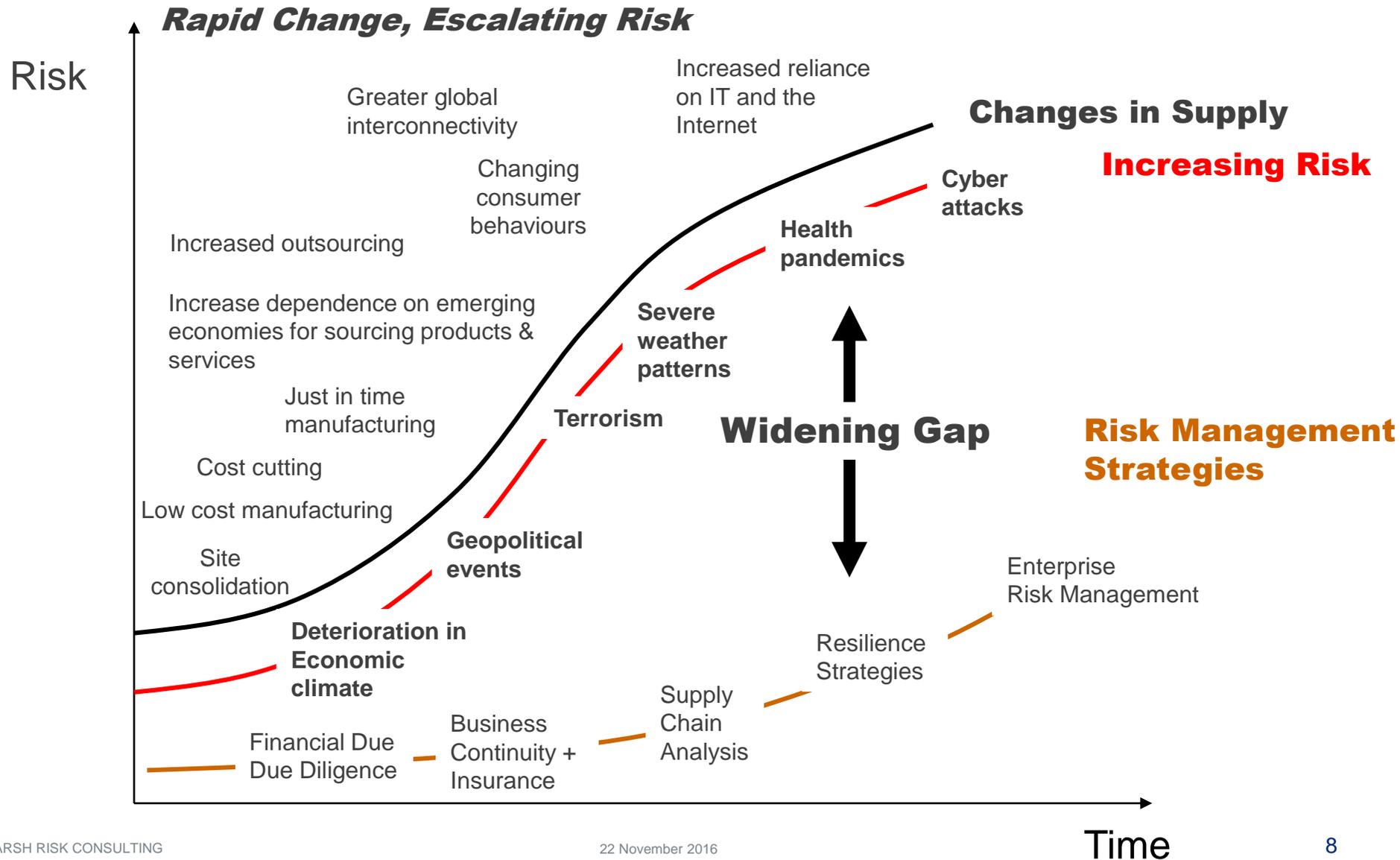
What must supply chains do well?

