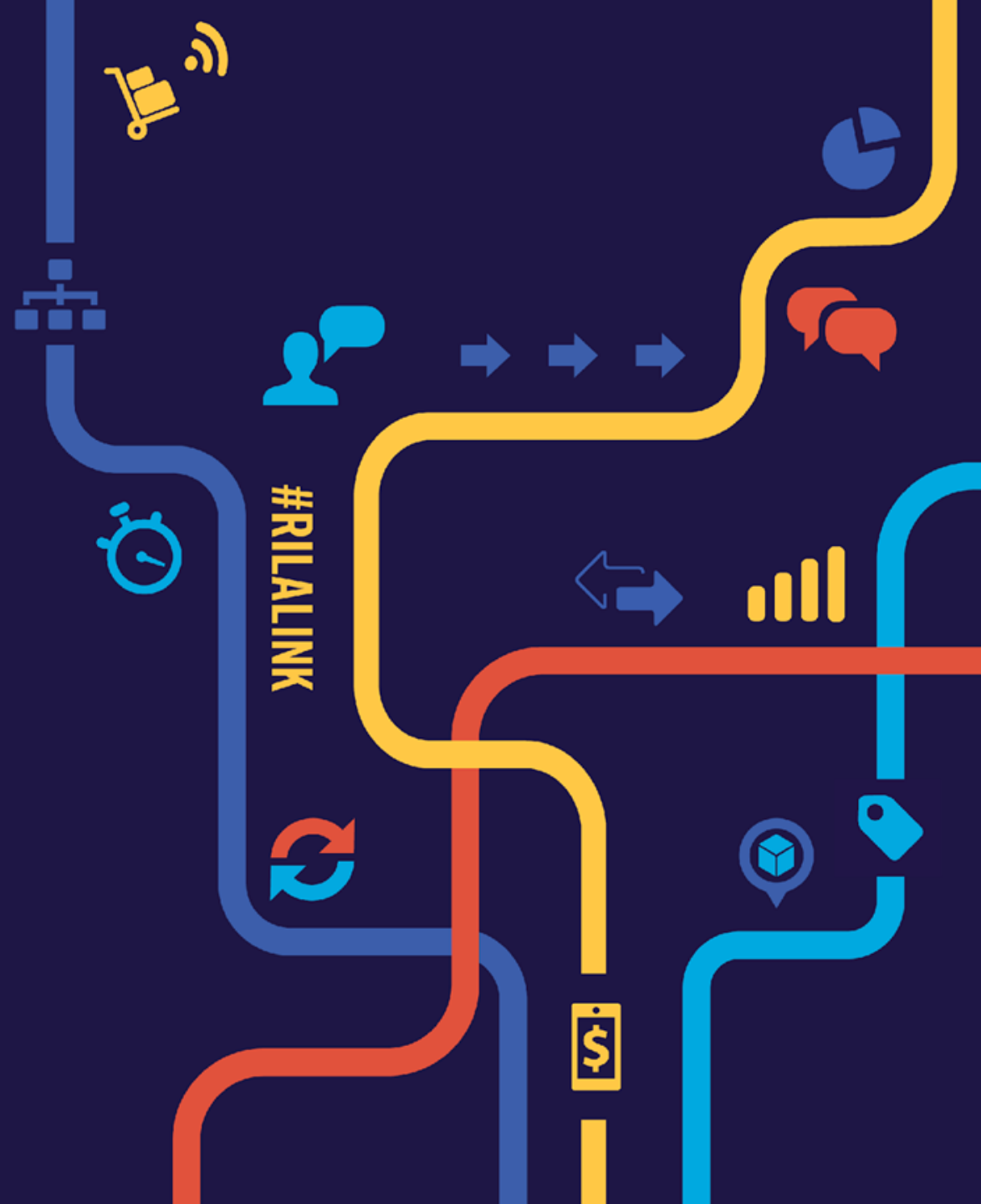


Outbreak: Retail Supply Chain Impacts of Coronavirus

David Shillingford, Chairman, Resilience360

Shehrina Kamal, Product Director Risk Monitoring, Resilience360

Friday, March 6



Presenters



DAVID SHILLINGFORD

Chairman
Resilience360

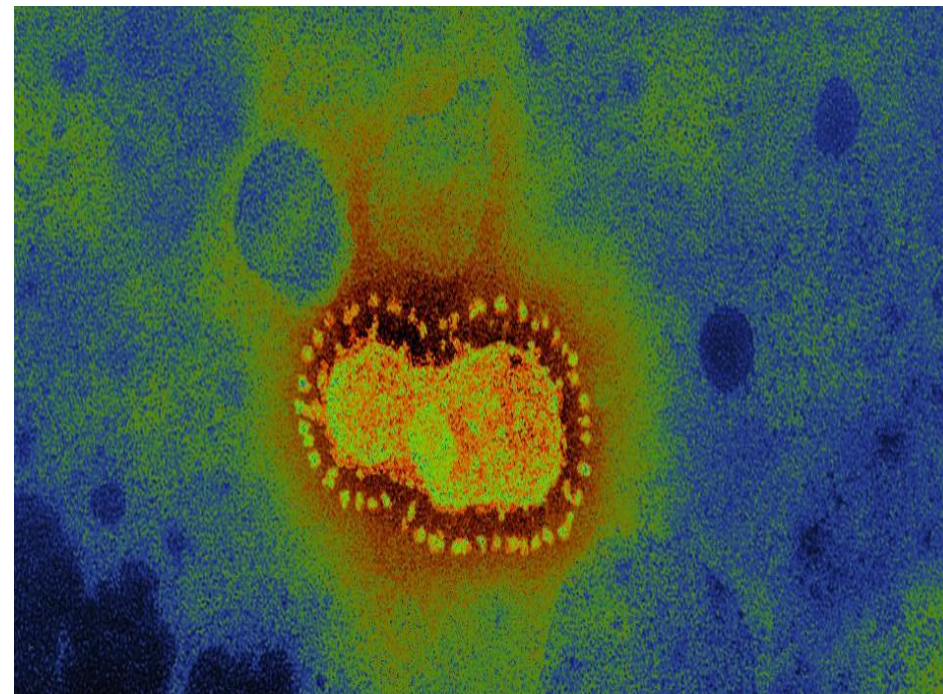


SHEHRINA KAMAL

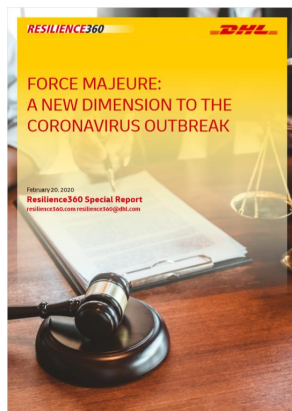
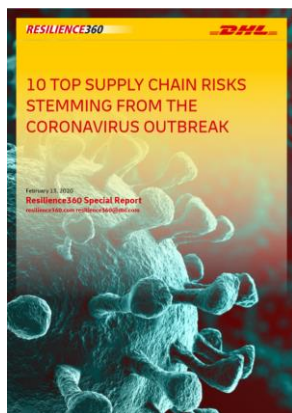
Product Director Risk Monitoring
Resilience360

COVID-19

- | How is it impacting my business?
- | How bad might it get?
- | What should I do?
- | Can we help each other?



OUR METHODOLOGY





Total Confirmed

100,645

Confirmed Cases by Country/Region

80,573 Mainland China

6,593 South Korea

4,747 Iran

3,858 Italy

696 Others

578 Germany

577 France

381 Japan

360 Spain

234 US

214 Switzerland

163 UK

130 Singapore

