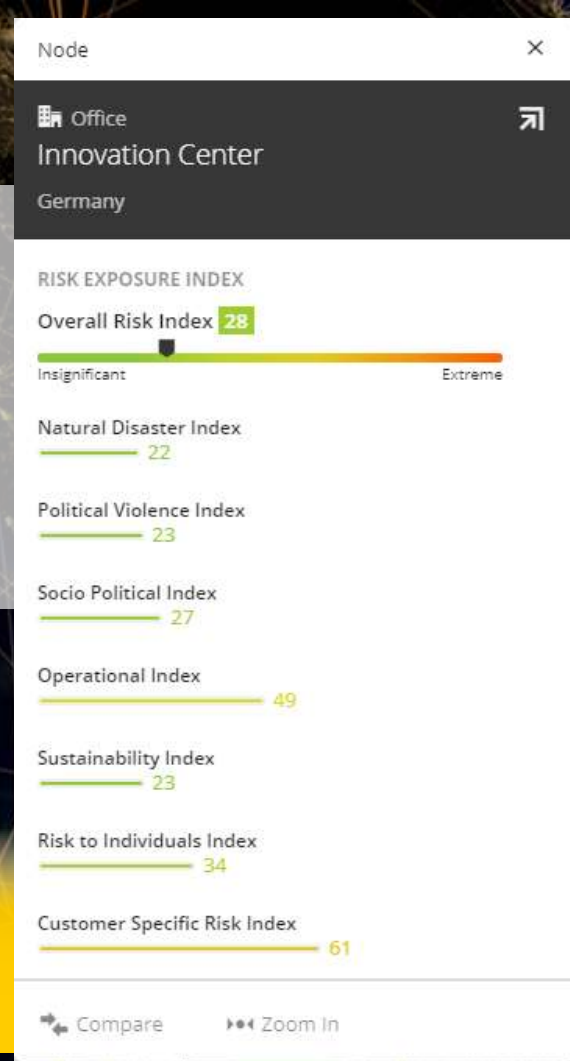


DIGITAL DISRUPTION IN RISK MANAGEMENT

Tobias Larsson
3rd Annual Risk & Resilience Conference
Troisdorf, September 21, 2017



3rd Annual Risk & Resilience Conference

2015: Using Innovative Technologies for Supply Chain Risk Management

Germany Land of Ideas



2016: Maintaining Network Agility in a Volatile Environment



- » 2X more customers from 2015 - 2016
- » Building community
- » Co-innovation around risk

2017: Digital Disruption in Risk Management



Digital Disruption in Risk Management

- » Legacy systems and glorified excel spread sheets
- » Modern supply chains evolving and growing increasingly complex
- » Digitalization crucial for competitive advantage

Jack Ramsay

*Senior Managing Director - Global Digital Delivery
Accenture*

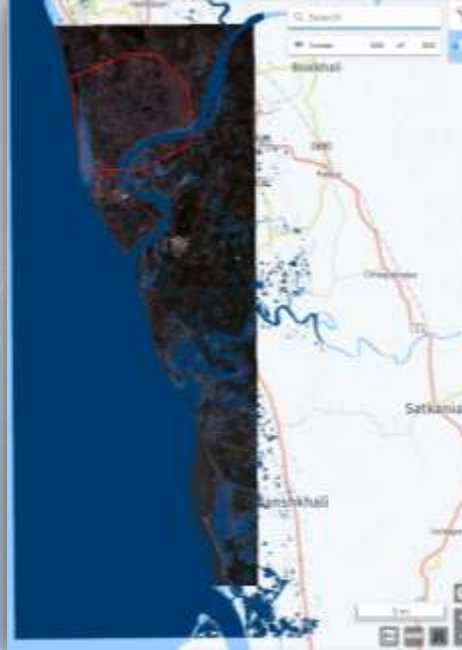
Be Digital or Be Dead



Satellite Images & Map Layers into Damage Assessment



Satellite view of damaged areas from cyclone in Inhambane, Mozambique; February 2017



Satellite view of water-clogged areas from floods in Bangladesh; June 2017



Path of Hurricane Jose; Through the Bahamas to Eastern United States; September 2017

