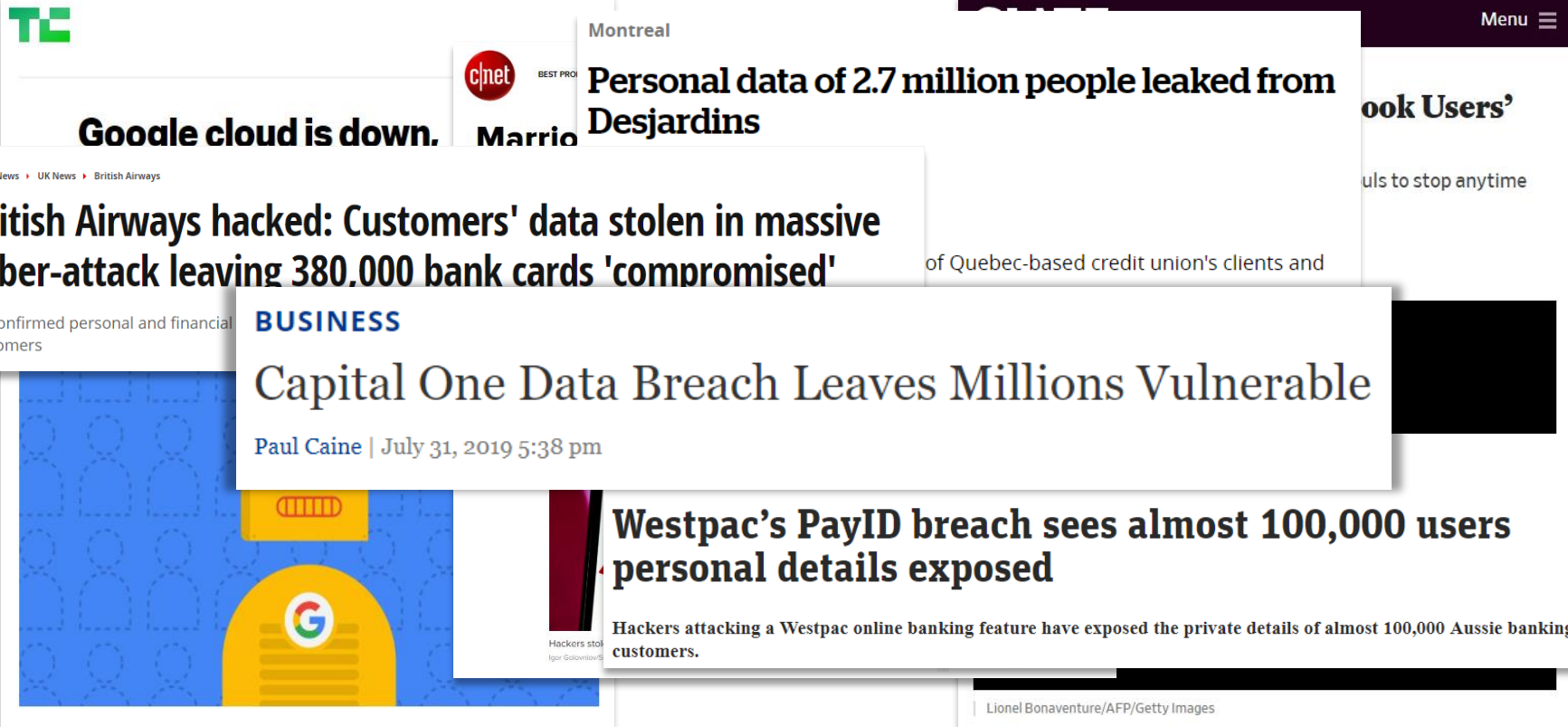# Conquering Cyber Risk

Bethany Vohlers

AIR

Agenda

- Evolution of the Cyber Insurance Industry

- Advancements in Probabilistic Cyber Modelling

- Cyber Risk in Traditional Lines

- Q&A

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Cyber Incidents and Loss Causes Continue to Evolve

TC

Google cloud is down.

c|net BEST PRO...

Marrio...

