

Supply Chain Risk: Stagnation or Transformation?

NIST ICT SCRM Workshop

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Supply Chain Risk & Enterprise Resiliency

Key Issues

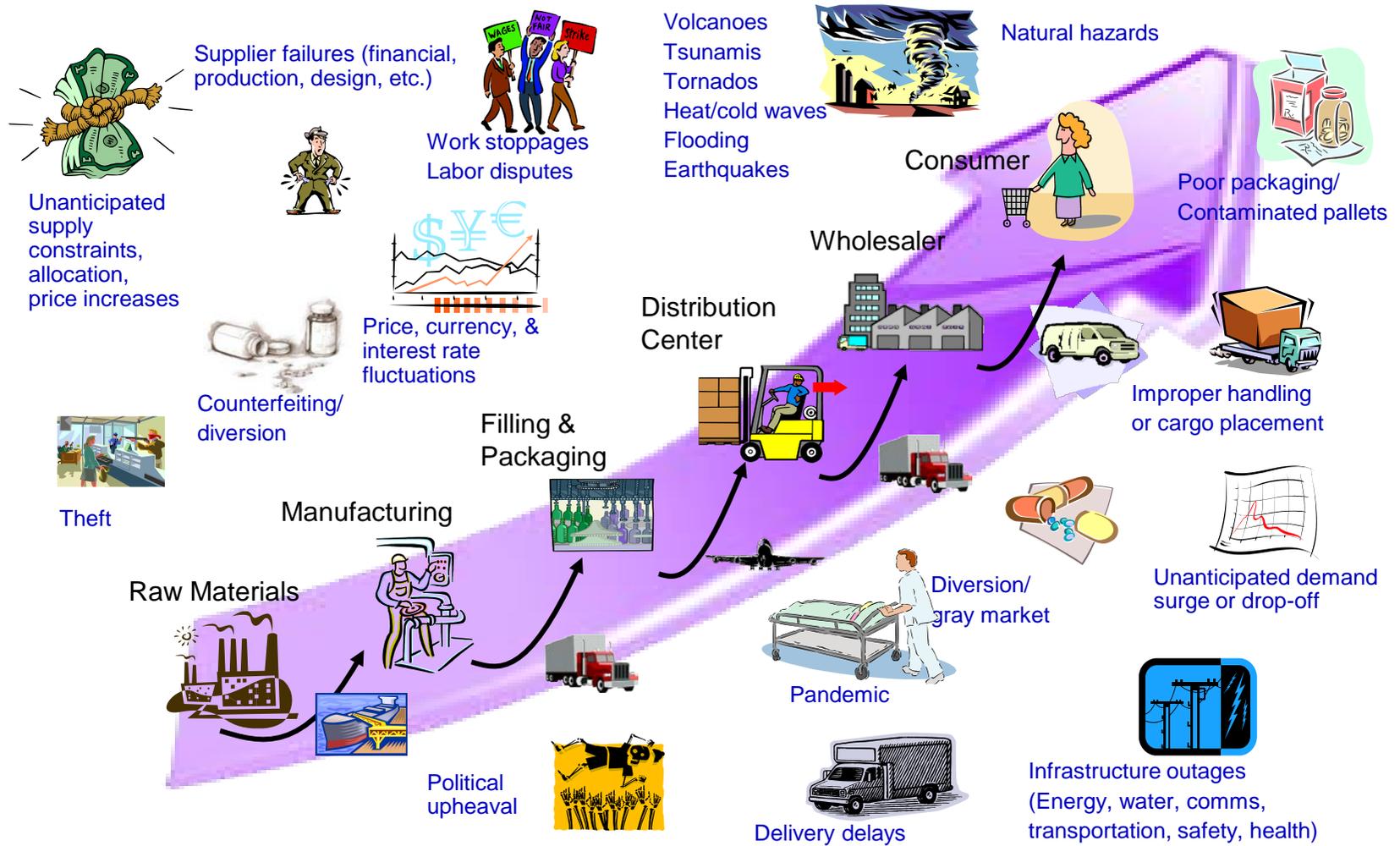
- How has the risk decision evolved/devolved through decades of business and technology transformation?
- What trends are driving greater clustered and systemic risk?
- What is the upside of more advanced, unified supply chain risk strategies and technologies?

Is risk management keeping pace with business change?