Country/Region

Last Updated at (M/D/YYYY)

3/6/2020, 10:33:03 AM



Cumulative Confirmed Cases

Active Cases

Lancet Inf Dis Article: [Here](#). Mobile Version: [Here](#). Visualization: JHU CSSE. Automation Support: [Esri Living Atlas team](#) and [JHU APL](#).

Data sources: [WHO](#), [CDC](#), [ECDC](#), [NHC](#) and [DXY](#). Read more in this [blog](#). [Contact US](#).

Downloadable database: [GitHub](#): [Here](#). Feature layer: [Here](#).

Total Deaths

3,411

2,931 deaths
Hubei Mainland China

148 deaths
Italy

124 deaths
Iran

42 deaths
South Korea

22 deaths
Henan Mainland China

13 deaths
Heilongjiang Mainland China

12 deaths
King County WA US

Total Recovered

55,753

42,033 recovered
Hubei Mainland China

1,244 recovered
Henan Mainland China

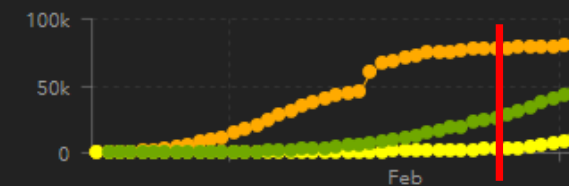
1,216 recovered
Guangdong Mainland China