- Five fundamentals (interconnected):
 - Quality
 - Cost
 - Dependability
 - Speed
 - Flexibility
- Each of the above has internal and external perspectives

Supply chain drivers versus risk management drivers



Increasing gap between complexity of supply chain and risk management strategies



Key questions to inform operations and supply chain management

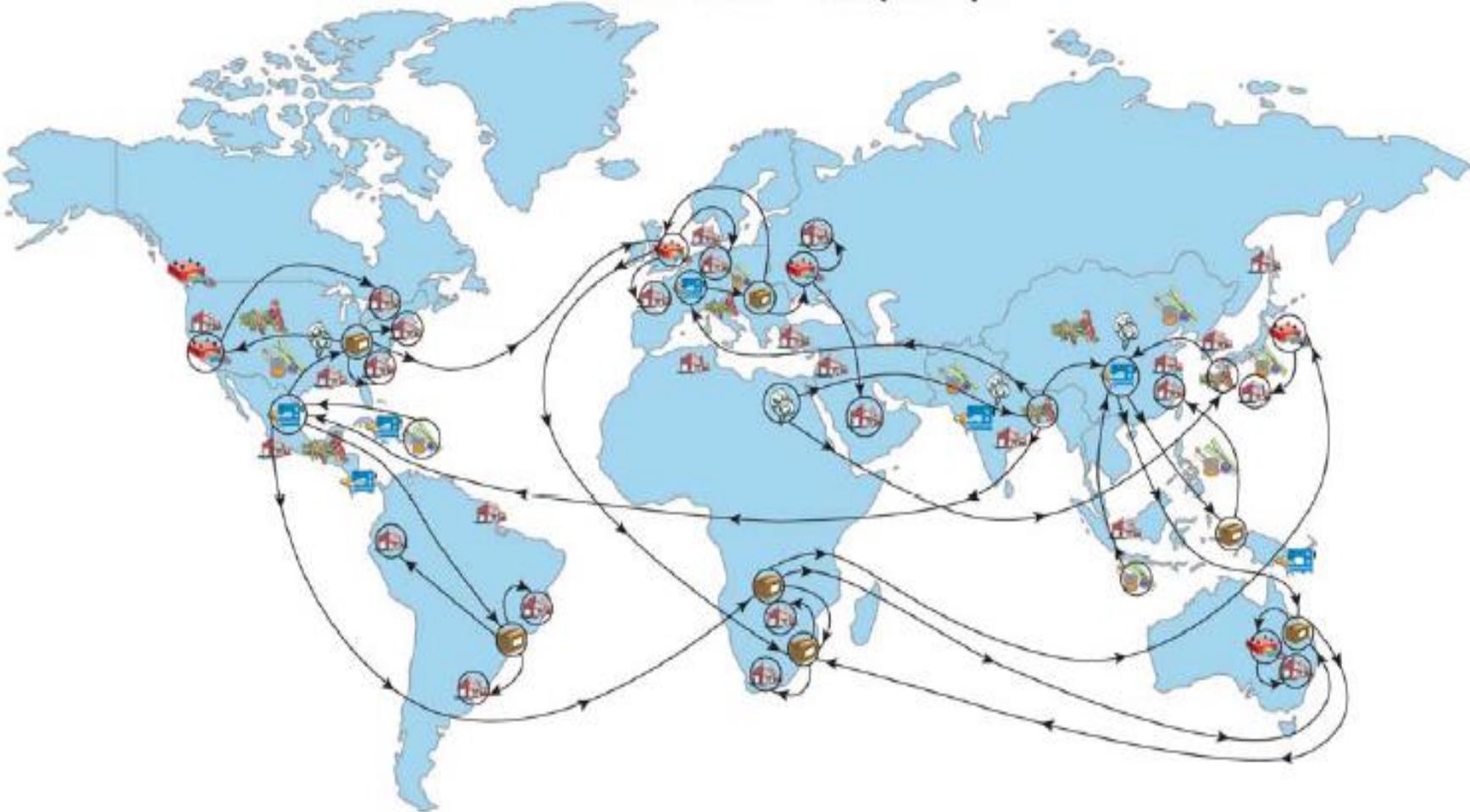
What relationship do we have and how might it influence risk?

- Transactional purchasing attitudes.
Suppliers are:
 - Kept at an arms length.
 - Competitively tendered on a frequent basis.
 - Changed regularly.
 - The one with the lowest price.
 - Contractual approach to risk.
 - Financially assessed.
- Alternative supply chain approach.
Suppliers are:
 - Trustworthy and trusted.
 - Assessed for strategic importance.
 - Part of a partnership philosophy.
 - Committed to the longer term.
 - Committed to quality.
 - Adaptable and aligned.
 - Innovative.
 - Part of the Risk Management (RM) process, with a more holistic approach to risk management including reputational risks.