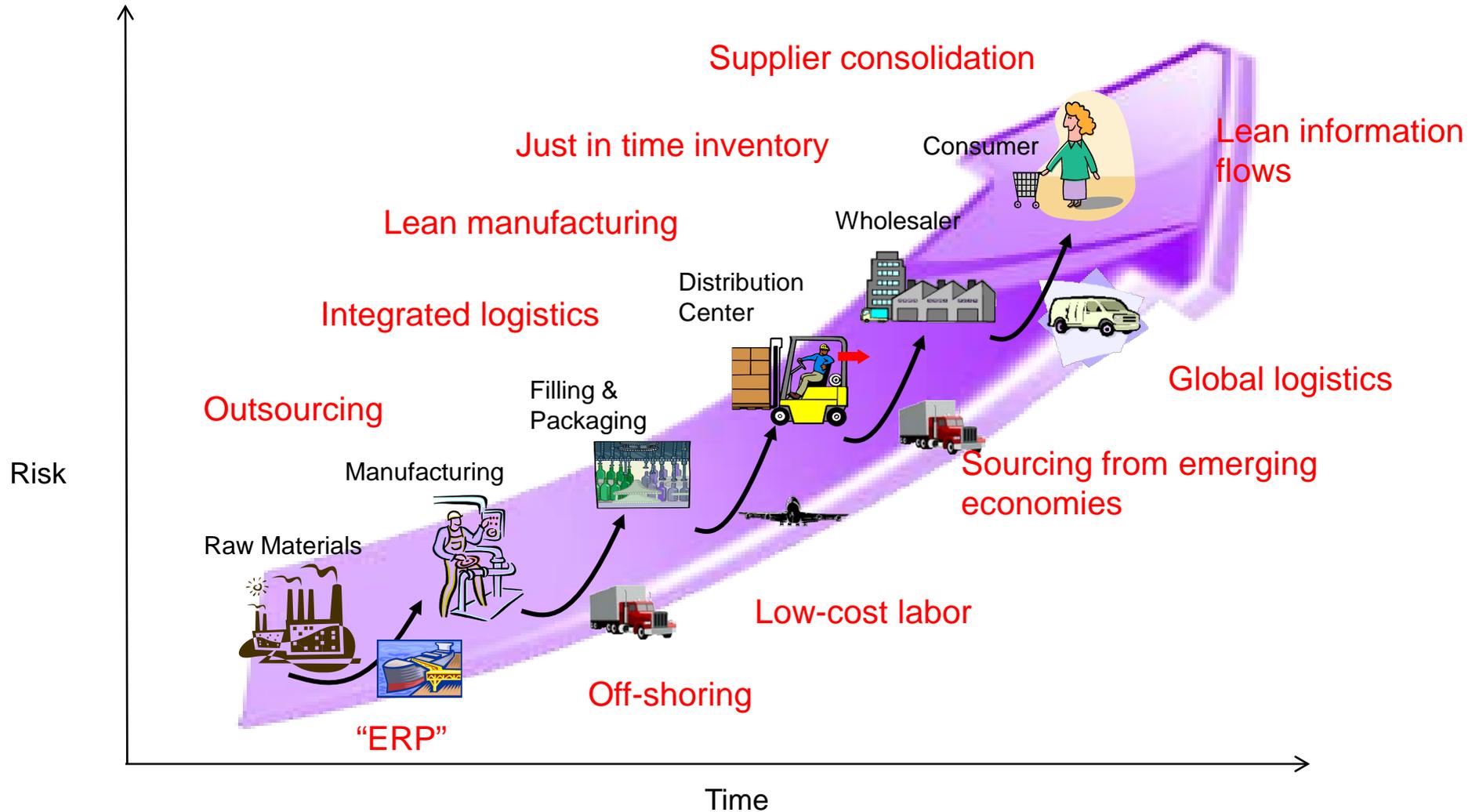
Increasing uncertainty along the supply chain

More Frequent and Relevant



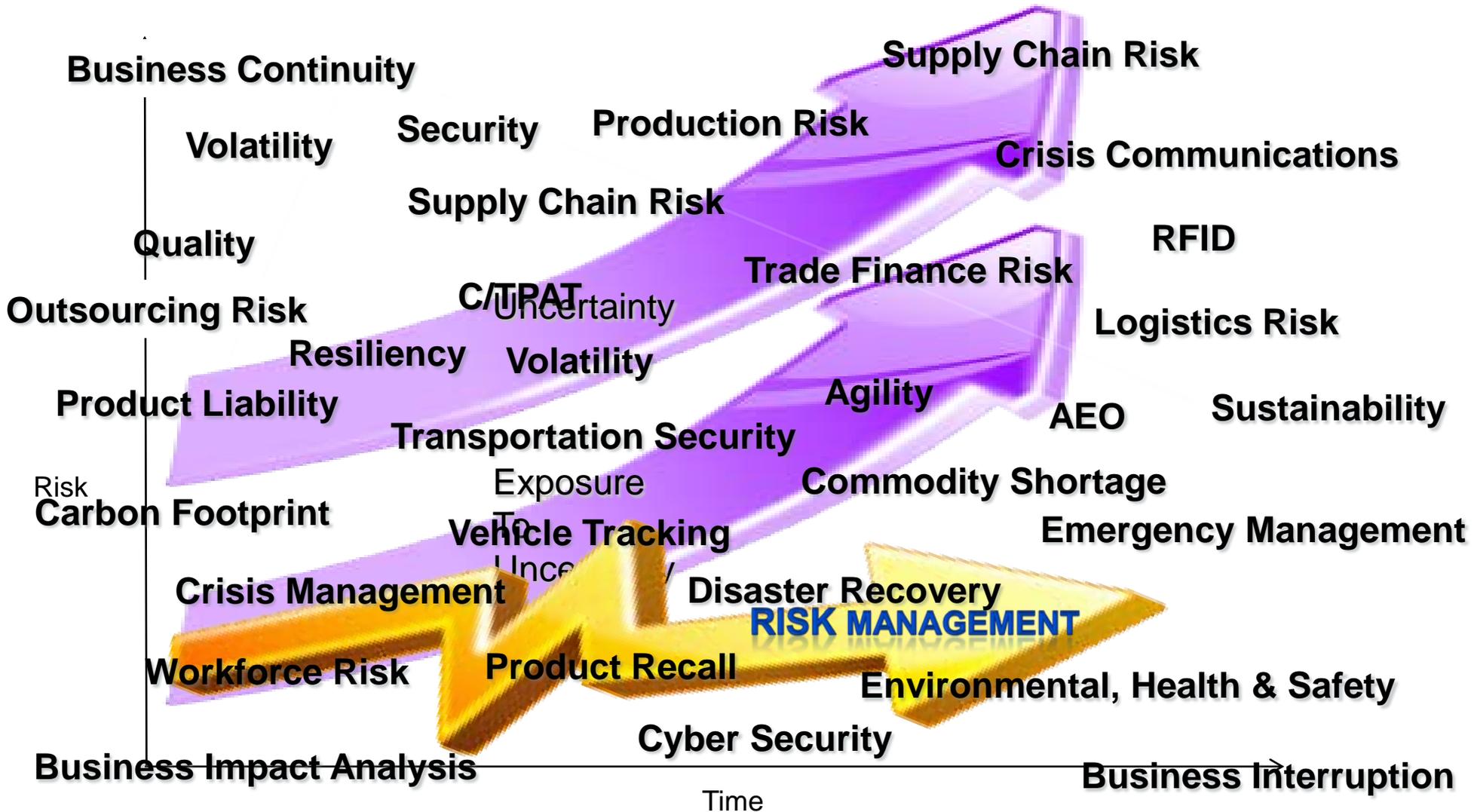
Increasing exposure to uncertainty along the supply chain