1,147 recovered
Zhejiang Mainland China

979 recovered
Anhui Mainland China

955 recovered
Hunan Mainland China

913 recovered



● Mainland China ● Other Locations
● Total Recovered

Actual

Logarithmic

Daily Cases



LINK

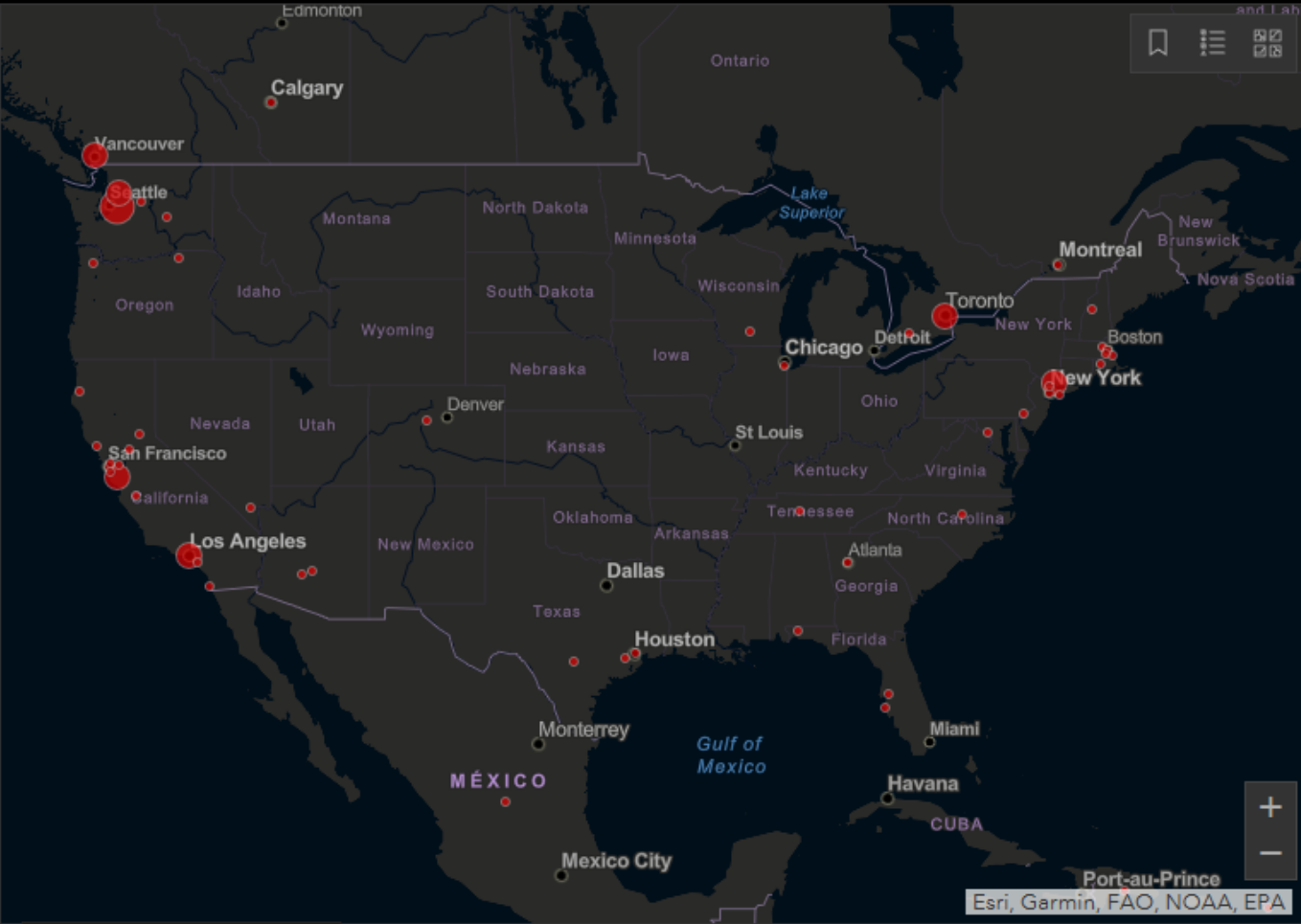


#RILALINK

Total Confirmed
100,645

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 - 163 UK
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Cumulative Confirmed Cases | Active Cases

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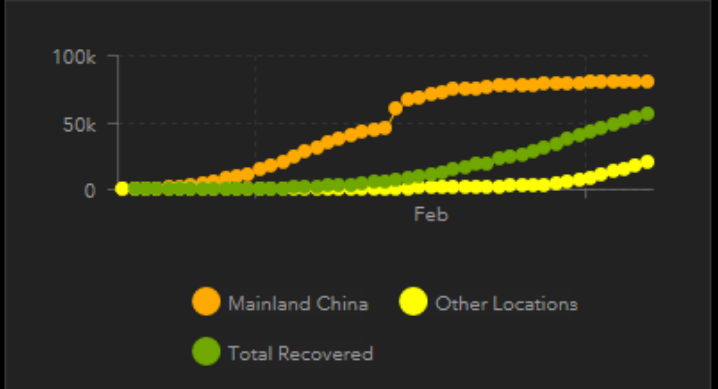
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913 recovered	



Actual | Logarithmic | Daily Cases

BAD OR REALLY BAD?

- How contagious is the virus?
- How deadly is the virus?
- How long does it take to show symptoms?
- How much have infected people traveled?
- How effective or impactful will the response be?
- How long will it take to develop a vaccine?



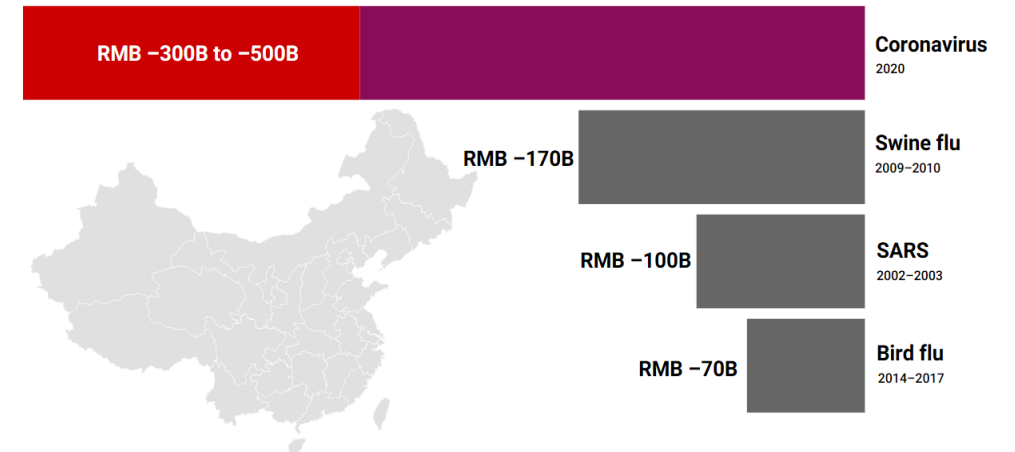
GLOBAL ECONOMIC IMPACT

- | % of GDP: 4% to 16%
- | Q1 GDP growth from 4.8% to 3.6%
- | COVID-19 in 1,487 (from 717) Earnings Calls since Jan 20
- | 1% drag on global GDP
- | Global impact - \$40 billion-\$1tr
- | Airlines – \$113bn loss 2020 (from \$30bn)

