

Risk Management in Dynamic Supply Chains

Kees van Loo – Geocom Informatik GmbH

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Overview



- GIS & Manufacturing
- Supply Chain Challenges
- Solution Concept
- Case Study

GIS Platform: Solutions and Templates for Manufacturing

Industrial Plants

Global Sites

Network Solutions

- Streets
- Wastewater
- Stormwater
- Gas
- Electro
- Water
- Pipeline
- Material Supply

Facility Solutions

- Pipe bridges
- Technical Facilities / Installations indoor/outdoor
- Tank Farm Management
- Chimneys
- Fences

Area Management

- Green Areas
- Security Management, Risk Areas, Security Zones
- Parcel Management, Real Estate
- Location and Construction Areas
- Contaminated soils
- Soil Management

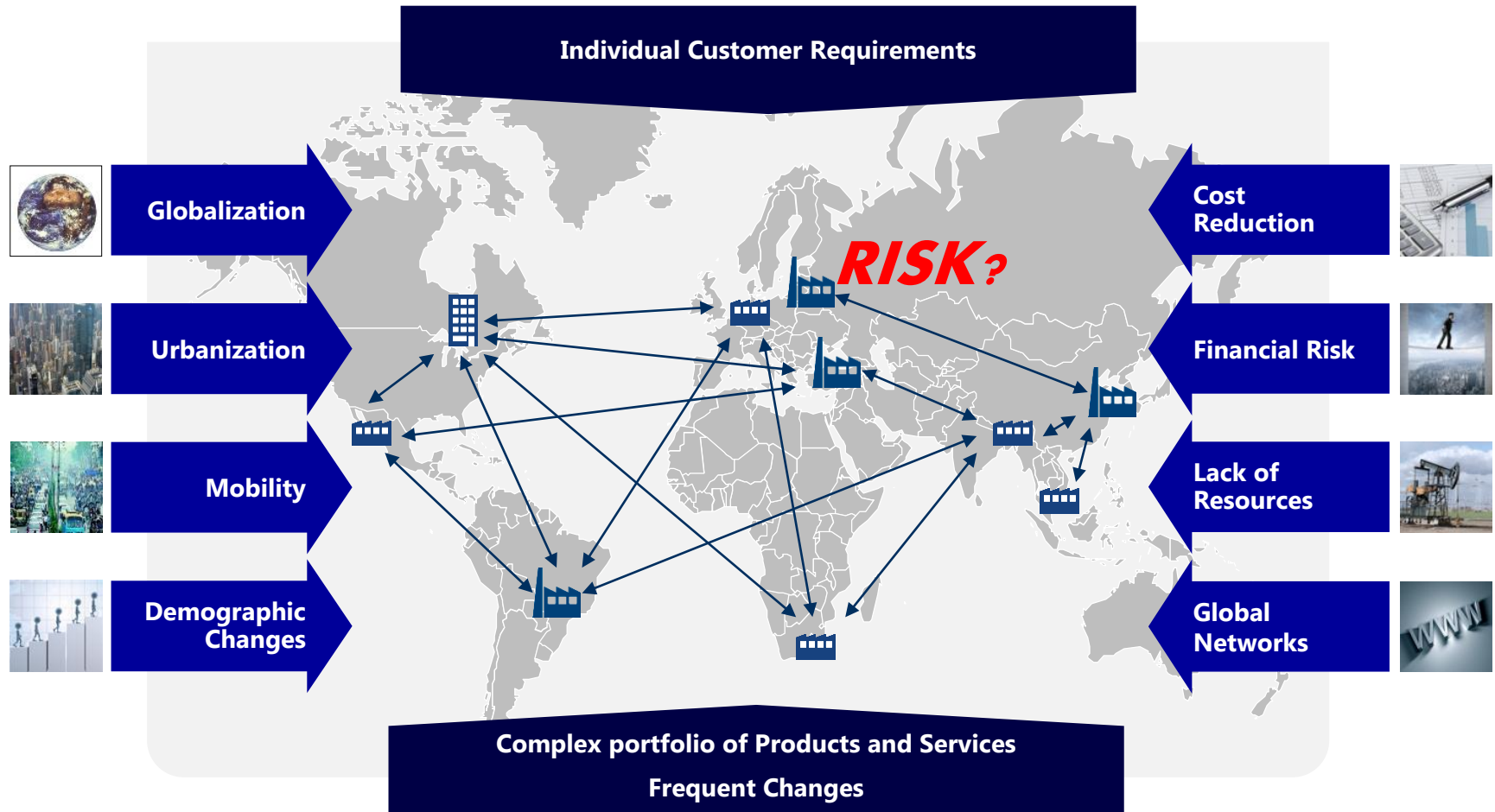
Logistics Solutions

- Sites logistic
- Navigation
- Traffic Optimization
- Storage management
- Construction sites management
- Roads- and traffic areas