Another Year of Agile Resilience360 Development



Supply Chain Visibility

Shipment tracking, ETA predictions, geofencing for alerts and business intelligence on performance



Risk & Incident Monitoring

Near-real-time alerting of relevant incidents, network disruption feedback and industry news monitoring



Risk & Impact Assessment

Every point-of-planet Risk Index, over 30 databases, heat-maps, country risk monitoring and impact assessment



Transparency & Compliance

Acquiring in depth insights on your multi-tier supplier network

**November
2016**

NEW



Supply Watch

Machine learning technology to automate the task of identifying supplier distress

**May
2017**



Risk Analytics

Deep analytic filtering capabilities that combine insights across years or risk and supply chain data

Today!



Machine Learning Technology to Automate the Task of Identifying Supplier Distress



Search up to 30 million posts every day



Identify company-level risks matching our taxonomy



Get a daily summary of recent posts published



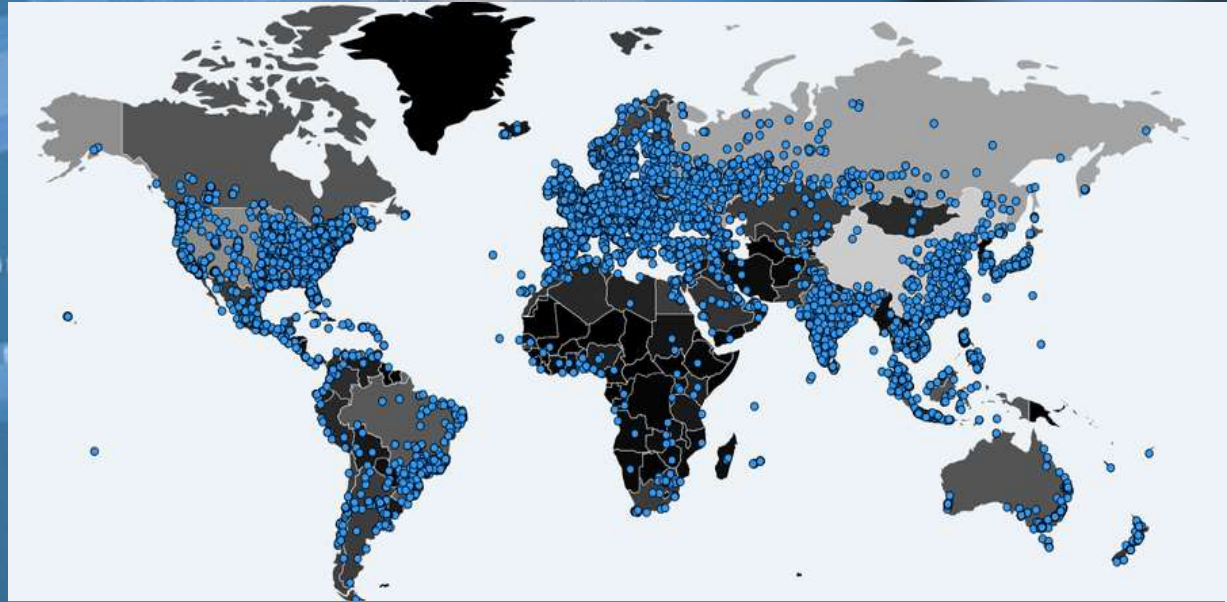
Disruptions Don't Always Involve Super-volcanoes

Companies often ignore 'micro-risks' that their suppliers are vulnerable to

The cyber attacks '**WannaCry**' and '**Petya**' demonstrate just how quickly such risks can spread

300,000 computers across 150 countries were affected

Just in China, some **40,000 businesses** and institutions were impacted



Is your supplier or third party impacted?