Montreal
Personal data of 2.7 million people leaked from Desjardins

...ook Users'

...uls to stop anytime

...of Quebec-based credit union's clients and

M News › UK News › British Airways
British Airways hacked: Customers' data stolen in massive cyber-attack leaving 380,000 bank cards 'compromised'

BA confirmed personal and financial... customers

BUSINESS
Capital One Data Breach Leaves Millions Vulnerable

Paul Caine | July 31, 2019 5:38 pm

Hackers stol... Igor Golovniov/S...

Westpac's PayID breach sees almost 100,000 users personal details exposed

Hackers attacking a Westpac online banking feature have exposed the private details of almost 100,000 Aussie banking customers.

| Lionel Bonaventure/AFP/Getty Images

GDPR Fines Are Now in Full Swing

GDPR Fines Sum Total
- 315mn
- 50mn
- 350k-500k
- 100k-350k
- 50k-100k
- 10k-50k
- Under 10k

BBC NEWS

Home | UK | World | Business | Politics | Tech | Science | Health | Family & Education

Business | Your Money | Market Data | Companies | Economy

British Airways faces record £183m fine for data breach

8 July 2019

Data protection   + Add to myFT

Marriott to be fined £99m for GDPR breach

UK data regulator announces second major levy in two days

Madhumita Murgia in London JULY 9, 2019   6

The hotel group Marriott International is set to be fined just over £99m after it left the personal information of up to half a billion guests exposed to hackers, in the second major fine issued this week by the UK for failing to protect data.

Home / News / Digital / Data protection / France hits Google with €50 million GDPR fine

France hits Google with €50 million GDPR fine

By Aline Robert | EURACTIV.fr | translated by Manon Flausch and Rob Kirby   Jan 22, 2019
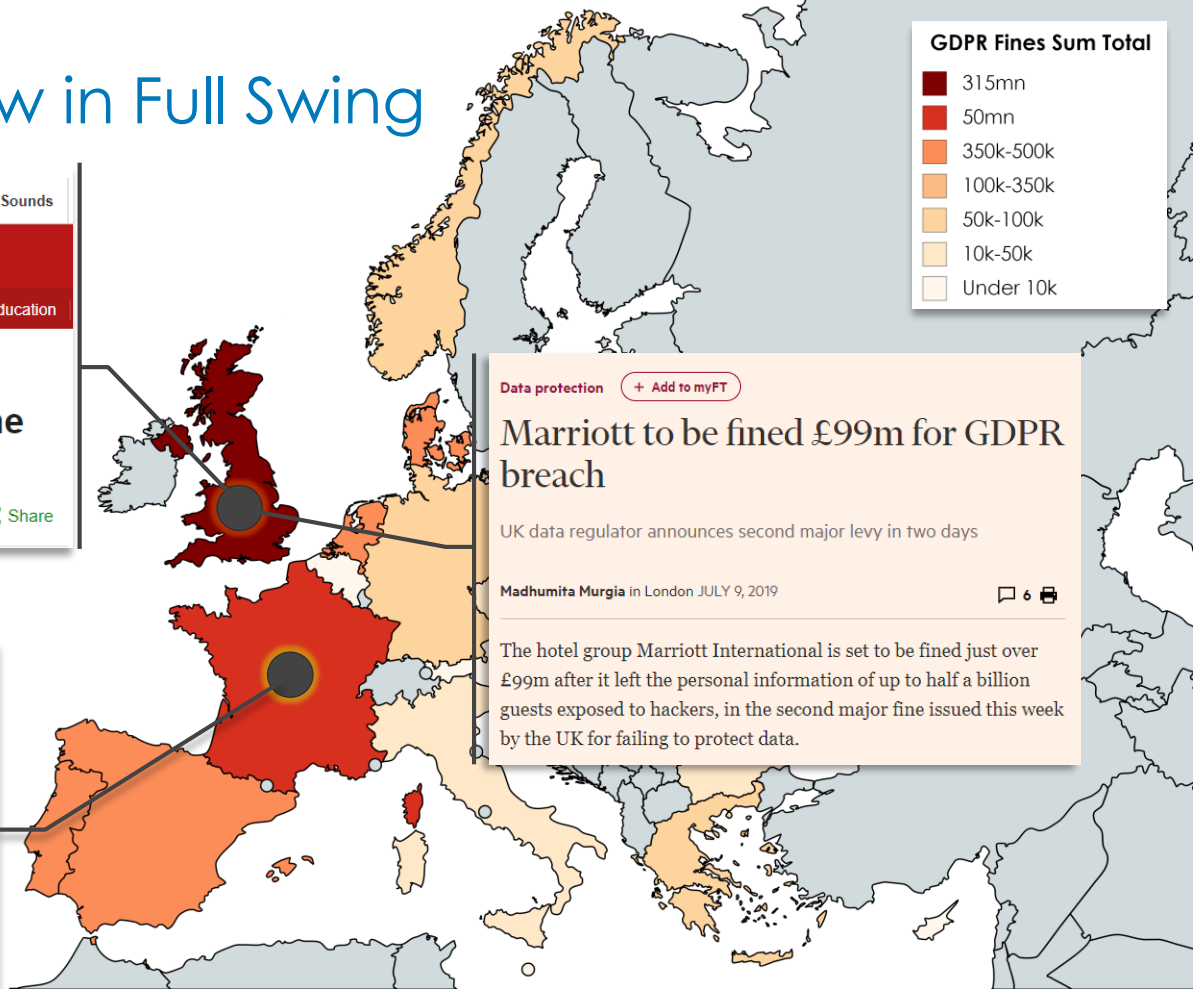
Source: enforcementtracker.com