Magnitude and duration



Competing Initiatives

Event Driven Industry

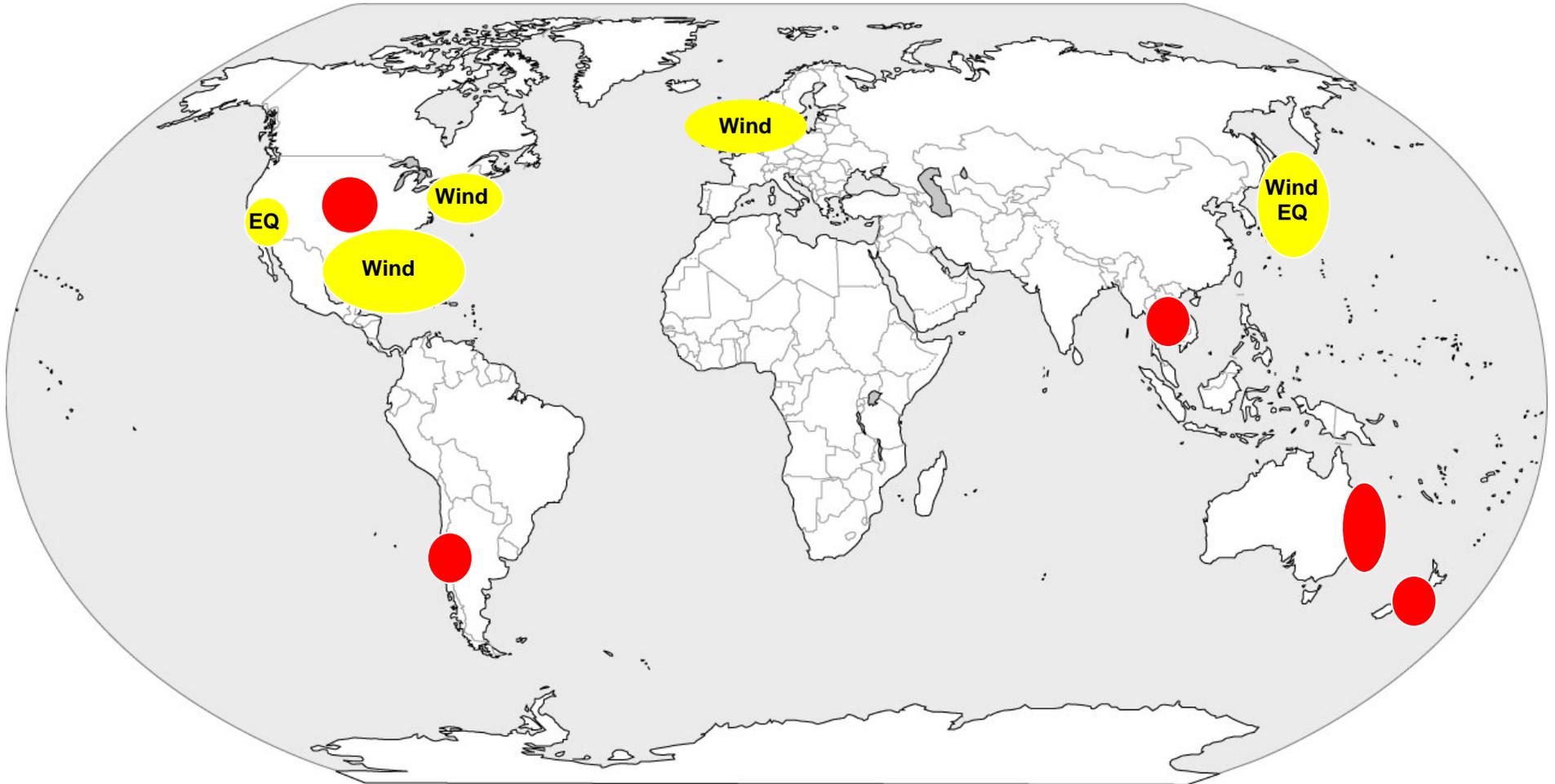


Barriers

- **Visibility**
 - Traceability and motivation to look at risk presented beyond first tier
- **Complexity**
 - Understand and monitor extended SC network design
- **Accountability for risk activities**
 - Ownership beyond functional & asset silos
- **Ownership of the consequences**
 - Willingness and inability of suppliers to “engage and conform”
- **Justification**
 - Business case, metrics, supporting analytics and decision modeling
- **Insurability**
 - Deployment of transfer solutions to address unforeseen risk
- **Relevance**
 - Are risks applicable and solutions germane to the organization