Sources: CNBC, Citi, Amenity Analytics, D&B, Exford Economics, UNWTO, IATA

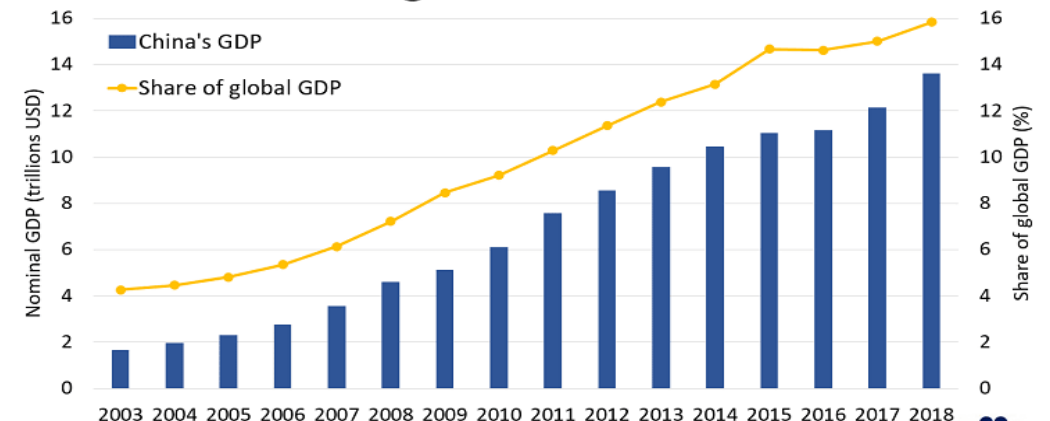
Coronavirus to cost China more than previous outbreaks

Impact of past epidemics on China's annual GDP



Sources: UBS, Goldman Sachs, Citibank, JP Morgan, BOC International and Bain analysis for coronavirus; Morgan Stanley data for previous outbreaks

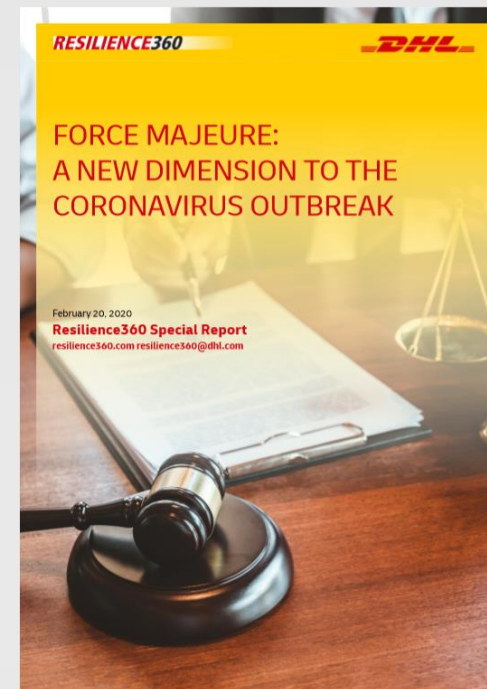
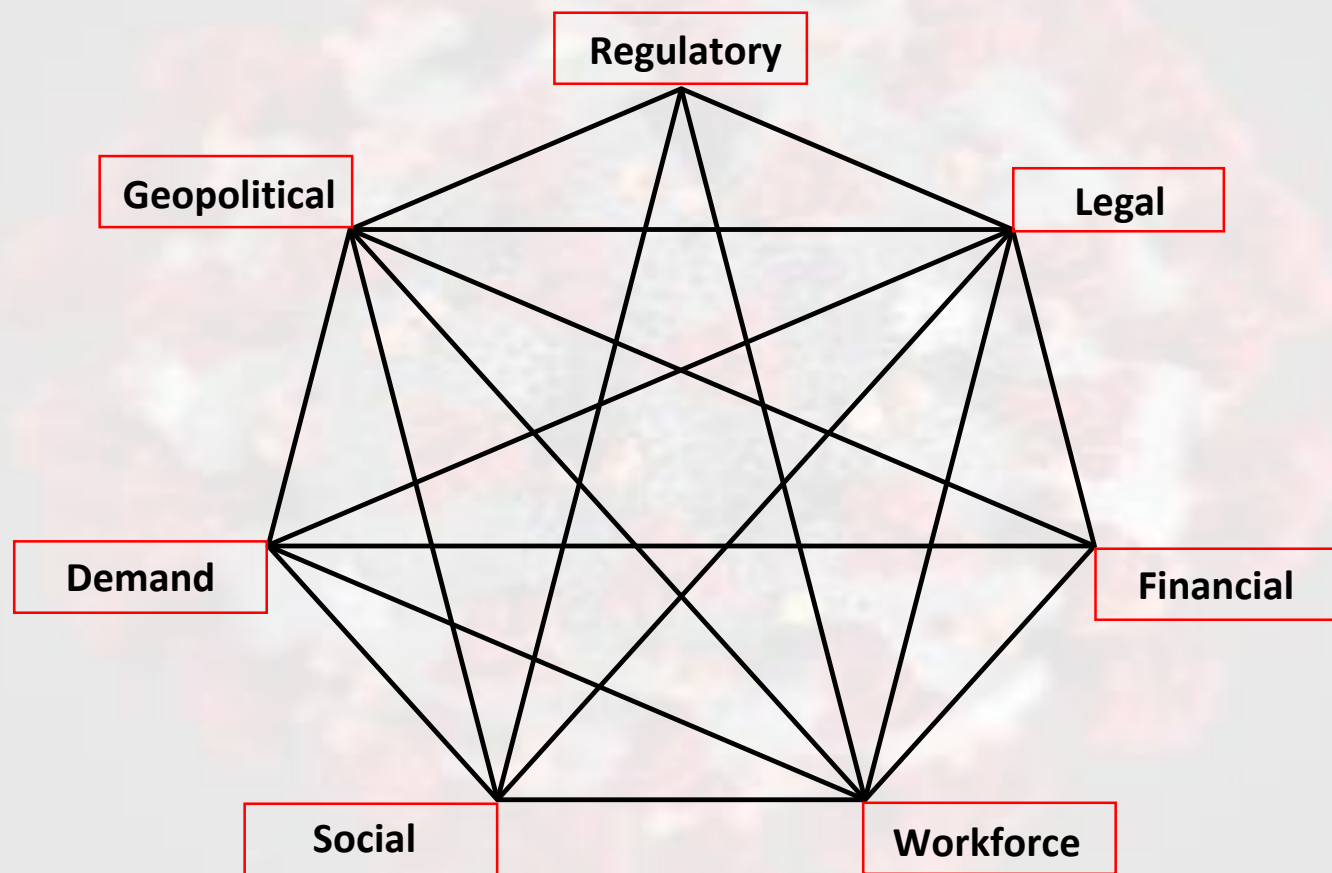
China's economic growth