Section 2

Managing the Risk

Understanding the supply chain



Identifying the threats to supply chain

Identifying the causes of a supply chain risk, both up and downstream is essential to proving comprehensive mitigations and controls.



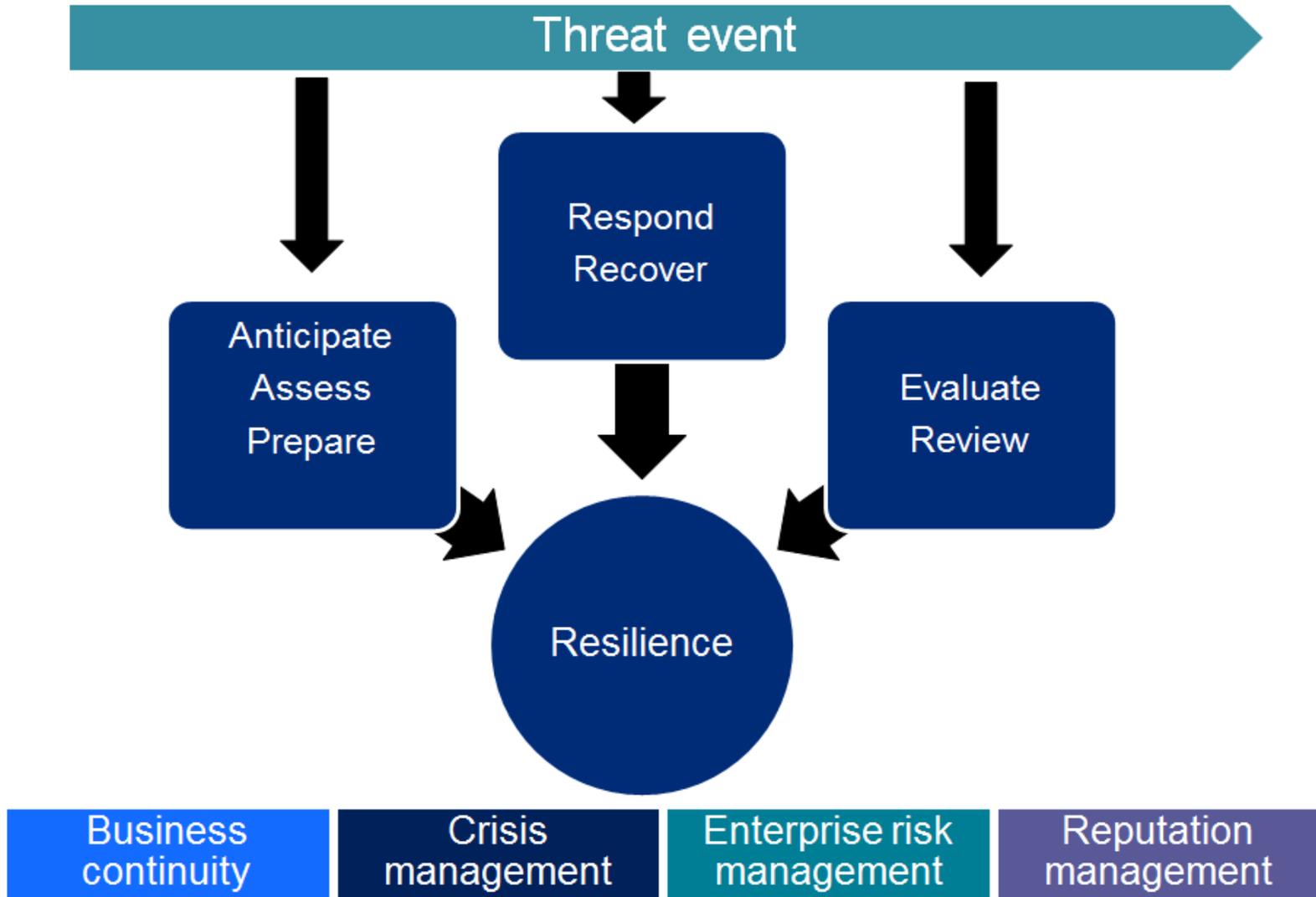
Risk Management Approach

Key activities, tools and techniques

	Value map supply chain	Determine supply chain vulnerabilities	Risk quantification	Risk mitigation
Activities	<ul style="list-style-type: none"> ▪ Determine critical activities. ▪ Map supply chain flows. ▪ Identify dependencies. ▪ Establish quantitative and qualitative measures of value. 	<ul style="list-style-type: none"> ▪ Map supply chains. ▪ Identify supporting resources. ▪ Identify key threats and vulnerabilities. ▪ Controls evaluation (client and supplier). 	<ul style="list-style-type: none"> ▪ Quantify financial impact from identified risks. ▪ Calculate maximum foreseeable loss and probable foreseeable loss. ▪ Evaluate non-financial impact where applicable. 	<ul style="list-style-type: none"> ▪ Develop appropriate risk mitigation measures ▪ Develop risk monitoring measures and indicators ▪ Insurance gap analysis
Tools & Techniques	<ul style="list-style-type: none"> ▪ Desktop research. ▪ Interviews. ▪ Workshops. ▪ Determination of supplier criticality evaluation criteria. 	<ul style="list-style-type: none"> ▪ Supplier risk diagnostic tool. ▪ Interviews and desktop analysis. ▪ Workshops. ▪ Supplier meetings/surveys. 	<ul style="list-style-type: none"> ▪ Determine appetite and tolerance for risk. ▪ Scenario analysis workshops. ▪ Business interruption accounting calculations. ▪ Reputational risk. ▪ Deterministic modelling. 	<ul style="list-style-type: none"> ▪ Supplier, operational risk, and logistics risk mitigation (BCM, procurement, crisis management, etc). ▪ Risk intelligence service. ▪ Total cost of risk analysis. ▪ Supply chain insurance.
Outputs	<ul style="list-style-type: none"> ▪ Suppliers identified supporting key value generating processes. 	<ul style="list-style-type: none"> ▪ Supply chain vulnerability map. ▪ Risk assessment by supplier. 	<ul style="list-style-type: none"> ▪ Financial impacts of supplier interruption scenarios understood. 	<ul style="list-style-type: none"> ▪ Risk “intelligent” supply chain.

Organisational resilience

Ability of an organization to anticipate, prepare for, and respond and adapt to incremental change and sudden disruptions.