Global Sites Solutions

- Global Sites
- Contaminations and resulting costs
- Riskmanagement
- Supplier Risk Mgmt.
- Supply Chain Mgmt.
- Corporate Security

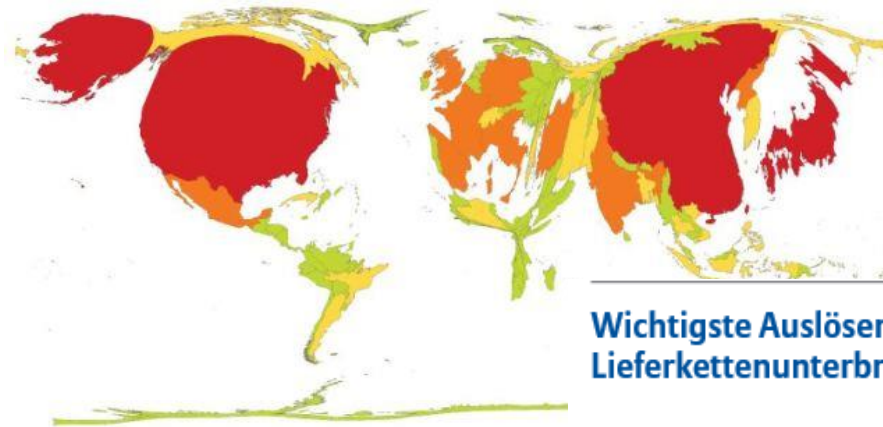
Supply Chain Challenges



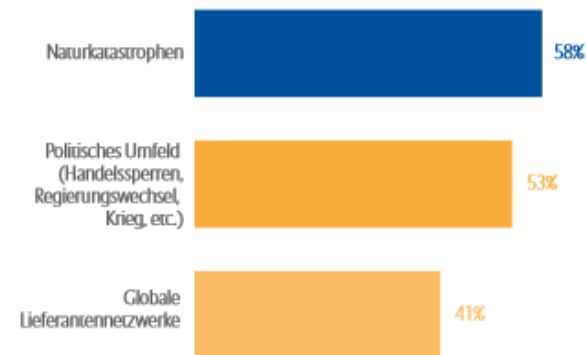
Natural Hazards: Impact on Supply Chains

Mean annual economic losses due to natural disasters (1980–2008)

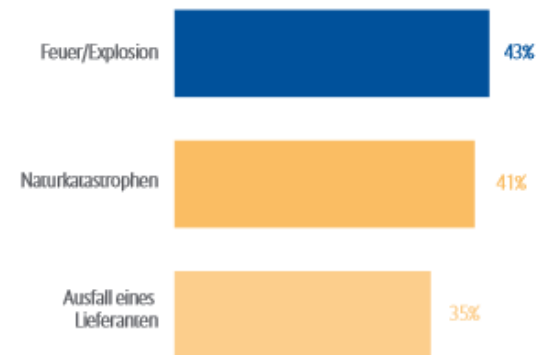
(the cartogram provides an image of the world where a countries size has been distorted relative to annual economic losses)



Wichtigste Auslöser von Lieferkettenunterbrechungen



Die am meisten gefürchteten Ursachen von Betriebsunterbrechungen



Quelle: Allianz Global Corporate & Specialty
Die Prozentwerte geben den Anteil aller relevanten Antworten wieder (484). Mehrfachnennungen berücksichtigt.

Political Risks – Critical / Conflict Material Supply Terrorism & Political Violence