AIR
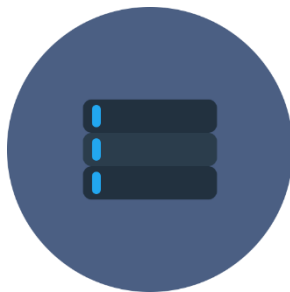
Cyber Is a Multi-Disciplinary Problem
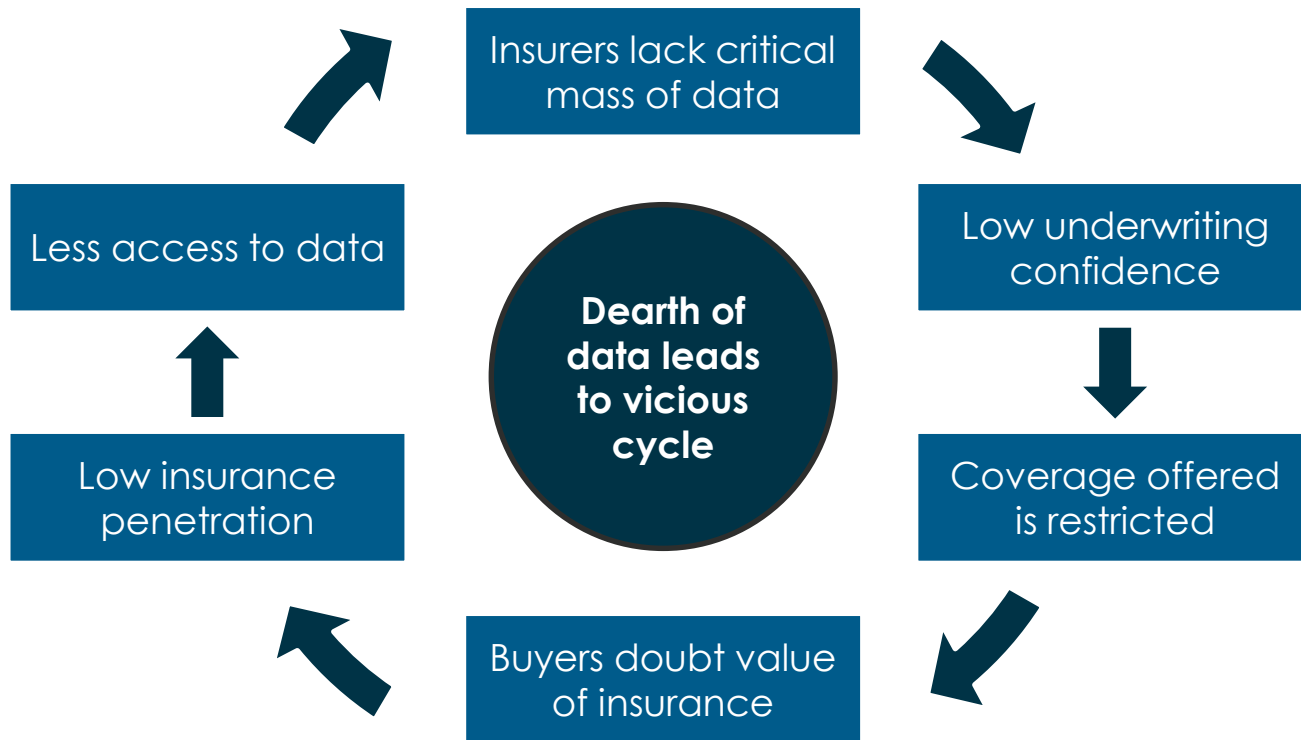