Risk Management as Competitive Advantage

David Thornewill
Chief Information Officer
Deutsche Post DHL

Cyber Security - A competitive advantage in the age of cyber warfare



Sascha Teifke
Manager Corporate Governance
ZF Friedrichshafen AG

Cross-functional risk management in an increasingly complex and global supply chain



DeutschePost DHL – A Data-Rich Company



220

Countries & Territories

Express
No. 1 in international express delivery

~300 m

International Express Shipments per year

3.6

million tons
AFR

Global Forwarding, Freight
Leader in the forwarding business

500,000

Employees Worldwide

Supply Chain
No. 1 in contract logistics



13.7m

square meters of
warehouse space



3.1

million TEU
OFR

Post – eCommerce – Parcel (PeP)
Europe's largest postal service

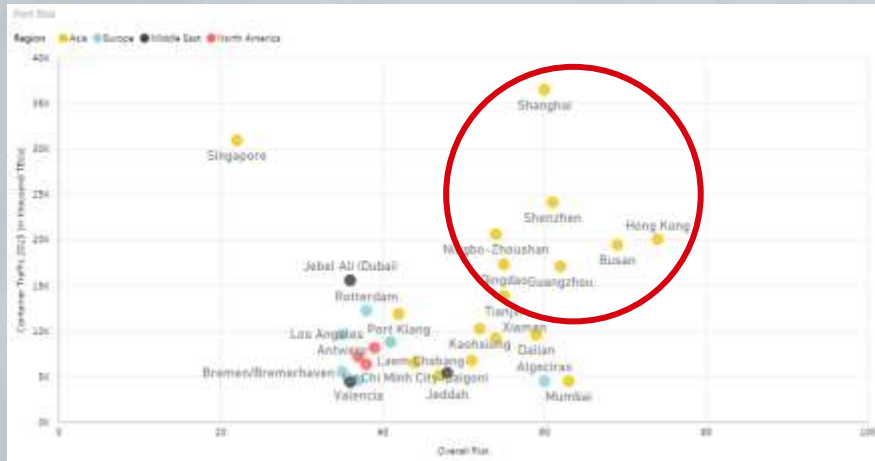


59 m

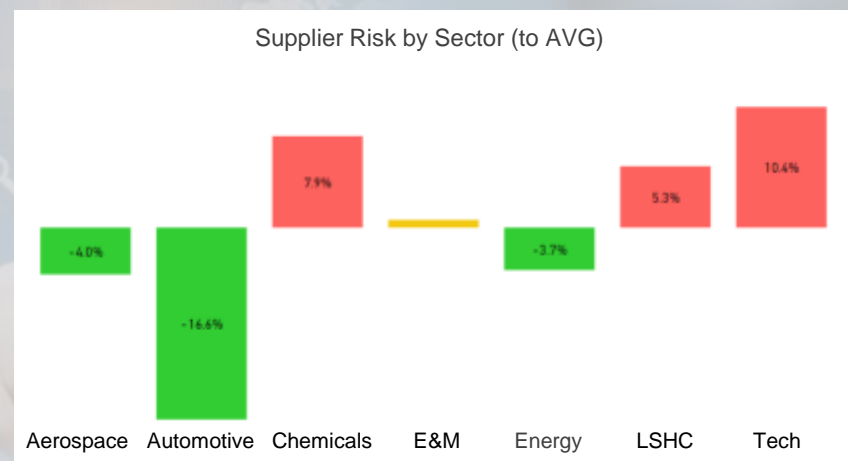
Letters per workday in
Germany



From Data to Insights to Actions – R360 Analytics

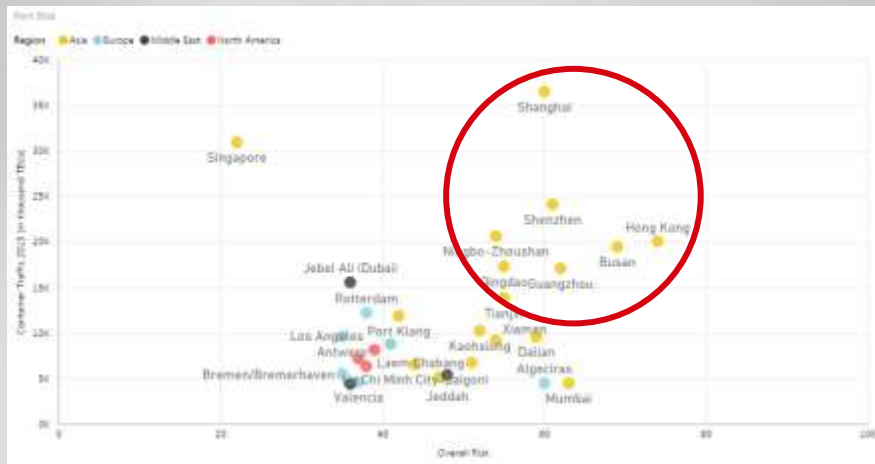


Transport hub analyses to investigate critical bottlenecks



Sector benchmarks to compare and prioritize risk mitigation endeavours...

From Data to Insights to Actions – R360 Analytics