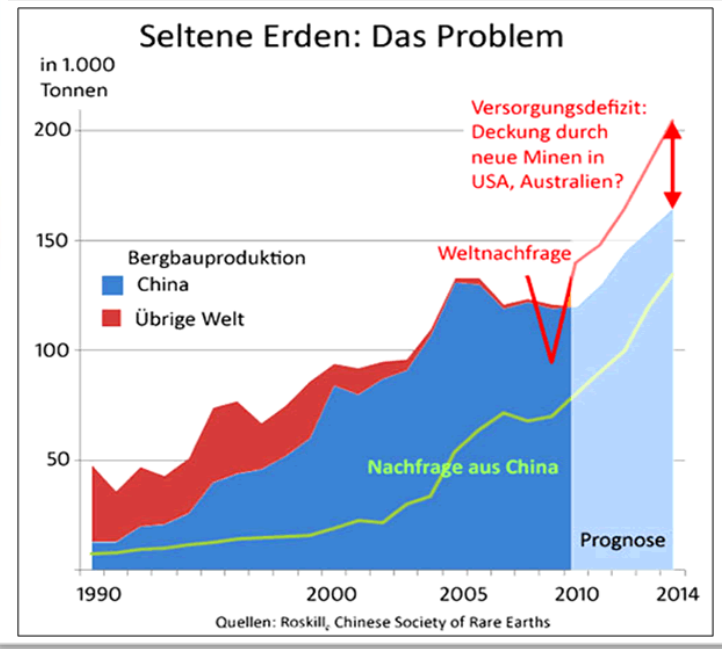
FOTO: PORSCHE
Quelle: FTD

Moderner Fahrzeugbau: Seltene Erden en masse

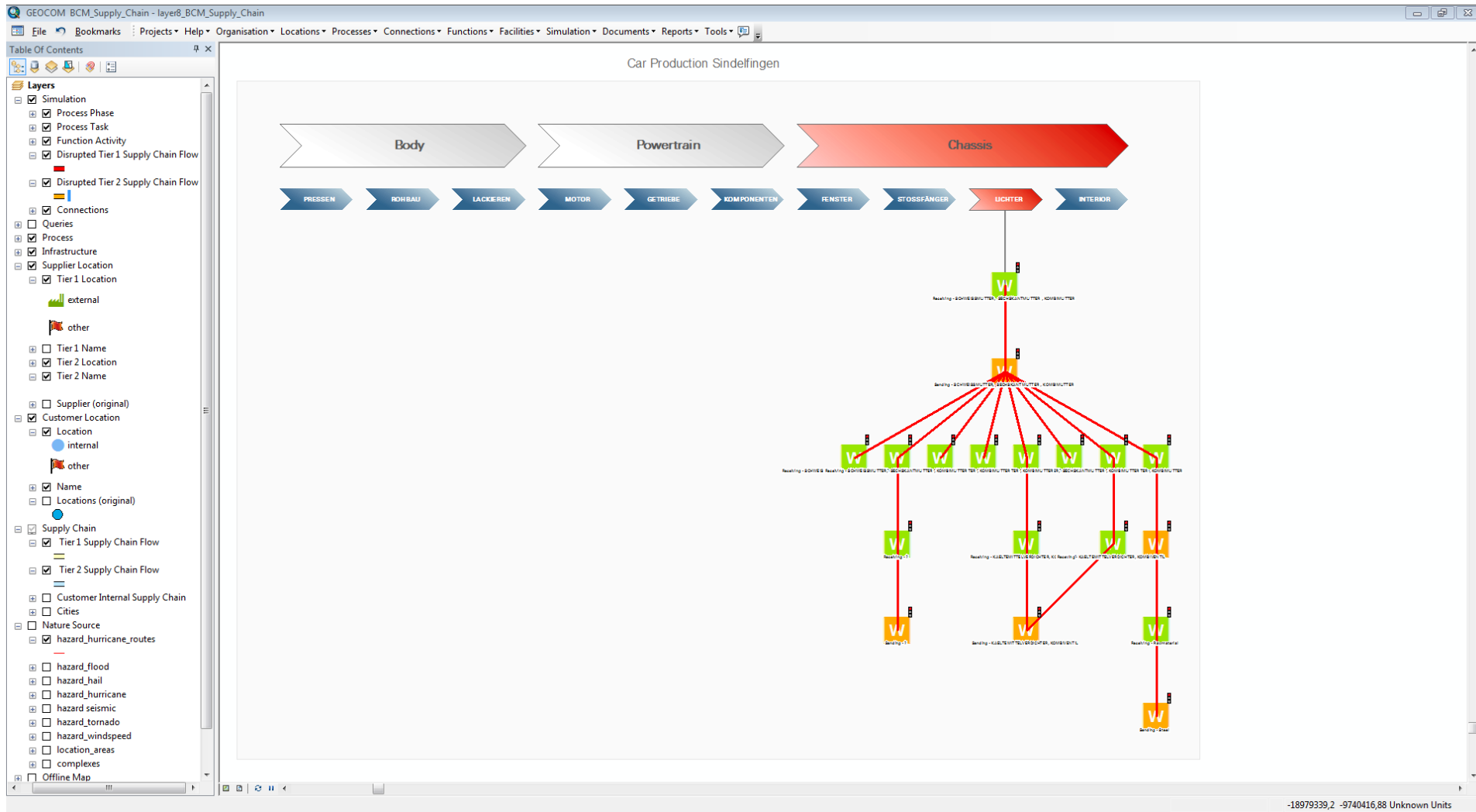
Porsche Panamera: In Hybridversionen moderner Autos finden sich mindestens acht seltene Metalle

- Nickel-Metall-Hybridbatterie
- UV-Licht-absorbierende Scheiben
- LCD-Bildschirm
- Hybridantrieb
- Glas für Scheinwerfer
- Sensoren
- Polituren für Scheiben und Spiegel
- Katalysator
- Elektromotoren