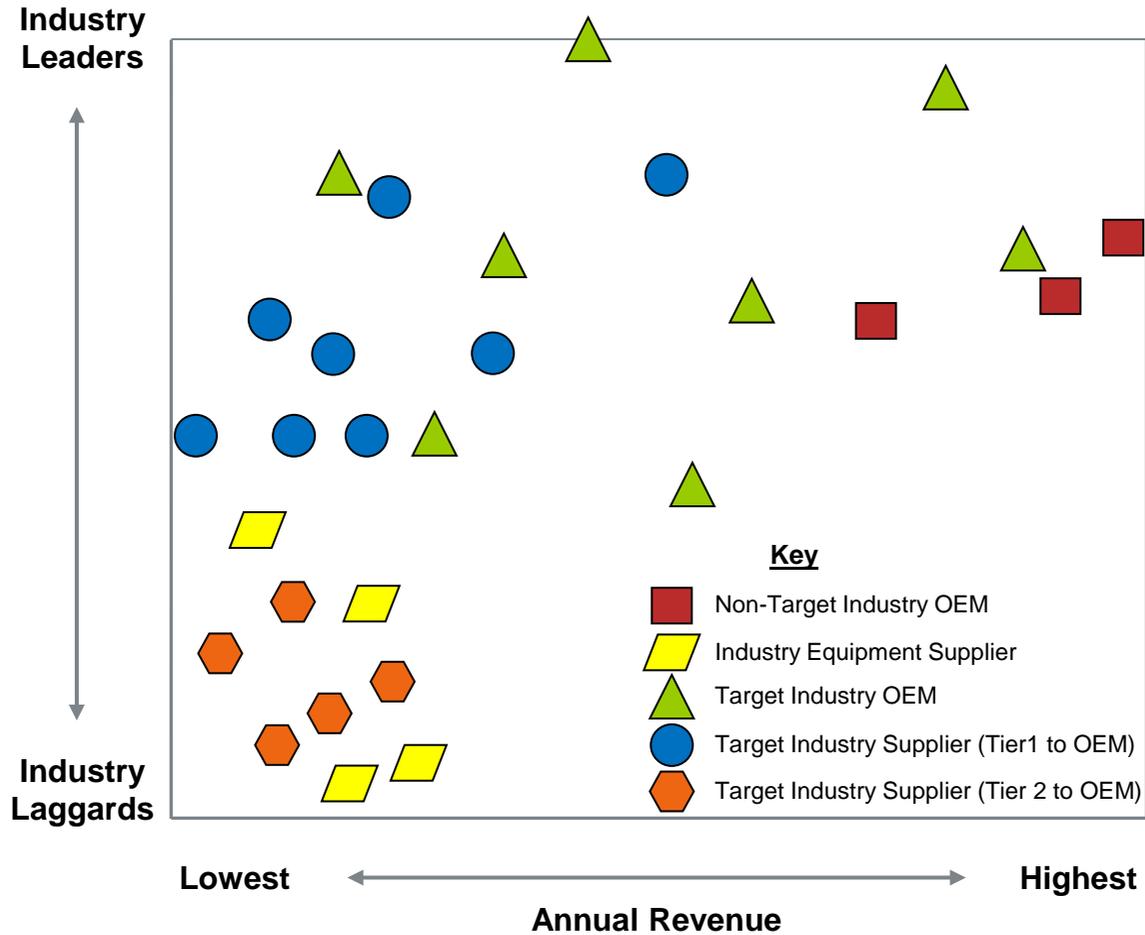
How Accurate are the Professionals at Modelling Risk?

Modelled vs. Actual



Expectations

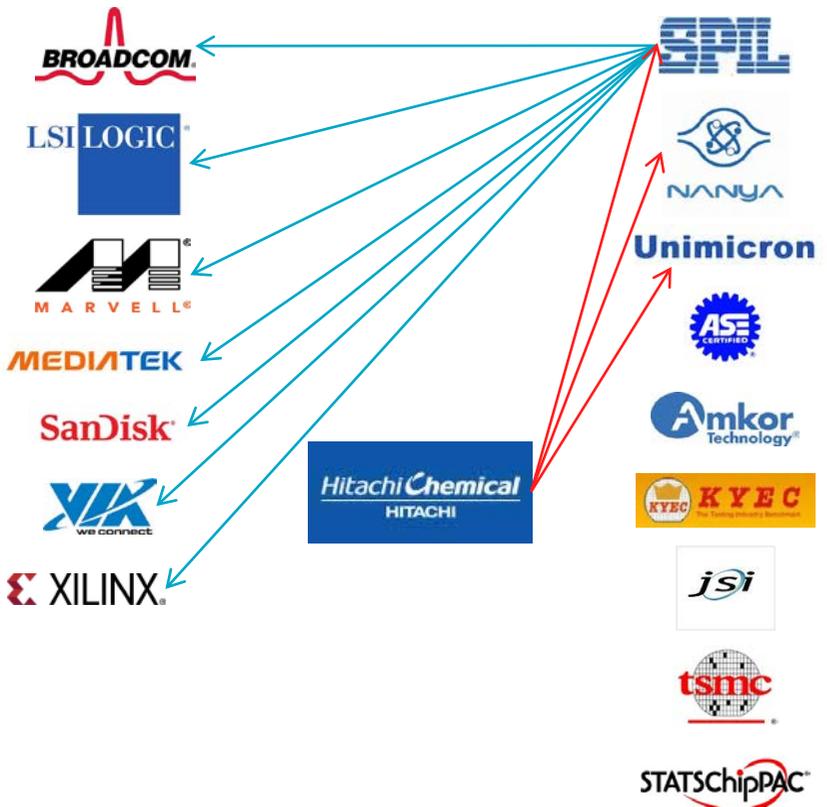
What's Your Business Partner's Capable of?