Modelling

Underwriting

Cyber Security

Technology

Data

Insurance

The Vicious Cycle of Cyber Data

- Insurers lack critical mass of data
- Low underwriting confidence
- Coverage offered is restricted
- Buyers doubt value of insurance
- Low insurance penetration
- Less access to data

Dearth of data leads to vicious cycle

Source: Deloitte Center for Financial Services

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Breaking the Cycle: Cyber Data Improves Our Understanding of Risk

Business Information

Outside-in

Inside-out

Process and Policy

Endpoint

Threat Intelligence

Incident

Connectedness

Cloud Hosting

Recent News

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Robust Risk Management Includes Multiple Approaches

Market Share Approach

Detailed Accumulation Approach
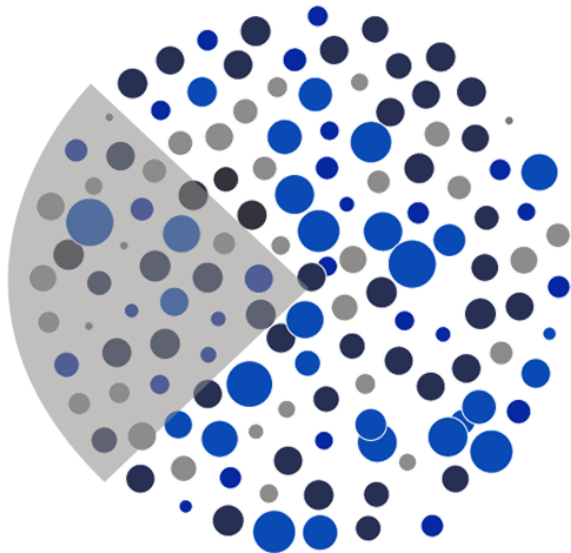
Cloud Vendor X has 25% Market Share (*region-specific* market shares applied)
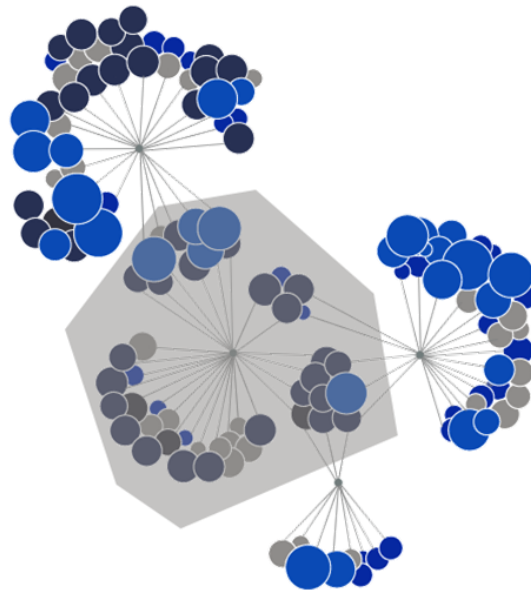
Cloud Vendor X is used by these *specific* 33% of companies

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Achieving a Consistent View of Risk

| Insurance Programme | Underwriting Platform | Data Exchange | Risk Modelling | Industry Loss Estimates |