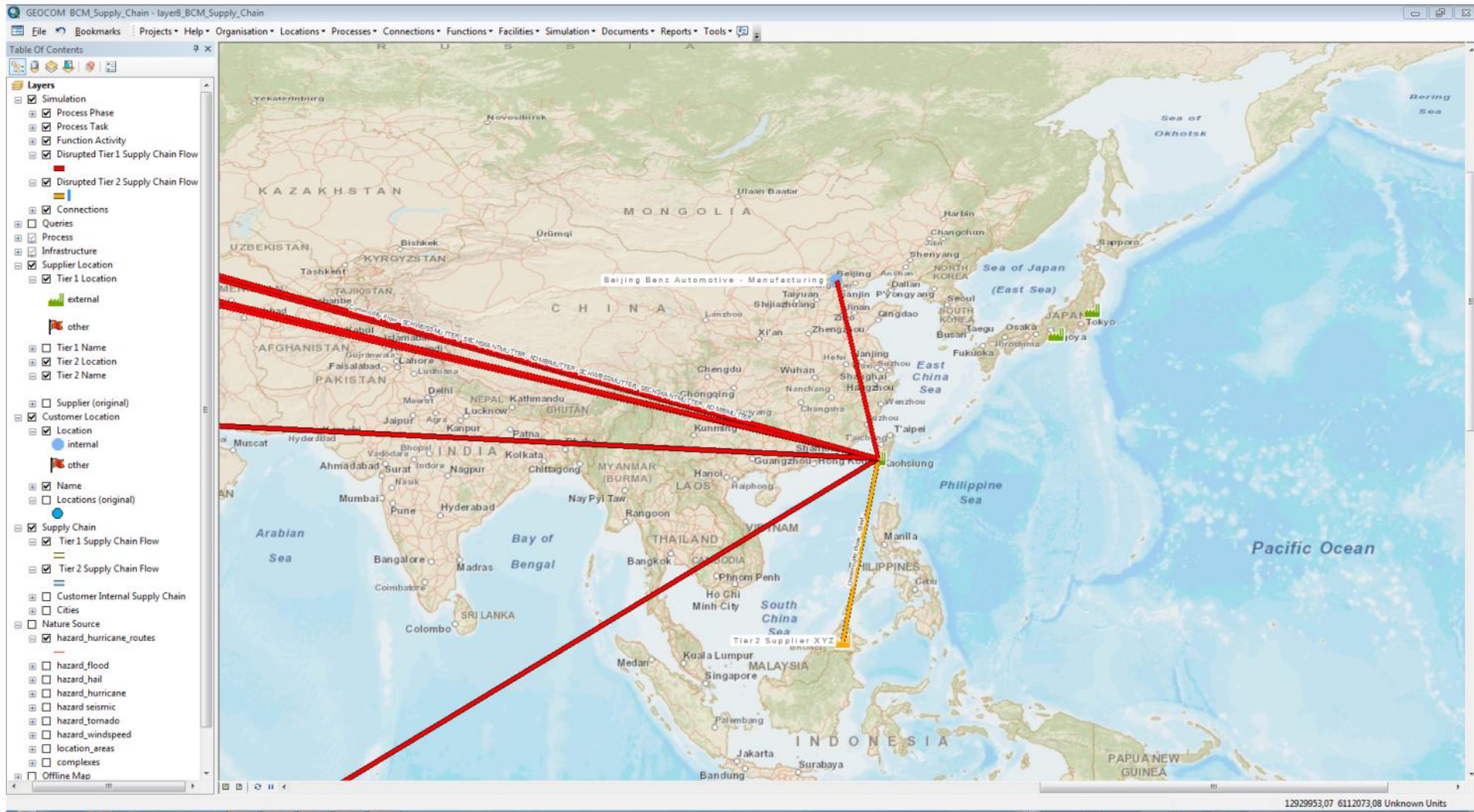
- Cer
- Dysprosium
- Europium
- Lanthan
- Neodym
- Praseodym
- Terbium
- Yttrium