SOURCE: World Bank, OECD



RISK DEPENDENCIES



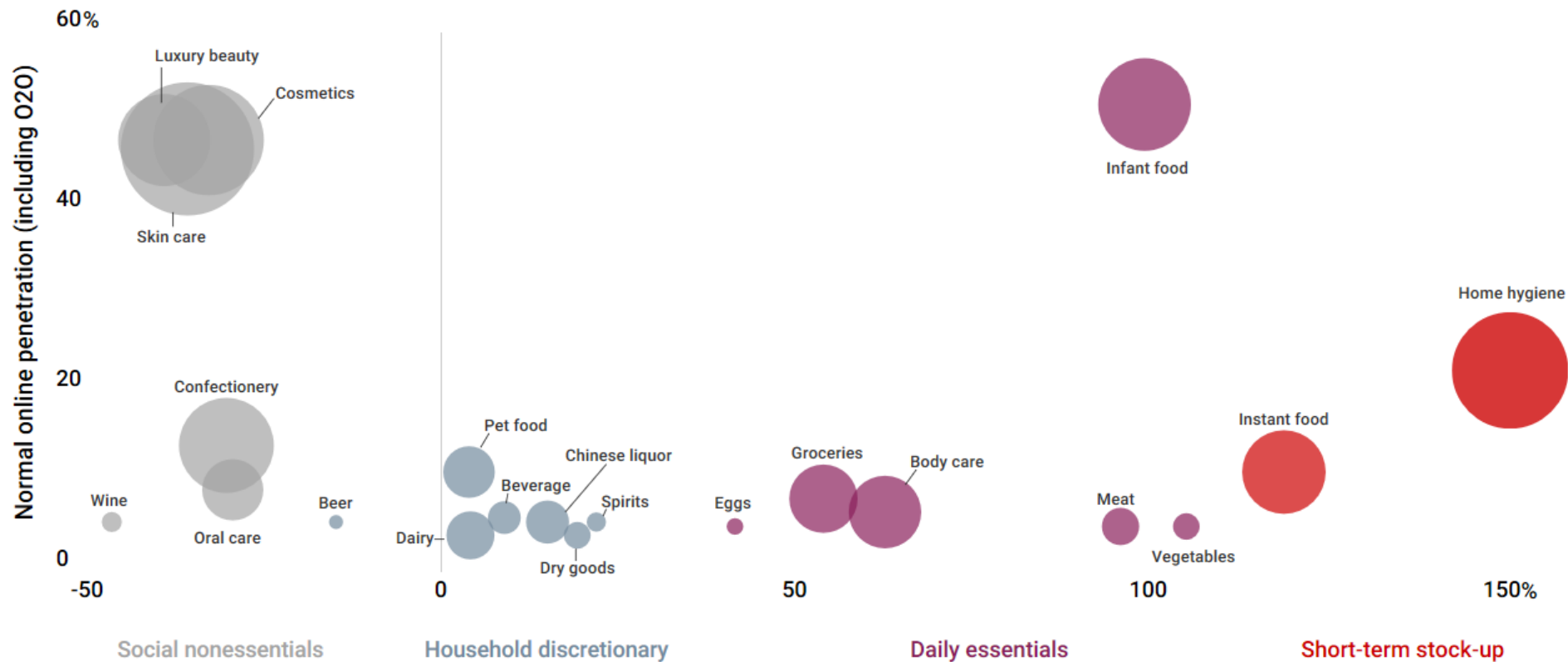
DEMAND RISK

- Store closings & reduced demand in China
- Drop in global spending by Chinese consumers
- Other countries may follow
- Reduced spending if US consumer concerns grow
- Recession