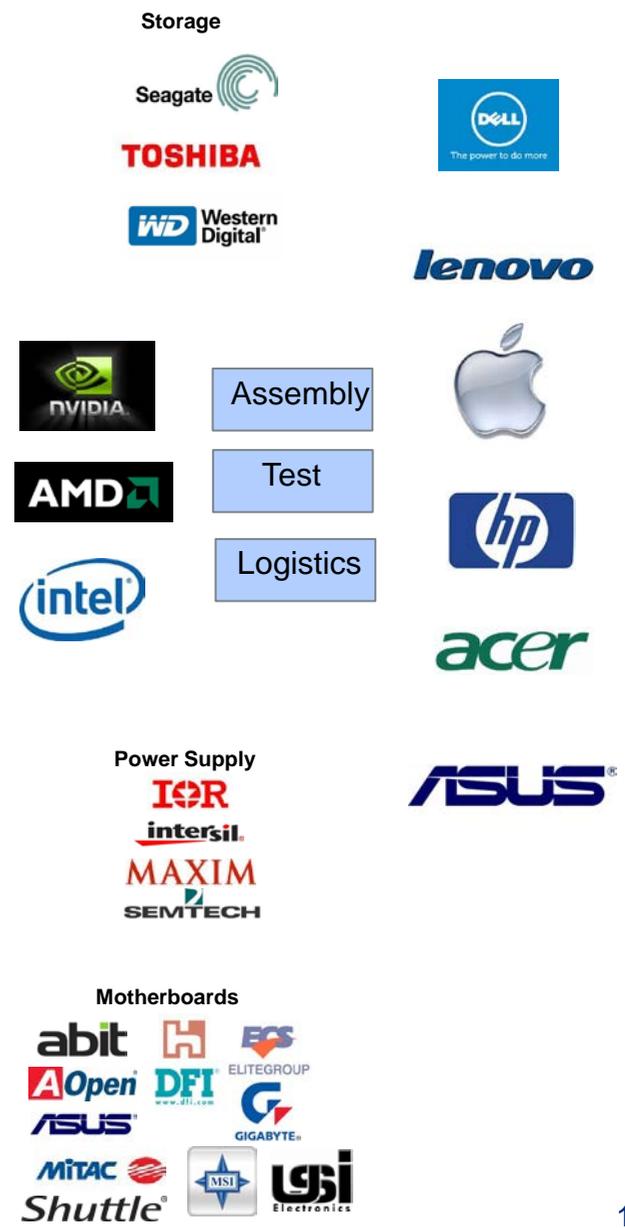
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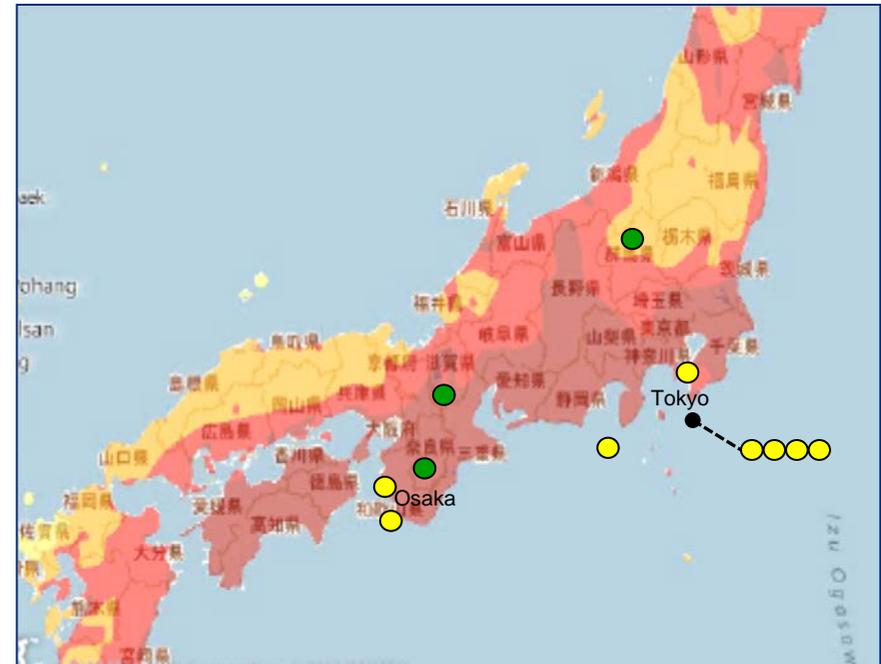
ILLUSTRATIVE ONLY



- Fab
- Bump
- Sort
- Substrate
- Assembly
- Final Test
- Sys Level Test
- Logistics



Clusters

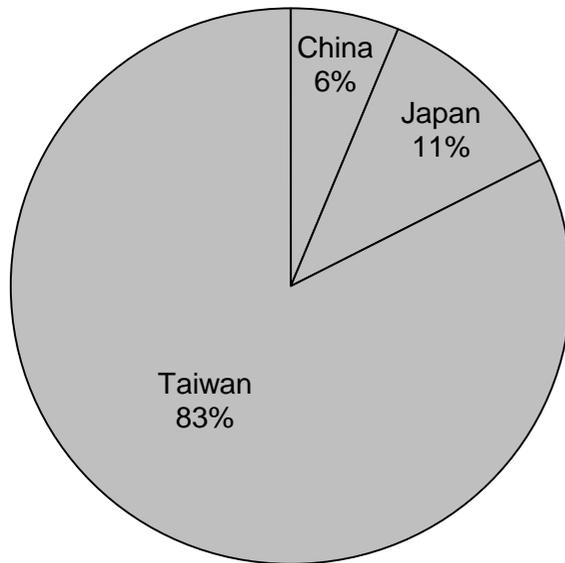


Supply Chain Locations	
	Production
	Tier 2 Suppliers
	Tier 1 Suppliers
	Tier 3 Suppliers