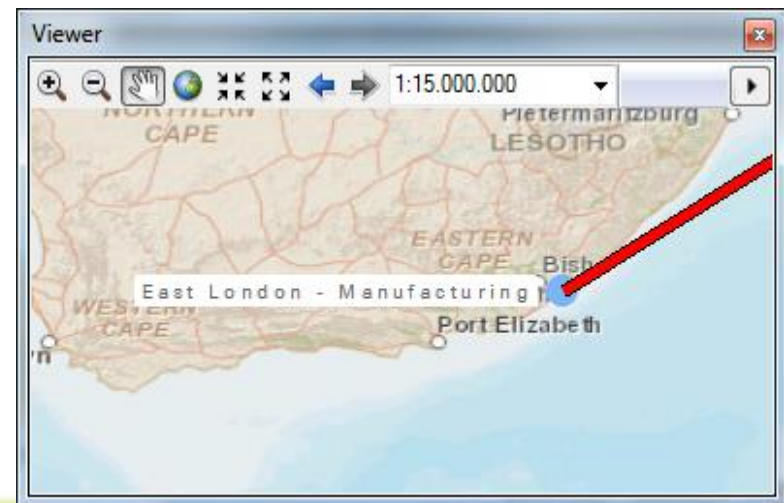
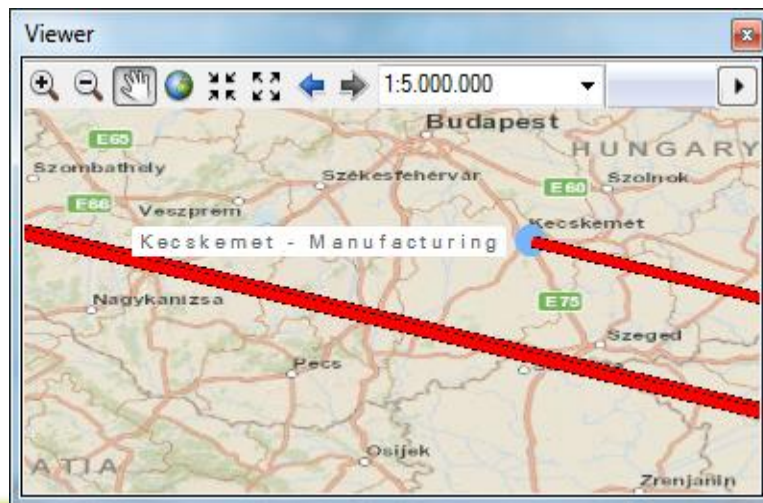
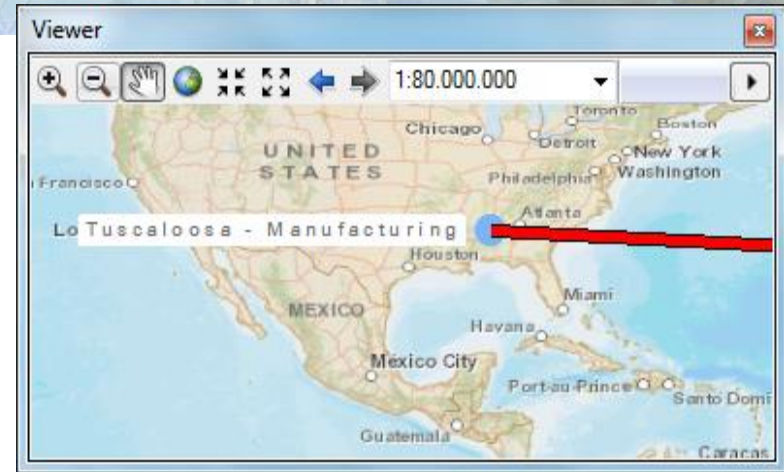
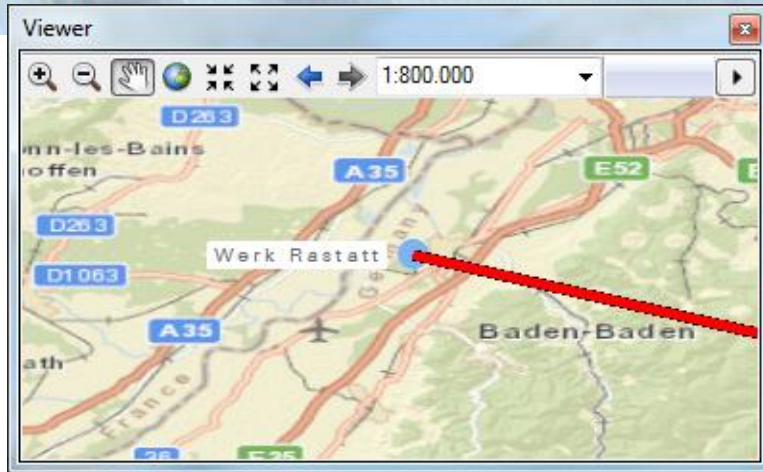
Tier 1, Tier 2, Tier x Suppliers