<https://www.usatoday.com/story/money/2020/02/20/china-coronavirus-spread-threatens-us-economy-commerce/4806939002/>

The outbreak caused dramatic shifts in online purchases of consumer goods



Year-over-year sales growth during first 13 days of 2020 Lunar New Year

Sources: Alibaba Tmall; Bain analysis; Bain and Kantar Shopper Report

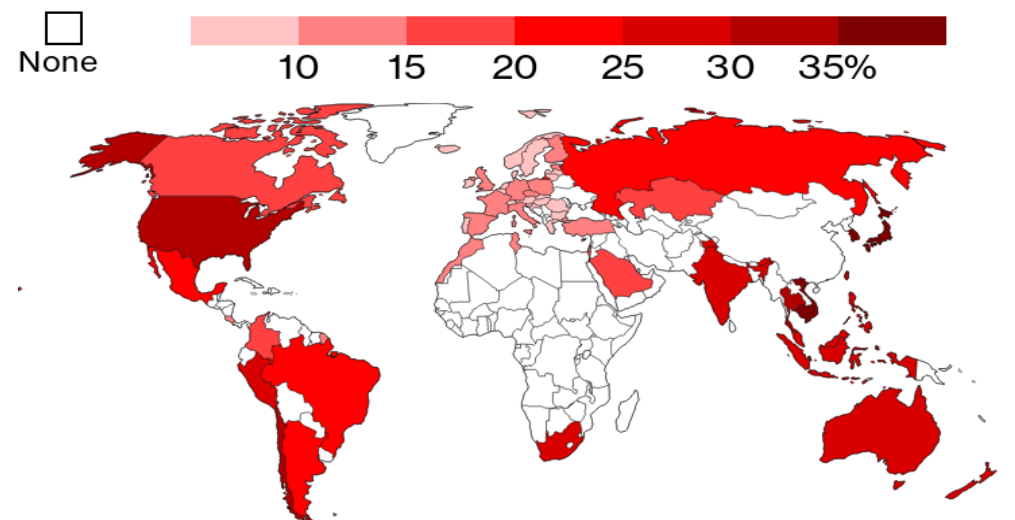
Notes

GLOBAL SUPPLY CHAIN IMPACT

- China represents 30% of global manufacturing
- China produces up to 90% of active drug ingredients
- 51,000 companies with Tier 1 suppliers in China
- Retail, electronics, Pharma and automotive sectors.

How Coronavirus Can Infect Global Supply Chains

Share of all imports of intermediate products coming from China



Source: OECD TiVA, Bloomberg Economics

Bloomberg

IMPACT ON LOGISTICS IN CHINA

Reduced outbound ocean freight capacity
Inbound congestion at ports

Flight resumption for domestic airlines
Residual impact for the next few weeks

Reduced air freight capacity until April
Higher air cargo rates into China

Labor shortages
Increased trucking costs



IMPACT ON LOGISTICS IN THE US

- Drop in container volumes
Low labor levels at west coast ports
- Weak demand for domestic trucking
Yard congestions and backlogs
- Reduced flight operations by US airlines
Limited capacity to China, Italy & South Korea
- Inventory shortages faced by retailers
Supply constraints
- Increased imports into North America in Q2
Tightened domestic trucking capacity



