Risk Management in Dynamic Supply Chains

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Overview

- GIS & Manufacturing
- Supply Chain Challenges
- Solution Concept
- Case Study
### GIS Platform: Solutions and Templates for Manufacturing

#### Industrial Plants

**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

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

**Global Sites**

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

Individual Customer Requirements

- Globalization
- Urbanization
- Mobility
- Demographic Changes
- Cost Reduction
- Financial Risk
- Lack of Resources
- Global Networks
- Complex portfolio of Products and Services
- Frequent Changes

RISK?
Natural Hazards: Impact on Supply Chains

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

Wichtigste Auslöser von Lieferkettenunterbrechungen

Die am meisten gefürchteten Ursachen von Betriebsunterbrechungen

Quelle: Allianz Global Corporate & Specialty
Die Prozentsätze geben den Anteil aller relevanten Antworten wieder (484). Mehrfachnennungen berücksichtigt.
Political Risks – Critical / Conflict Material Supply
Terrorism & Political Violence
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
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!