An Innovative Cyber Modelling Approach
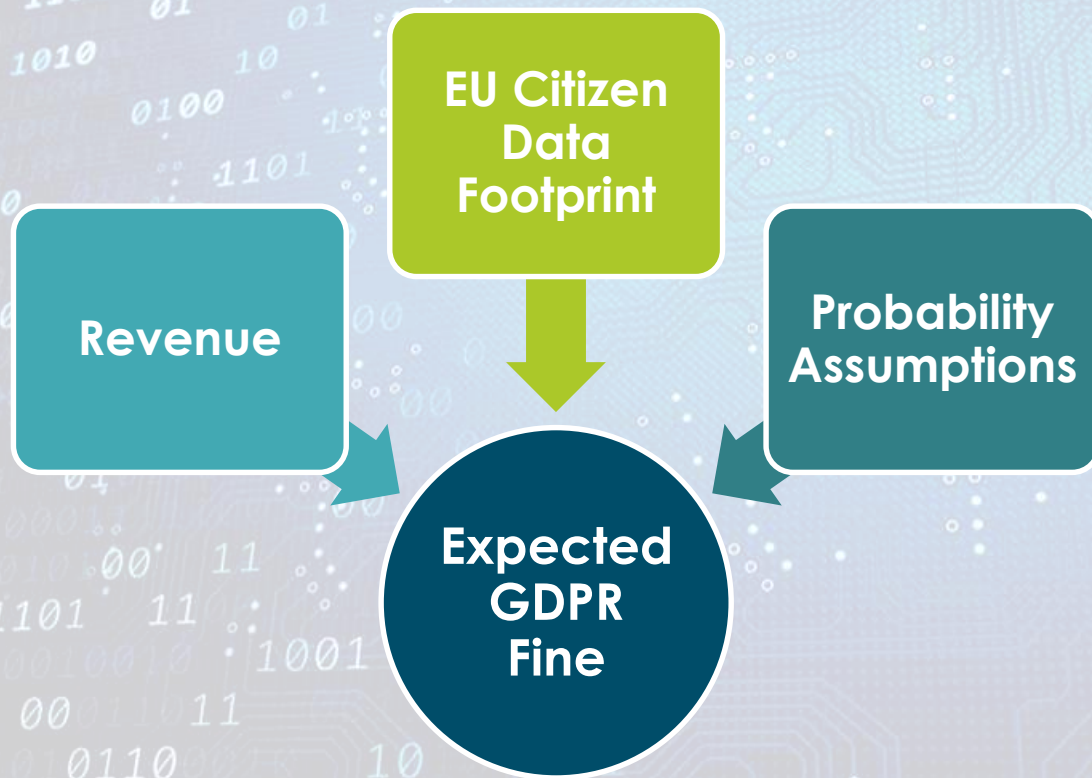
Detailed Risk Models
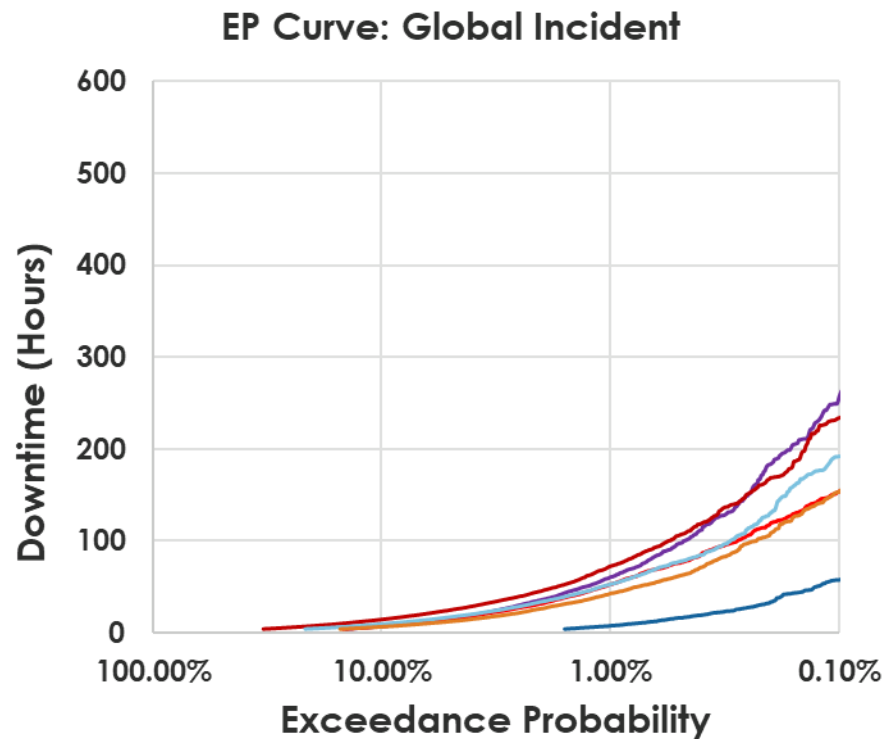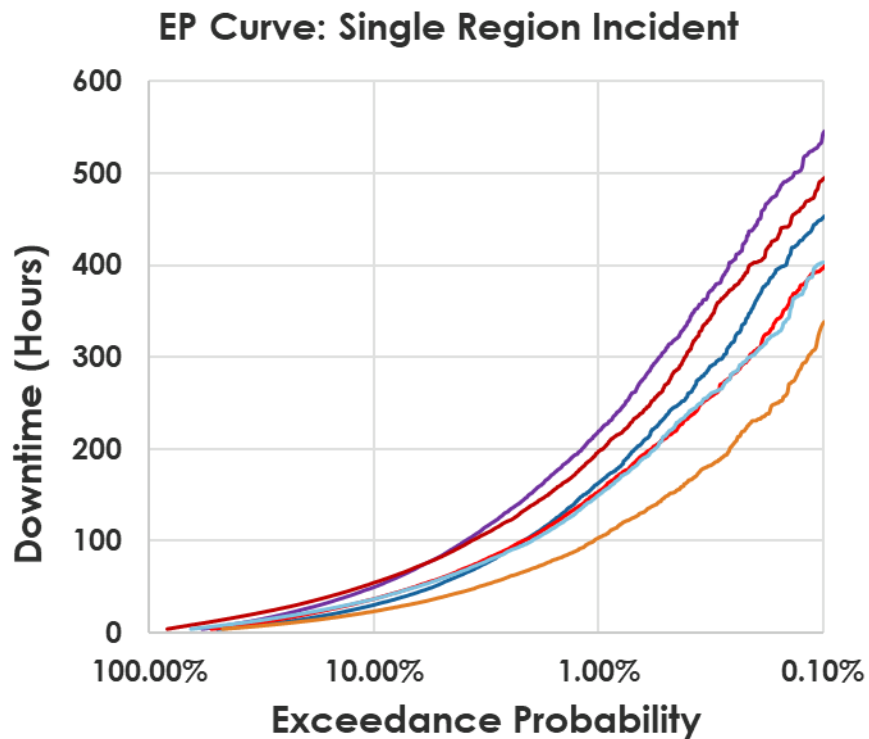
Global Cyber Database