RETAIL SUPPLY CHAIN IMPACT

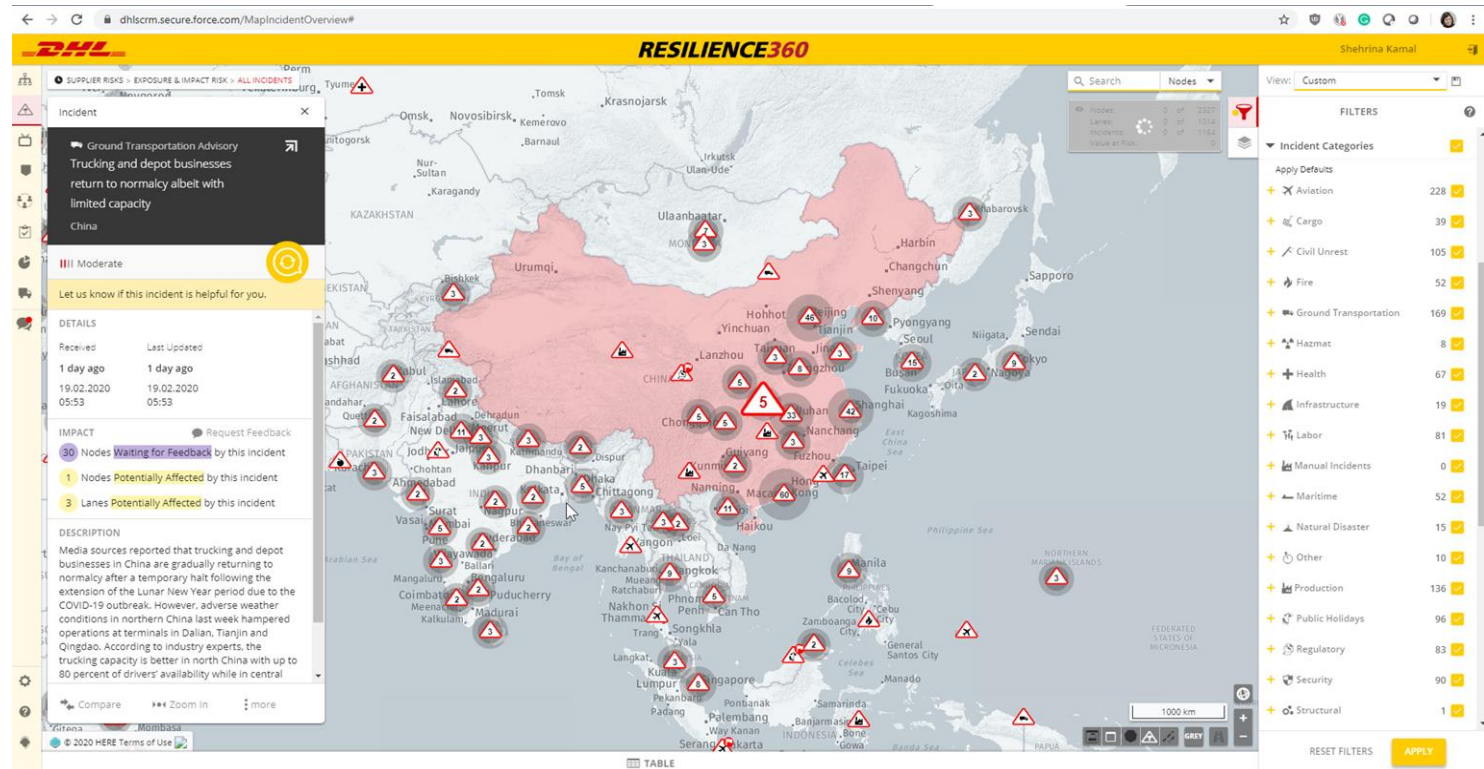
Supply base

Network complexity

Product Type

Network Location

Inventory strategy



ACTIONS TO TAKE

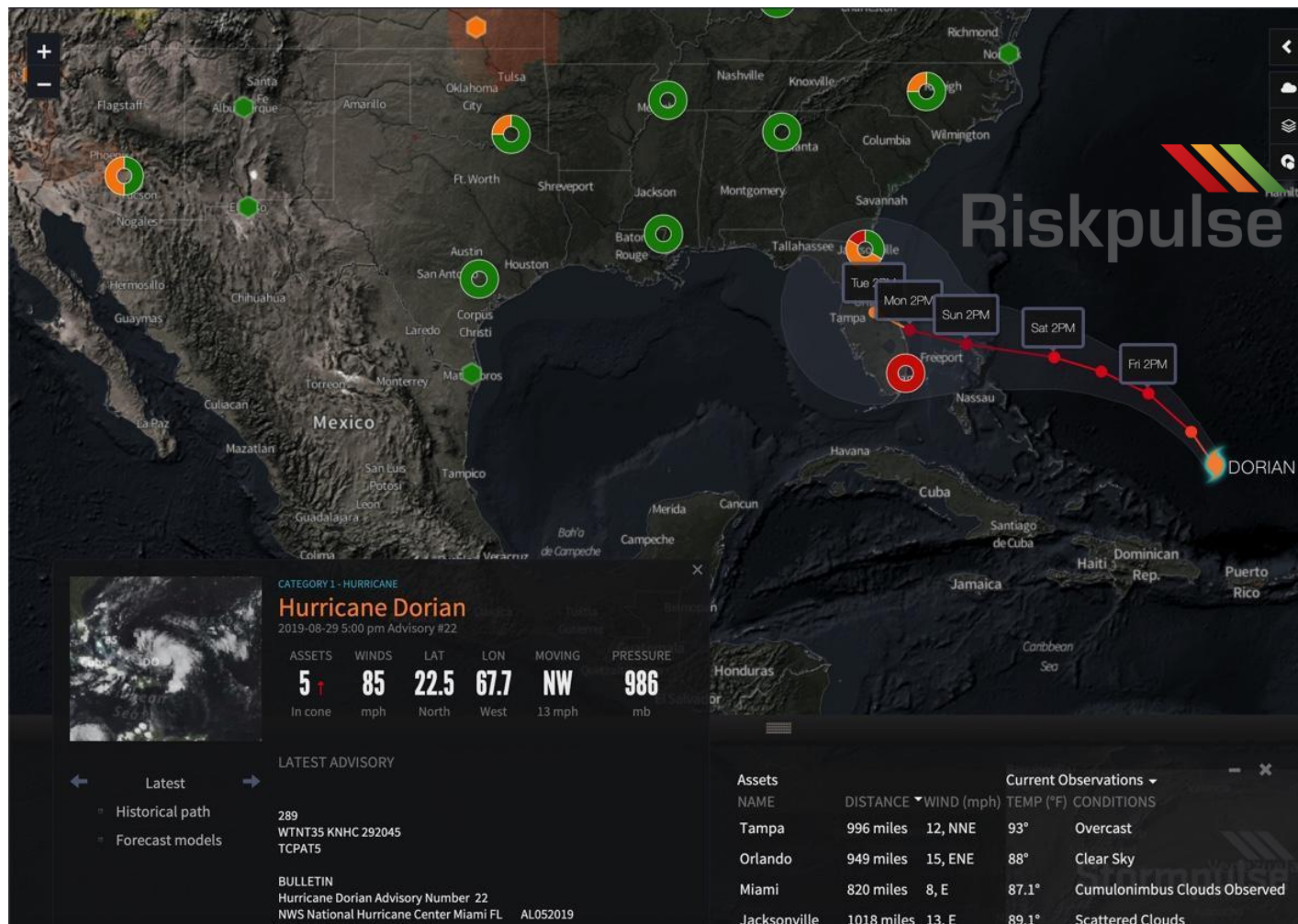
SHORT TERM

- Ensure safety of staff and partners
- Educate internal staff and key suppliers
- Communicate, communicate, communicate
- Identify key suppliers in affected areas
- Understand and monitor their status**
- Secure alternative sources
- Prioritize and increase inventory levels
- Secure alternate logistics capacity
- Seek local demand data**