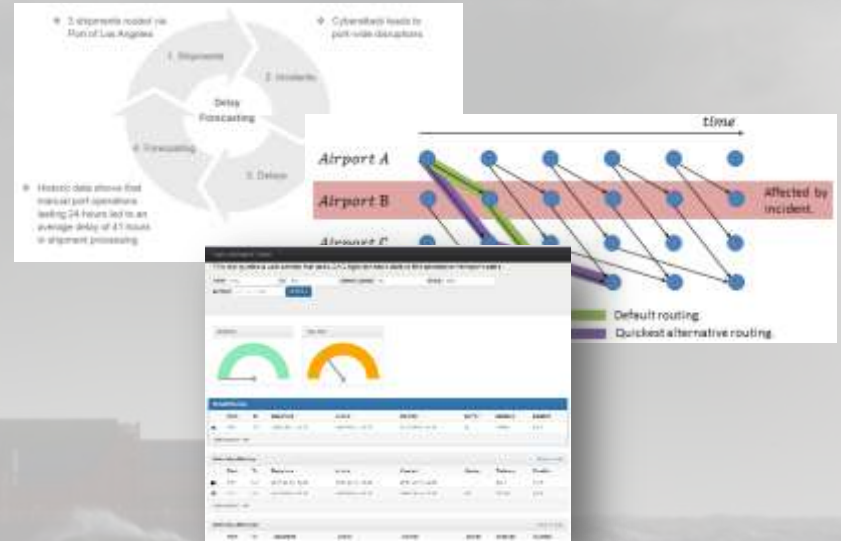
Transport hub analyses to investigate critical bottlenecks



... and compare your own locations to industry averages

From Data to Insights to Actions – What's Next?

- » Alternative Re-Routing
- » Shipment Delay for ETA Predictions
- » Multi-Tier Supply Chain Visibility
- » Incident Impact Propagation
- » Weather Forecast and Shipment Plans





Tobias Larsson | Troisdorf, September 2017

Combining Tracking Technology with On-the-Ground Intelligence

12:54 AM
First report emerges on a Tropical depression named Harvey in the Antilles

04:30 PM
Airports and ports in Texas shut down due to severe weather

08:56 PM
Port of Houston reopens two container terminals on September 1



Aug. 18

Aug. 23

Aug. 26

Aug. 28

Sep. 1

Sep. 4

09:32 PM
Hurricane Watch in effect for coastal Texas as Harvey approaches fast

02:30 PM
Freight rail traffic has come to a complete standstill around Houston; long shipment delays likely

07:38 AM
11 chemical companies have declared force majeure on supplies incl. PP, PVC and chlor-alkali



Are access roads to port open?

Can rail freight be shipped to Intermodal Station?

Which parts of Houston ship channel are restricted?