Transparency and Flexibility

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Machine Learning Identifies Drivers of Risk

Industry

Glassdoor Reviews

Unsolicited Communications

Server Software

Botnet Infections

Revenue

Malware Servers

Patching Cadence

Open Ports

Web App Header Configuration

File Sharing

Exploited Applications

Insecure Systems

TSL/SSL Certificate Configuration

Spam Propagation

LinkedIn Reviews

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Assessing Potential GDPR Fines from Data Compromises

EU Citizen Data Footprint

Revenue

Probability Assumptions

Expected GDPR Fine

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Not All Cloud Providers Are Equally at Risk

EP Curve: Single Region Incident

EP Curve: Global Incident
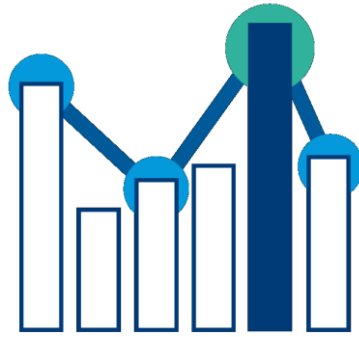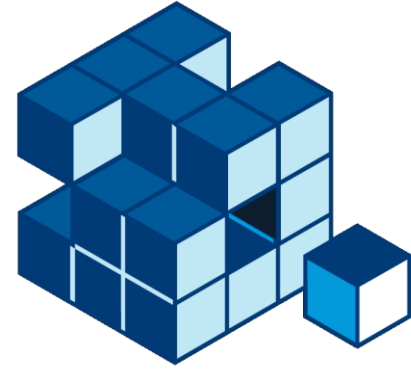
(Re)Insurers and Brokers Leverage Our Cyber Risk Solutions Across a Number of Use Cases