LONGER TERM

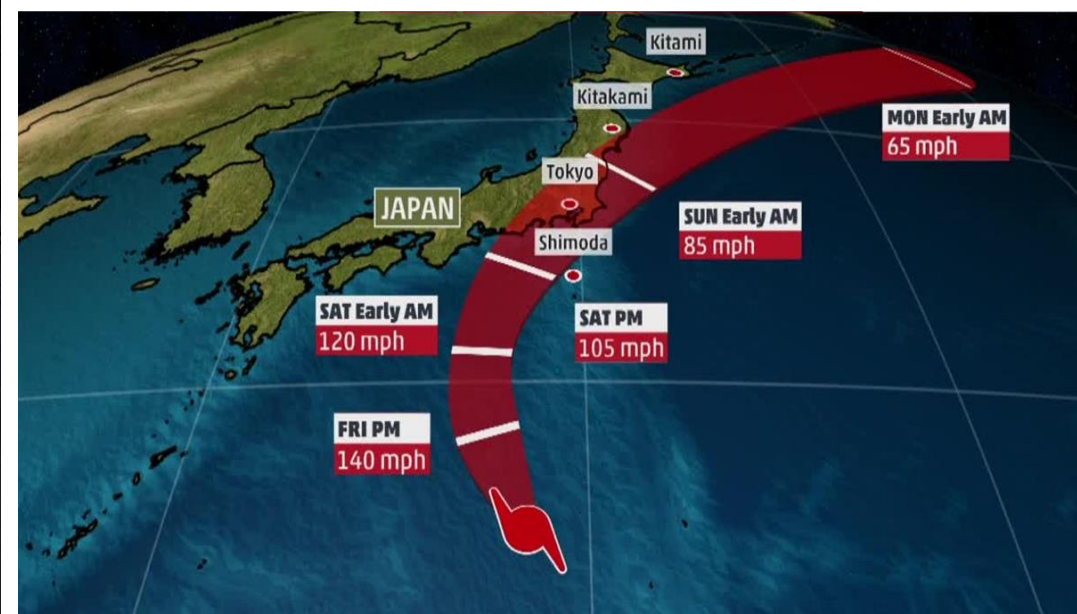
- Map end to end supply chain**
- Risk-assess network (risk concentration)
- Adjust where necessary
- Monitor risk disruptive to supply chain**
- Map to product/revenue/profit at risk**
- Design and test contingency plans
- Use omnichannel to 'balance' to demand risk**
- Resilience through Agility

THE NEXT DISRUPTION?



American Logistics Aid Network
 Mobilizing for Emergency Response

HURRICANE HAGIBIS

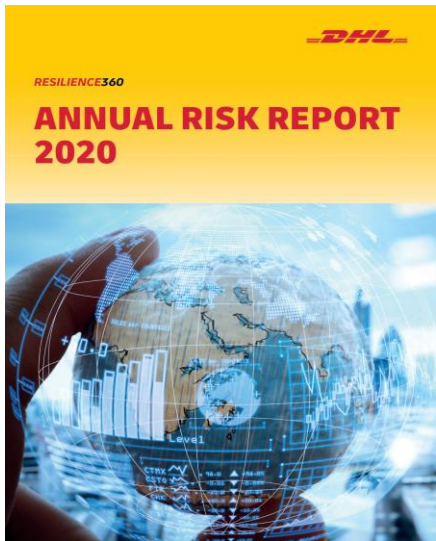


SUPPLY CHAIN RISK MANAGEMENT 2025

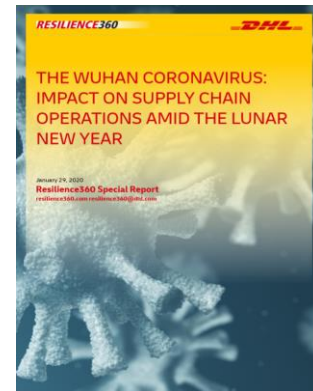
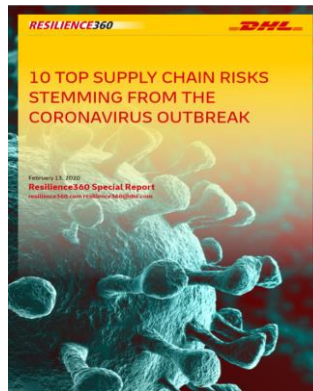
- | Fully Integrated and Automated
- | End to end
- | Dynamic
- | At the Shipment and Network Level
- | The “Risk-adjusted” Supply Chain

**“If we get it right,
we will not call it
supply chain
risk management”**

Q&A



RELEASE MARCH 9



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