Section 4

The Implications of Getting it Wrong

Loss events from the real world

Case study – Non-physical contingent business interruption due to an earthquake

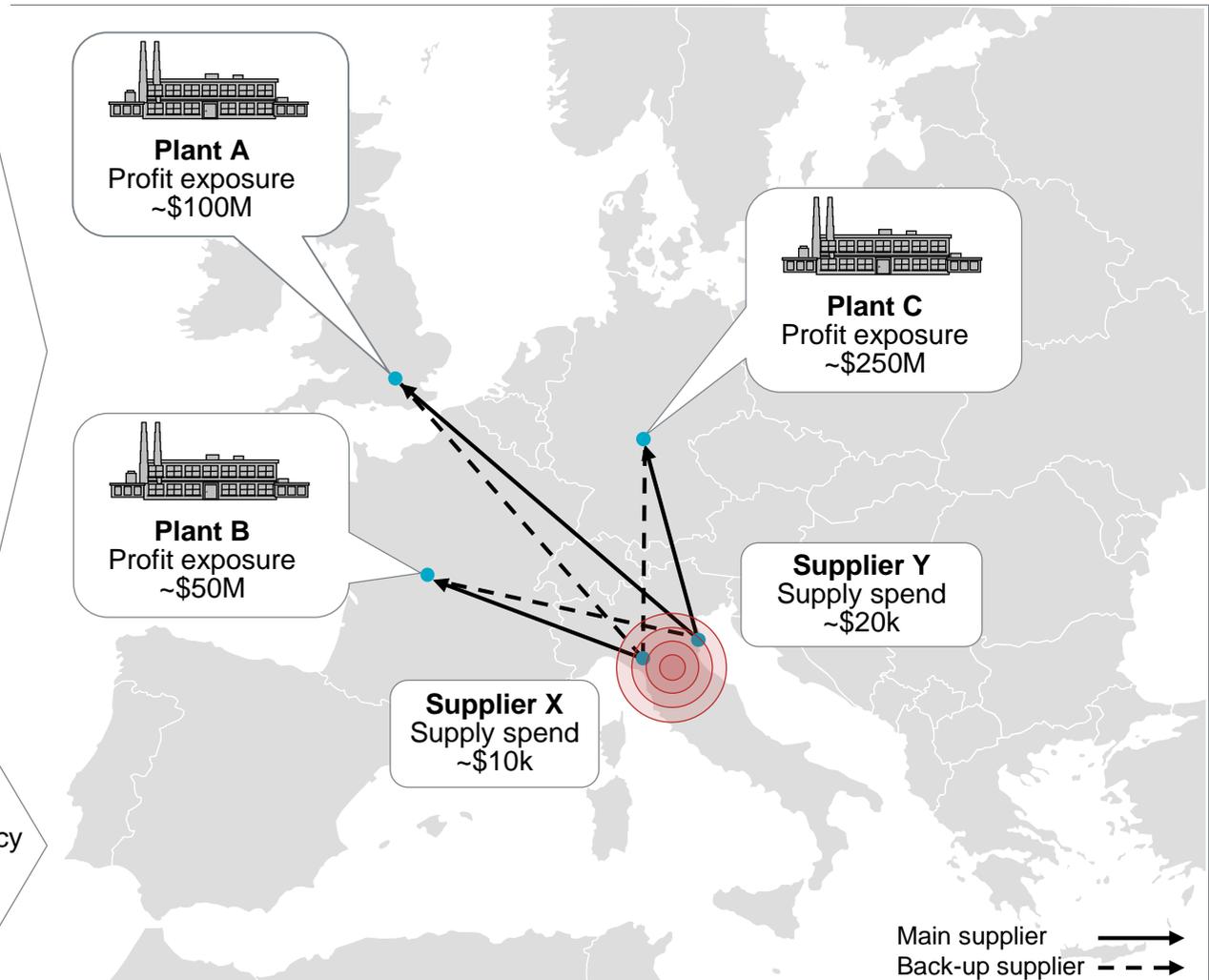
What can we learn? – “Try to understand who and where your suppliers are”

The Loss Event

- Pharmaceutical company (plant A, B & C) sourcing a unique raw material from suppliers X and Y
- Both suppliers considered to be non-critical representing a low spend and being mutually backed-up