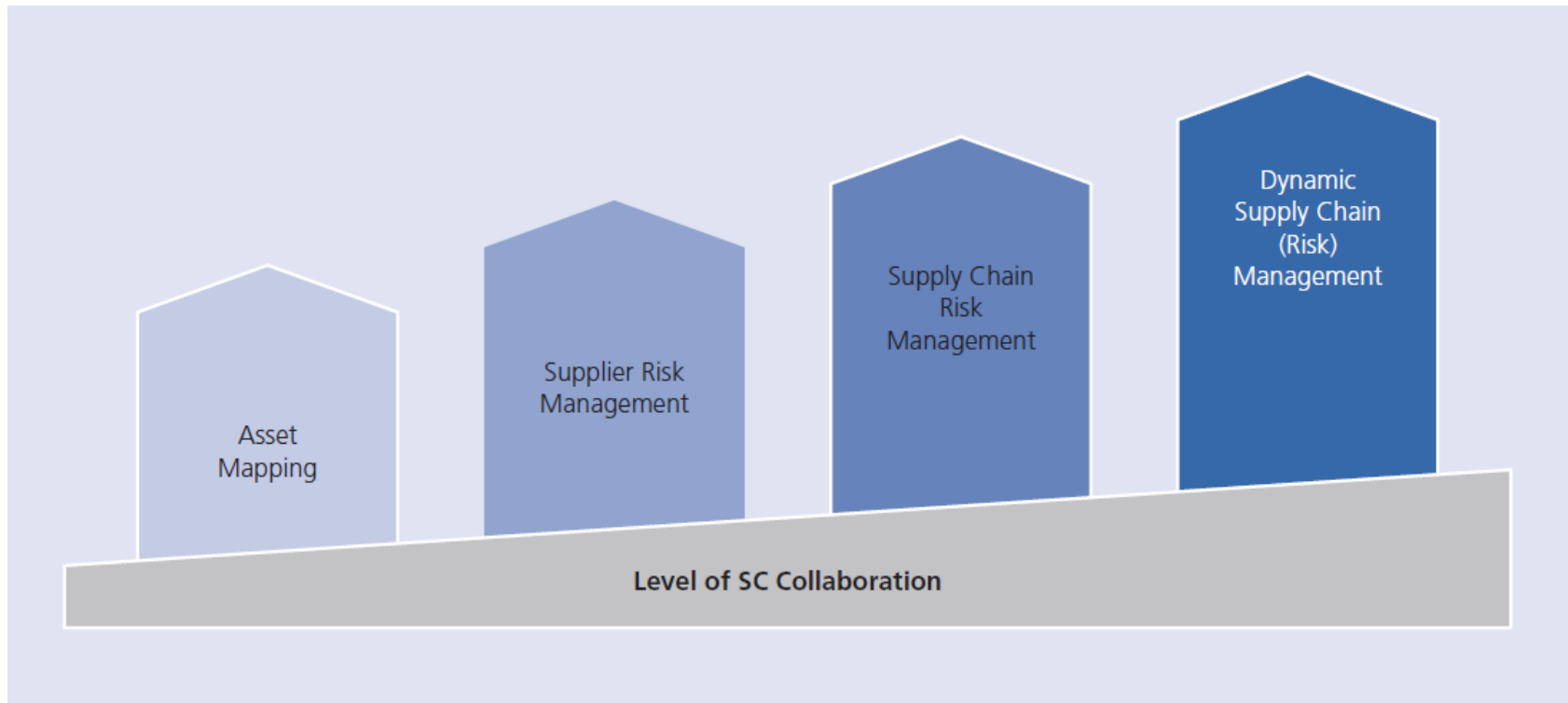
Effect of Tier 2 Interruption on Tier 1 Supply Chain



Effected Locations by Tier 2 Interruption



Dynamic Supply Chain Management: Four Steps



Example: Asset Mapping

enter a location name

BASEMAPS

Selections

Show all locations with **Risk Reports** ▼

- Risk Reports
- Risk Improvement Measures
- Complex Details
- Photos
- No Filter

Location Information

Company Name
Location Name
City
Business Division
Total Sum Insured (PD)
Total Sum Insured (BI)
Total Sum Insured (PD&BI)