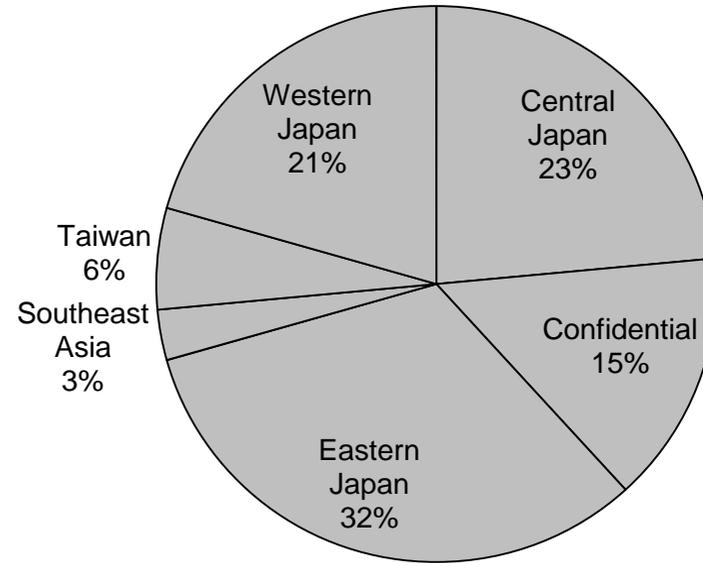
Earthquake Severity	
	Moderate
	Significant
	Severe
	Catastrophic