Underwriting and Pricing

Portfolio Management

Risk Transfer

The Cyber Underwriting Report

Flexible report access options

Cyber Underwriting Report

UNITED PARCEL SVC INC
55 GLENLAKE PKWY
ATLANTA GA 30328

⬇ PDF   ↪ Email

Firmographics

UNDERWRITER'S SUMMARY

Name:	UNITED PARCEL SVC INC	
Industry NAICS:	561910 - Packaging and Labeling Services	Primary
Sales:	$58,363,000,000	

Modeled Indicators

Likelihood of experiencing a compromise event over the next year

Annual Probability of a Data Compromise:	10-20%	>20%	1% - 20%	<1%

Cloud Downtime Score:	60	0 - 19	20 - 49	50 - 100

Modeled Average Annual Loss (Ground Up)

Risk modelling loss metrics

Data Compromise:	$2,893,910
Cloud Downtime Business Interruption:	$17,236,500
Total:	$20,130,410

14

ORGANIZATION CYBER RISK SCORE

Individual company losses as compared to **industry peers**

62

INDUSTRY CYBER RISK SCORE

Peer-industry losses compared to **all other industries**

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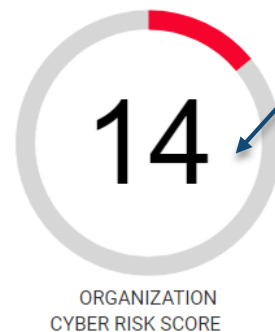
Silent Cyber: Insurers Are Mired in the Cyber Grey Area
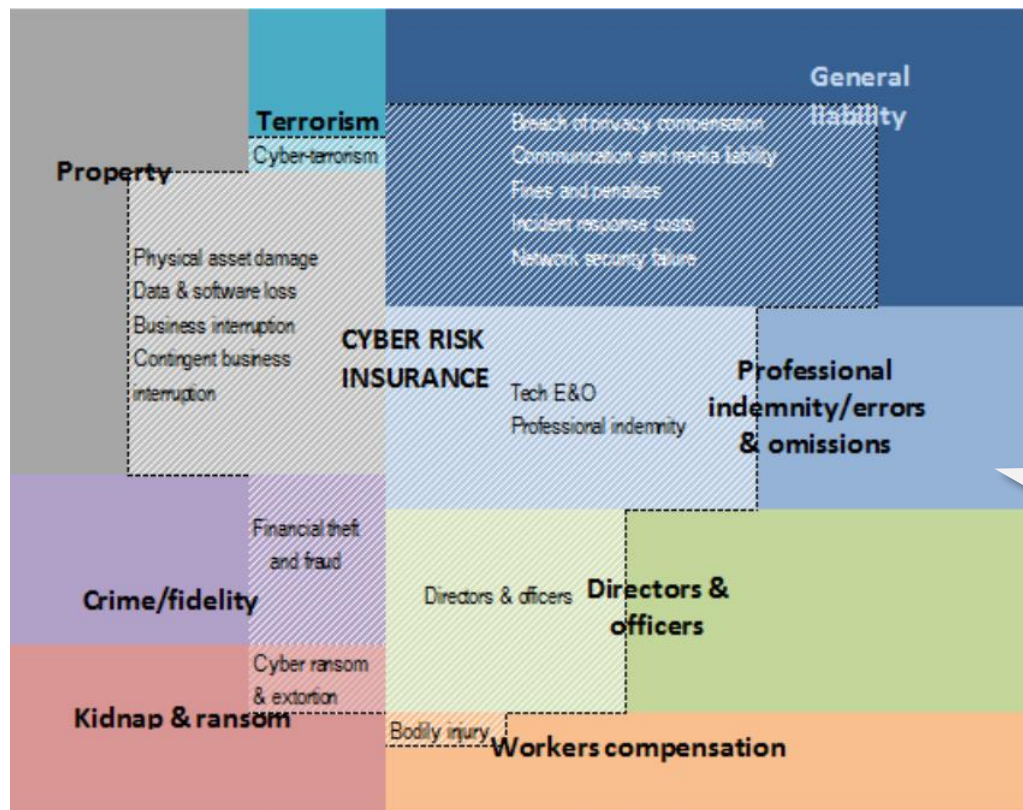
Silent cyber lurks where cyber is not explicitly included or excluded in policy wordings