SHOW DETAILS

Display Complex Areas: none ▼
Display Complex Protection: none ▼

Location Information

Current Info | Filter | Last Refreshed: 10:08 | Risk | Photos

Select Risk Survey data

all

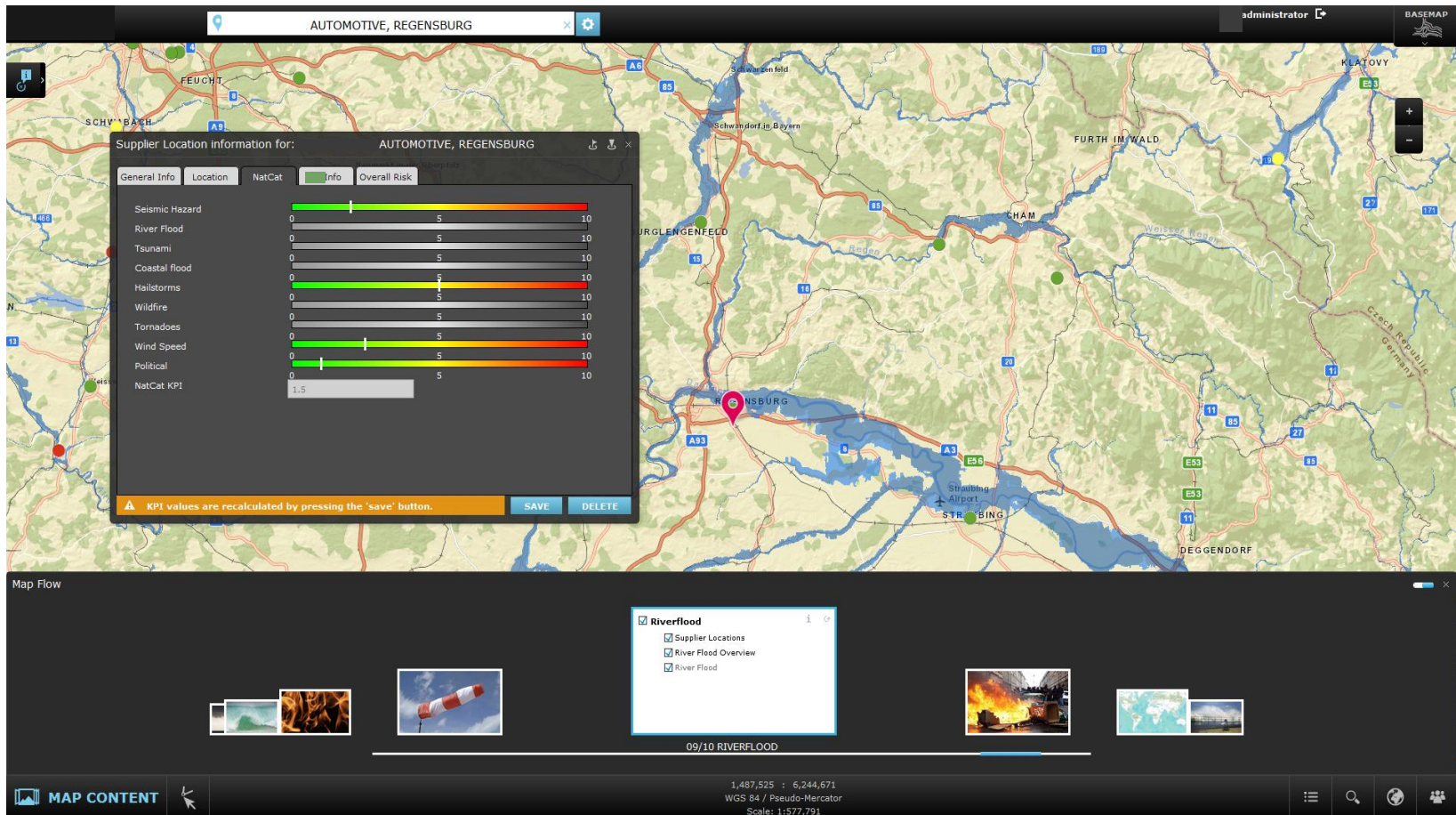
37.0% 10.0% 10.0%

10.0% 10.0% 10.0%

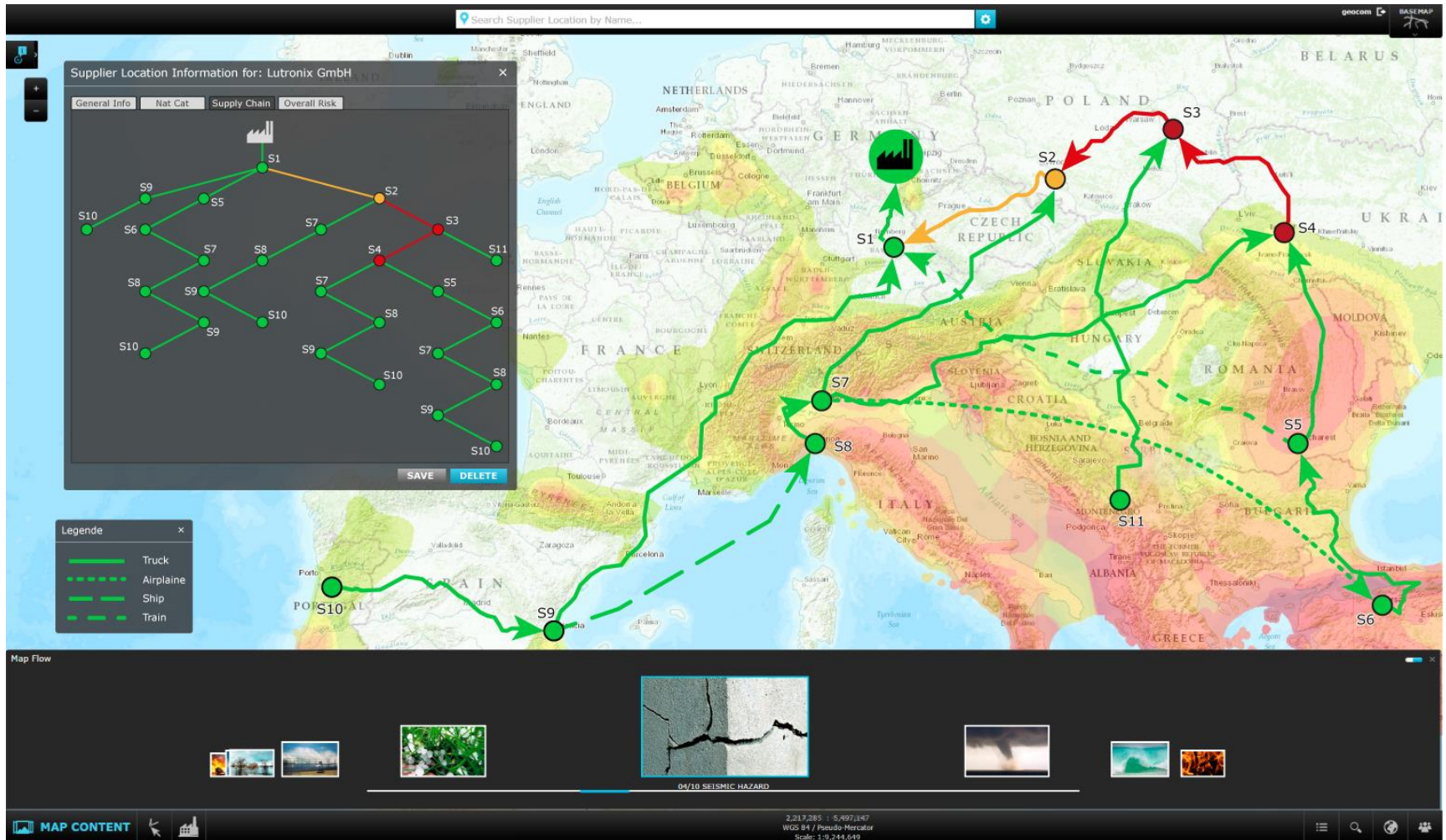
10.0% 10.0% 10.0%

Location Name	Survey Date	Risk Number	Description	Type	Priority	Implementation Status	Investment
Surveyingen	4/17/2012	2013.04	Sicherung der Kunden	technisch	Priority 2	Umsetzung wird geplant	
Surveyingen	4/17/2012	2013.05	Reinigung des	organisatorisch	Priority 2	Umsetzung wird geplant	
Surveyingen	4/17/2012	2013.04	SLI Lagerung in Risk-40	organisatorisch	Priority 2	Umsetzung wird geplant	
Surveyingen	4/17/2012	2013.05	Ergebnisbericht zu	technisch	Priority 2	Umsetzung wird geplant	
Surveyingen	4/17/2012	2013.05	Reinigung des	organisatorisch	Priority 2	Umsetzung wird geplant	
Surveyingen	4/17/2012	2013.05	Lagerung in Risk	technisch	Priority 2	Umsetzung wird geplant	
Surveyingen	7/2/2011	201107	Schulung	schulisch	Priority 2	Umsetzung erfolgt	
Surveyingen	7/2/2011	201108	Implementierung in den	technisch	Priority 2	Umsetzung wird geplant	