Concentration Exposure

Level I Taiwan Suppliers' Supplier Locations

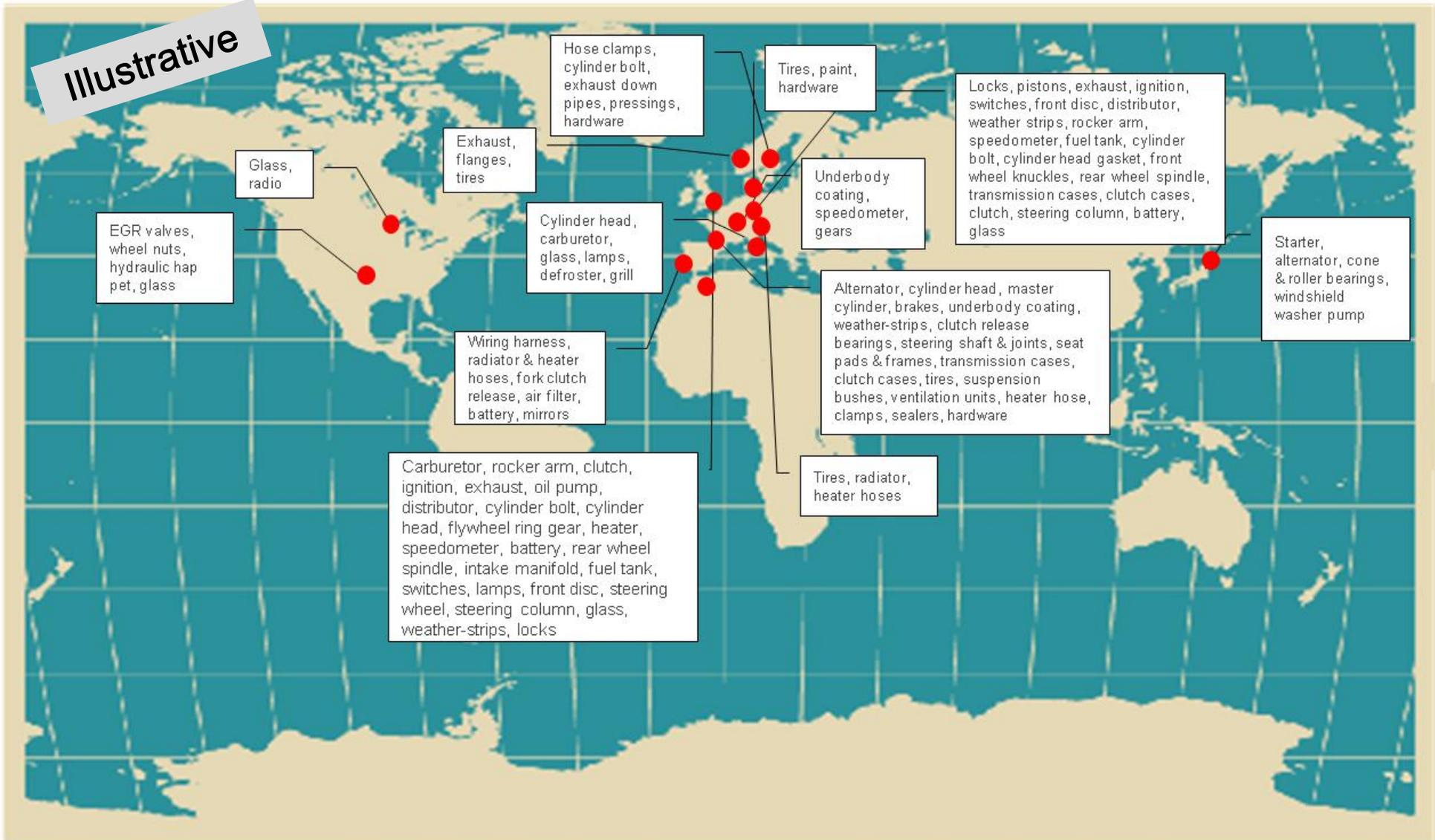


Level II Japan Suppliers' Supplier Locations

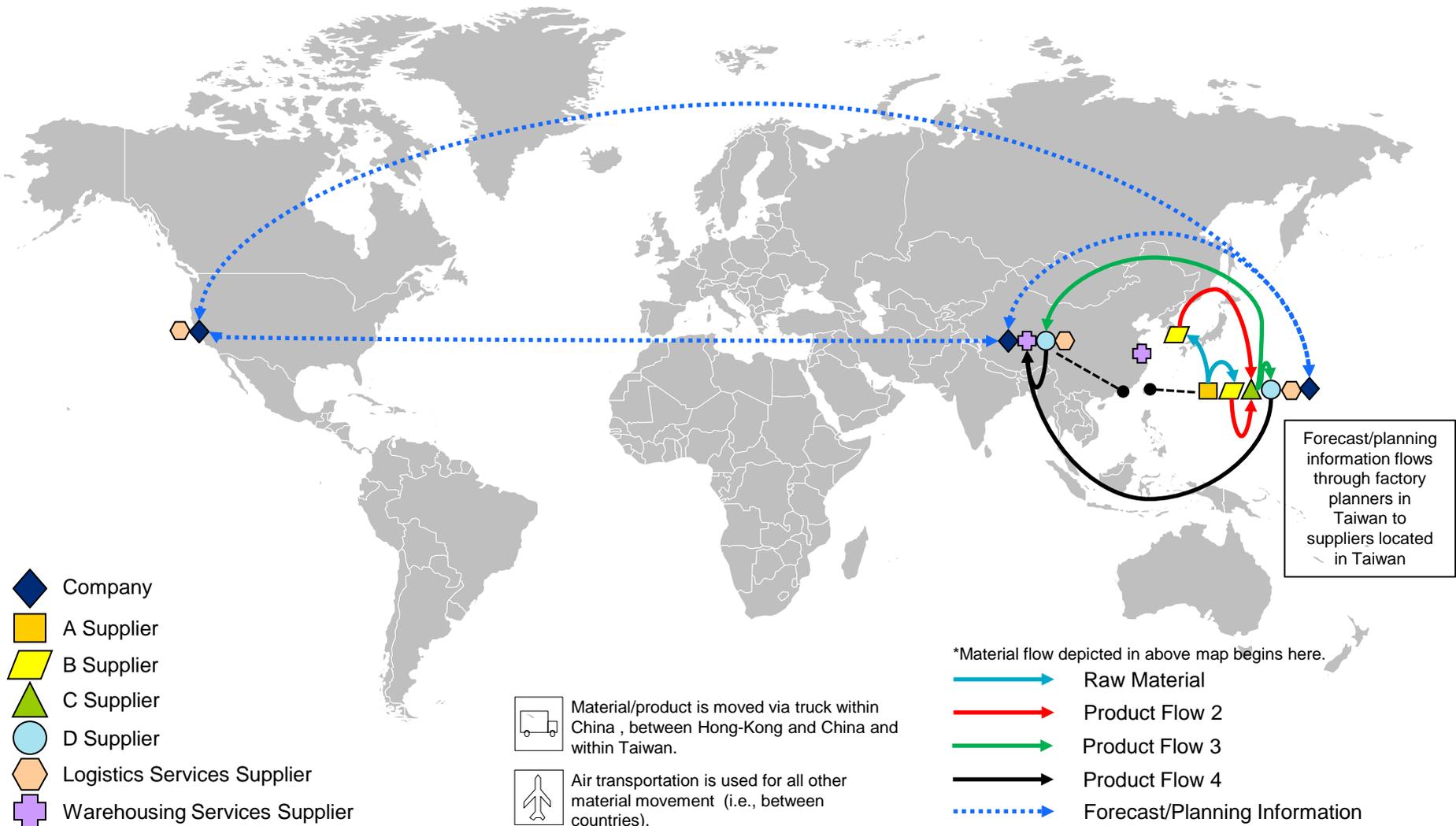


Clusters & Complexity

Illustrative



Flows should not be decoupled



Key Issues

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Upside Opportunities

- Link/measure to shareholder value (quantifiable)
- Root cause systemic effect modeling
- Efficiency/leaning/optimization opportunities (quantifiable)
- Decision modeling (at time of event...supported by business intelligence and analytics)
- Indexing – impact, compliance, threat environment
- Integration opportunities - change management
- Behavioral analysis
- Stress testing (war-gaming and detailed interdependent scenarios)
- Early warning systems, key performance metrics, volatility thresholds

Upside

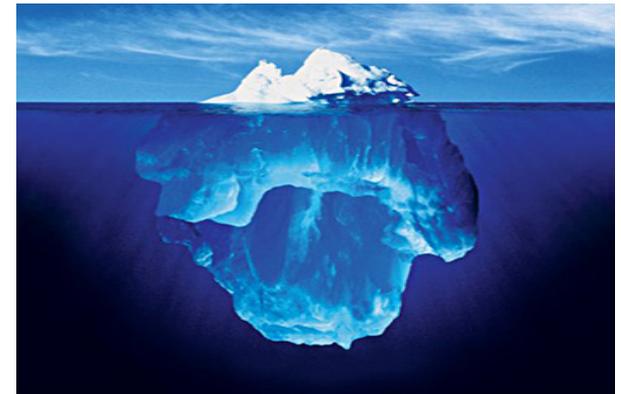
- A “Market”
 - Set of actual or potential customers
 - For a given set of products and services
 - Who have a common set of needs or wants
 - Who reference one another when making a buying decision
- Value of transparency and data
- Value of taxonomy
- Improved efficiency – risk transformation
- Opportunity for reduction in underwriting costs

Successful practices

- ❑ Business aligned, business justified risk management activities
- ❑ Visibility and profiling of extended/horizontal supply chain (for given value streams)
- ❑ Impacts measure (quantified and qualified) along the chain
- ❑ Near real-time event monitoring of key nodes, integration with crisis management program
- ❑ Measured/efficient allocation of risk portfolio of solutions
- ❑ Validated (tested, audited, etc.)
- ❑ Integrated, modeled with other risk programs (ERM, ER, DR, CM)
- ❑ Accountability

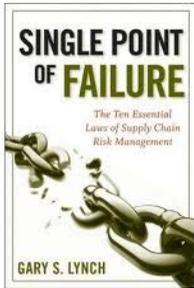
Unsuccessful Practices

- Traditional “asset-based” or functional continuity strategy
- Threat “guessing” versus impact “quantification” strategy
- Transfer strategy that is limited to asset/property related events
- Not leveraging common risk systems & processes
- Assuming or thinking it’s someone else’s responsibility (passive)
- Trying to “bite-off” too much or not leveraging
- Trust but don’t verify
- ...a few more????