- An earthquake disabled both suppliers X and Y, exposing the pharmaceutical company to a combined profit loss of ~\$400M

The Aftermath

- Qualification of alternative suppliers
- Preliminary contingency operations with reduced output until full supplier recovery



Loss events from the real world

Case study - Non-physical contingent business interruption due to a sea route blockade

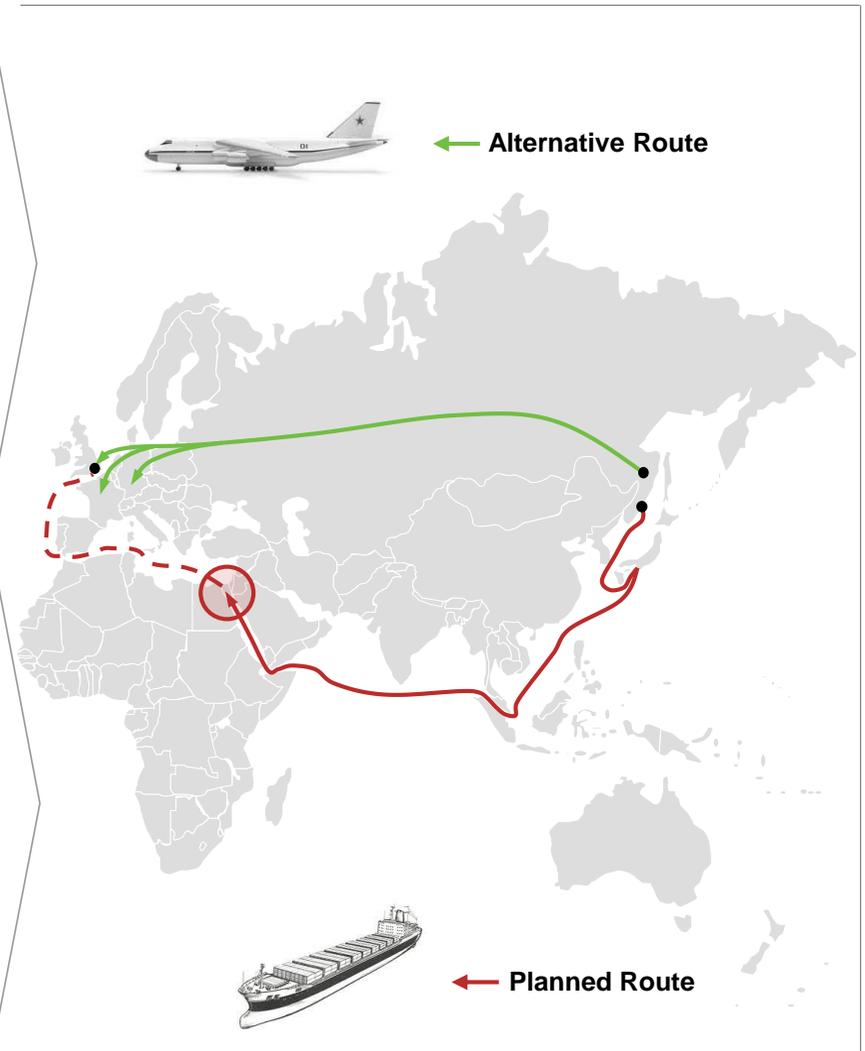
What can we learn? – “Try to understand the flow of the supply chain that your are being part of”