Surveyingen	7/2/2011	201108	Reinigung des	technisch	Priority 2	Umsetzung wird geplant	
Surveyingen	7/2/2011	201108	Ergebnisbericht	technisch	Priority 2	Umsetzung wird geplant	
Surveyingen	7/2/2011	201108	Reinigung des	technisch	Priority 2	Umsetzung wird geplant	

Example: Supplier Risk Management

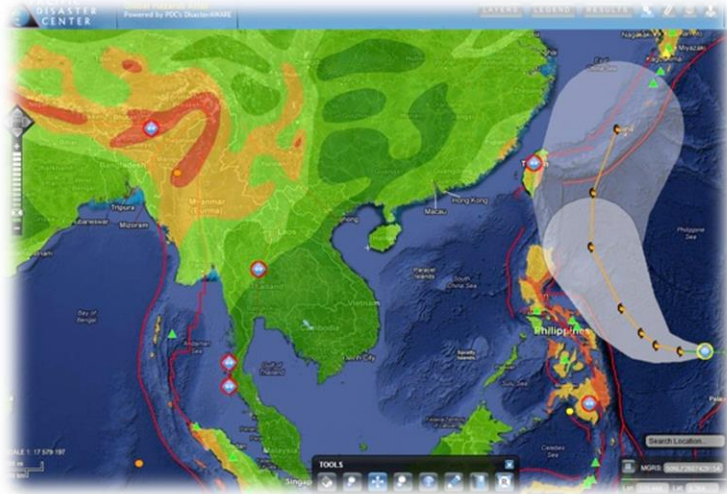


Example: Supply Chain Risk Management



Example: Dynamic Supply Chain Management

Live Data Streaming Event Management



Alert and Messaging System



Supply Chain(s) Modulation and Securization





Conclusion

- Significant Impact on Operations
- High Acceptance
- Non-Traditional User Group
- GIS Makes a Difference!
- Growth Potential for Esri Community....
- ...if we dare to get out of our comfort zone!

Esri Deutschland Group GmbH



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con terra GmbH Münster



Geocom Informatik GmbH Kranzberg

Niederlassung Hamburg

Niederlassung Köln

Geocom Informatik AG Burgdorf

Niederlassung Zürich

Kontakt:

Jürgen Lutz

Geocom Informatik GmbH

Ringstraße 7

85402 Kranzberg

Telefon +49 8166 677 0

j.lutz@geocom-informatik.de

geocom-informatik.de