Thought Leadership

From a Global Network of Exceptional People Working Together



Marsh RiskSpotlight

Managing Supply Chain Resiliency in an Increasingly Risky World

Although it's tempting to categorize the recent earthquake/tsunami/airline catastrophe in Japan as a highly unpredictable "Black Swan" event, the truth is that organizations operating in today's global marketplace are exposed to a host of increasingly complex and interrelated risks.

Globalization, pressure to compete, an increase in the severity of natural catastrophes, a credit, liquidity, and then solvency crisis, a shortage of natural resources and commodities, and the expansion of the low-carbon oil theme have created enormous volatility in the geopolitical and social landscape.

In the past 12 months alone, in addition to the earthquake/tsunami/airline incident in Japan, we've experienced a devastating earthquake in Queensland, New Zealand, political and social revolution in the Middle East, massive flooding in Australia, a volcanic eruption in Iceland, a volcanic eruption in Japan, a volcanic eruption in Iceland, and the target of spill in the history of the petroleum industry off the Gulf of Mexico.

Systemic business disruptions are now an assumed operating reality as what is being described by some economists as our new global "leaner economy" that, although, does not mean that we have a global power crisis, supply chain is every company, and a significant risk to a business's bottom line can occur as a result of any one of these scenarios.

The recent political and social revolutions taking place in the Middle East, for example, present a substantial threat to one of our most critical supply chains—energy and the flow of oil. Oil prices are volatile, and the flow of oil is subject to political, economic, and social disruptions, such as the flow of oil from the Gulf of Mexico.

The operational thinking that occurred in Queensland, Australia, last year forced the shutdown of Cairn's Bay, a critical terminal within the



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INTERNATIONAL
TRADE
ADMINISTRATION



Case Study

Supplier Diagnostic for a High-Tech Firm Yields Improvements in Supply Chain Resiliency Program



MRC's Supply Chain Resiliency Solutions

MRC's global Supply Chain Risk Management (SCRM) Practice provides unique proprietary solutions that can help companies address the complexities of supply chain resiliency. We assist organizations with the development of supplier risk programs, the optimization of design for resiliency, and the assessment and quantification of risk to support of supply chain risk management strategies and objectives.

MRC, a business unit of Marsh Inc., is a global consulting organization comprised of more than 800 consultants in over 41 countries dedicated to providing clients in all industries and across all geographies with strategic, advice and innovative solutions across a comprehensive range of complex and non-traditional risks. MRC experts assist clients with risk identification, assessment, quantification, retention, management, resilience, and financing.

The Supply Chain Resiliency Challenge

A multinational high technology firm specializing in the design and construction of industrial automation control and information solutions was considering the risks it faced from its suppliers. Like many firms of comparable size and scope, it relied on an extensive network of over 4,000 suppliers with over 400 critical suppliers, ranging from component manufacturers to distributors. As its products were highly engineered, a failure or interruption in its suppliers supply chain would have significant implications for its customers and ultimately its margins and revenue.

The company had previously identified assessment and focused on risk mitigation programs, thus use of on-site audits, surveys, audits, and legal contracts, but senior management realized that their prior work identified because it was only addressing a very small percentage of the suppliers. Although the company knew there was value in these activities, it was interested in taking more proactive steps. However, with more than 200 product families and 4,000 products, the deployment of a deeper level of anticipatory tools and real-time monitoring systems would be expensive.

The MRC Solution

The company contacted Marsh Risk Consulting (MRC) hoping to establish a more proactive and comprehensive supplier risk program without creating an embedded cost center. In order to accomplish these goals, MRC designed a supplier evaluation and audit the company in making its products by process and value, concluding that 25 product families covering approximately 100 products comprised more than 10 percent of its total revenue. Within these product families, the top 10 suppliers were identified in terms of their criticality, and a more comprehensive survey was developed.

MRC then:

- included a risk assessment, coverage, a risk audit and costs

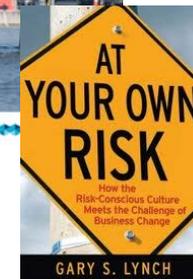


APRIL 2013

SUPPLY CHAIN RESILIENCY:
HOW PREPARED IS YOUR ORGANIZATION?

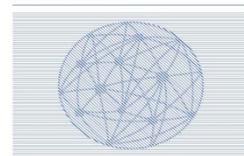


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Seventh Edition

An Initiative of the Risk Response Network



MARSH RISK CONSULTING

SUPPLY CHAIN RESILIENCY

Today's global supply chains are delivering products and services to market faster, better, and cheaper than ever before. Yet advances such as just-in-time manufacturing, single sourcing, and off-shoring in low-cost emerging or developing economies also have increased volatility risk and the impacts of disruptive events. Organizations are beginning to feel the pain of systemic failures caused by a lean, fast-moving, and constantly evolving flow of global trade. The consequences of a negative event are getting C-suite and board-level attention given global economic uncertainty and the interdependent nature of business relationships, which have exposed significant gaps in business resiliency. Governments, NGO's (non-government organizations), and regulators also are pressuring organizations to better understand and manage the risk to their supply chains and their customers.

Marsh Risk Consulting (MRC) provides Supply Chain Risk Management (SCRM) solutions to help organizations better understand and manage the risk to their supply chains and their customers.

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MARSH RISK CONSULTING

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