DHL Network in Houston



DHL **RESILIENCE360**

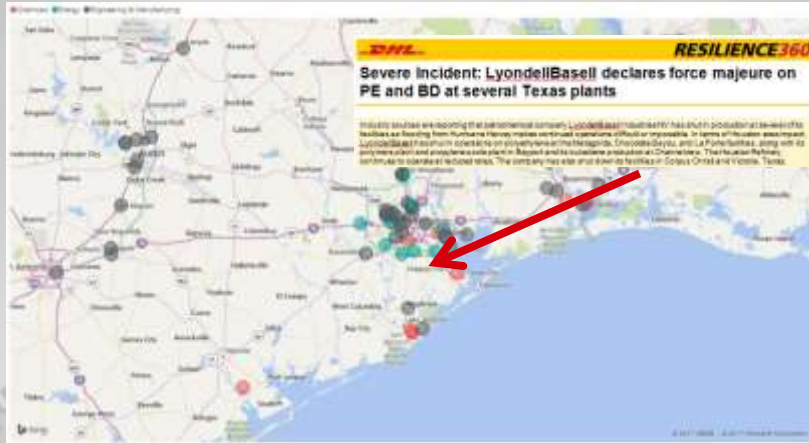
Severe Incident: Port of Houston container terminals to reopen September 1, 07:00 for vessel operations

Operations for larger vessels remain suspended at multiple ports and terminals along the central coast of Texas due to Tropical Storm Harvey. The ports of Houston, Galveston, Freeport, Corpus Christi, and Texas City remain closed to large draft vessels but have reopened to some smaller vessels with restrictions. The ports of Beaumont, Sabine Pass, and Port Arthur were also previously reported to be closed. Both Ballast Cut Terminal and Bayport Terminal have been closed, however, they will be reopened on Friday, September 1 from 7:00 AM to 5:00 PM local time.

The Port of Corpus Christi has transitioned into recovery mode. The Corpus Christi Ship Channel was reopened for one-way vessel movements, during daylight hours, for vessels moving in convoy with 2 pilots per vessel, with a maximum draft size of 43 feet. Vessels with up to 25 feet draft may operate within the Inner Harbor.

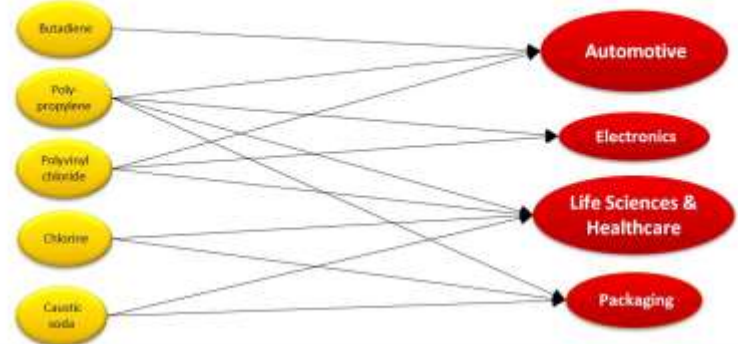


Using Analytics on Manufacturing and Suppliers



Texas is the epicentre of the US petrochemical industry and was heavily impacted by Harvey...

Supply shortages as a result of Hurricane Harvey



...causing supply shortages across many manufacturing industries

Full shut down of the largest US refinery

39 % of US waterborne chemicals trade

68 different types of chemicals

40% of US ethylene capacity

33% of chlorine and caustic soda production



Tremendous Opportunities with eCommerce, but also Risks

- » Opportunity: 1.6bn estimated number of people shopping online in 2018
- » Risk: Trend of establishment new trade barriers as a risk for e-commerce
- » July 2017: Trump Administration to renegotiate NAFTA with objectives including a digital economy chapter

Charles Brewer
Chief Executive Officer
DHL eCommerce

Driving eCommerce – risks
& opportunities



Avoiding Risk at All Costs?

- » No – the appropriate amount of risk for an organization needs to be embraced
- » Match risk appetite
- » Weigh appetite and reward

Alain Robert: The Human Spiderman

Facing extreme risks every day – still obtaining the rewards he needs

- » No – the appropriate amount of risk for an organization needs to be embraced
- » Match risk appetite
- » Weigh appetite and reward

An Exciting Day Ahead

Cybersecurity - Cyber Security - A competitive advantage in the age of cyber warfare

Cross-functional risk management in ZF

Be digital or be dead

**Engage with
the R360 team!**

DHL Innovation Center Trade Fair

Breakout sessions

Driving eCommerce – risks & opportunities

Alain Robert: The Human Spiderman

Panel Session

Casual Networking Dinner



Thanks for Joining Us - Enjoy!

Life doesn't get easier or more forgiving, we get stronger and more resilient

-Steve Maraboli