The Loss Event

- Transport of thousands of Sony PlayStation II from China to Great Britain via ship
- Blockade of the Suez Channel for four days due to crude oil vessel run aground (November 2004)
- Passage blocked for approximately 100 vessels
- No turning option or call at an alternative harbor possible
- Risk of a sales collapse for Sony and retailers during Christmas trade
- Risk of disappointed customers and potential of a reputational damage

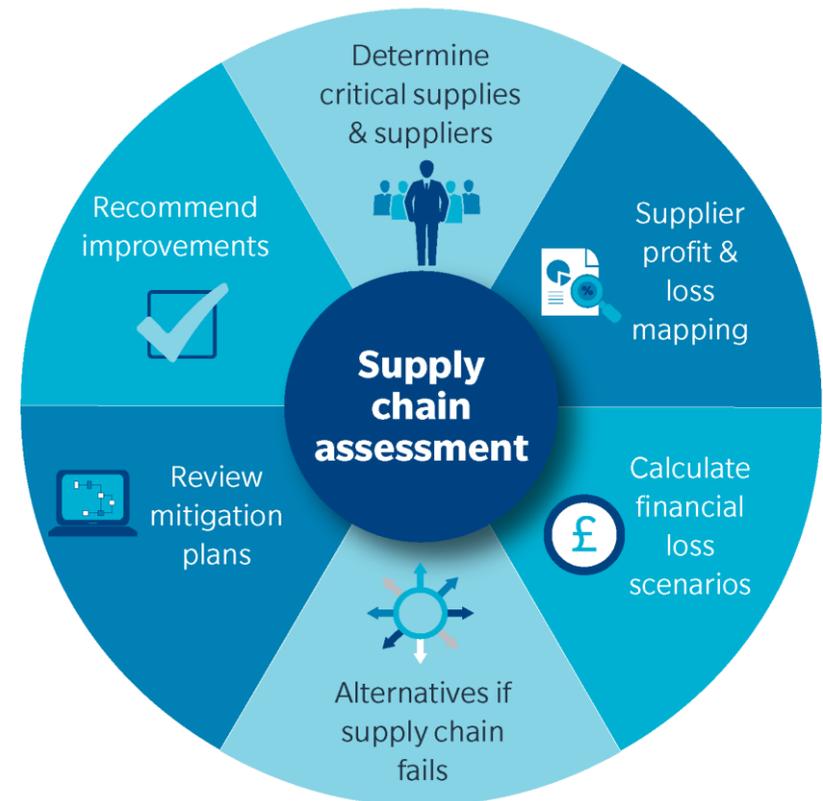
The Aftermath

- Leasing of several Russian Antonov AN124 cargo planes (approx. 20 Mio. EUR charter costs)
- Implementation of an alternative goods transport via air transportation from China to Great Britain, France and Germany
- Arrival at the respective airports two times per week
- 20.000 Playstations per cargo plane
- Strict secrecy about the number of flights, departure and arrival times as well as transport roads for fear of raids and theft



In summary

A resilient and secure supply chain is an understood, assessed, quantified, and managed supply chain.



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