Cyber risk is boundaryless — claims can be made across any number of lines of business

Source: OECD

Modelling Silent Cyber Scenarios
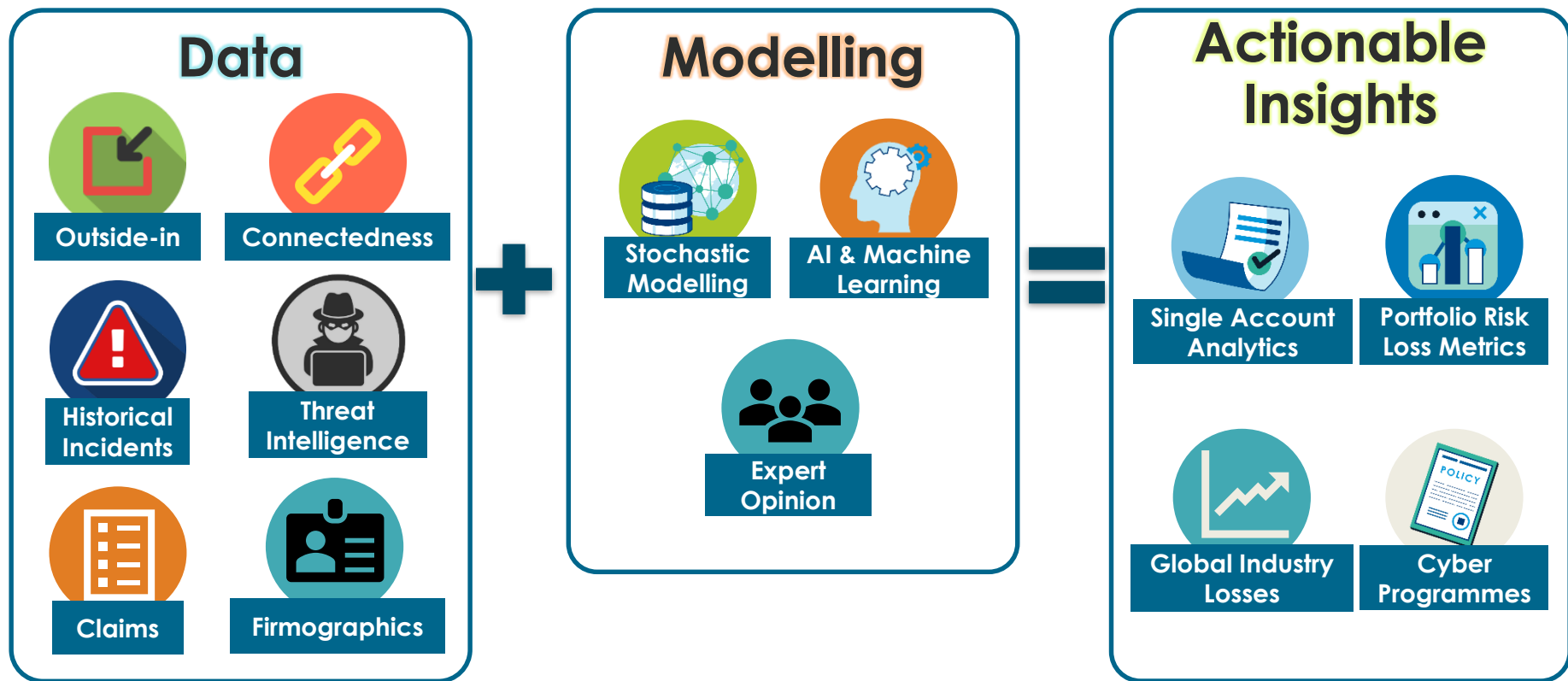
Offshore Energy

Commercial Buildings

Auto

D&O

Ransomware Events

Verisk Cyber: Turning Data into Actionable Insights

Data

- Outside-in
- Connectedness
- Historical Incidents
- Threat Intelligence
- Claims
- Firmographics

+

Modelling

- Stochastic Modelling
- AI & Machine Learning
- Expert Opinion

=

Actionable Insights

- Single Account Analytics
- Portfolio Risk Loss Metrics
- Global Industry Losses
- Cyber Programmes

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Questions?

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