Advances in Cyber Risk Modeling in the Latest Release of ARC

Scott Stransky Alan Frith



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Cyber Insurance Industry Challenges

Overview of the AIR Probabilistic Cyber Model

Live Demo of ARC (Analytics of Risk from Cyber)

Verisk Synergies and Product Roadmap







Cyber Insurance Industry Challenges



Cyber Attacks and Causes of Loss Continue to Evolve

The New York Times

Facebook Security Breach Exposes Accounts of 50 Million Users



One of the challenges for Facebook's chief executive Mark Zuckerberg is convincing users that the company handles their data responsibly. Josh Edelson/Agence France-Presse — Getty Images

4



AMAZON CLOUD COMPUTING

recode

Amazon's massive AWS outage was caused by human

TOPICS - WRITERS - PODCASTS EVENTS

error

One incorrect command and the whole internet suffers. By Jason Del Rey | @DelRey | Mar 2, 2017, 2:20pm EST

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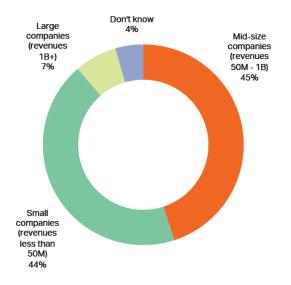




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But It Isn't Just Large Corporations that Are Seeking Cyber Cover

The majority of our new-to-market buyers of standalone cyber insurance are (including those switching from endorsements):



• Furthermore, 76% of existing insureds seek higher coverage and limits

Source: Advisen and Partner Re, 2018

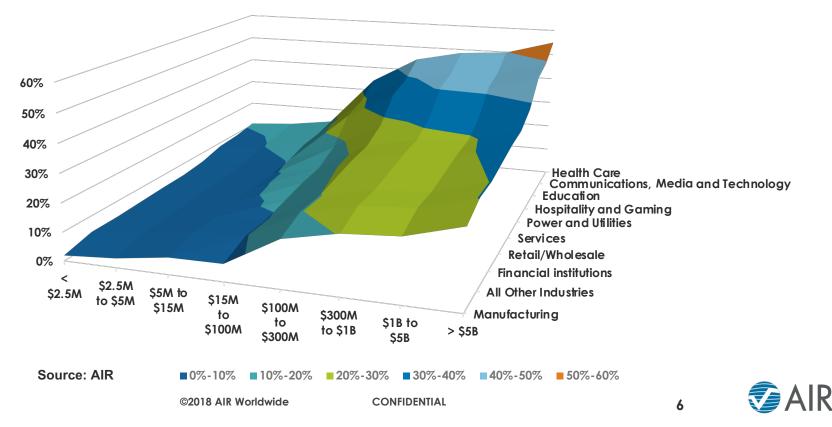
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The Result: Cyber Insurance Take-up Rates Vary Widely Across Industries

Cyber Insurance Take-up Rates by Industry and Turnover



Cyber Risk Landscape Continues to Evolve

Increased competition in a rapidly growing market

Little or no cyber data \rightarrow the risk is not well understood

Businesses of all sizes are at risk

GDPR data/privacy regulations

Overview of the AIR Probabilistic Cyber Model



ARC Enhances Cyber Risk Decision-Making





Our New Probabilistic Cyber Model Is Now Available in the Latest Release of ARC!

Security Breach

- Phishing/social engineering scams
- Malware and other computer hacks
- Accidental issues
- Unauthorized data disclosures

• GDPR Impact Assessment

Cloud Service Provider Downtime

• Business Interruption for >100 cloud providers

Industry Exposure Database Expansion

12.4 Million Records40,000 new international organizations added

Region-Specific Industry Market Shares

10

• U.S., Canada, Great Britain, Europe, Japan, Australia, and rest of world (RoW)

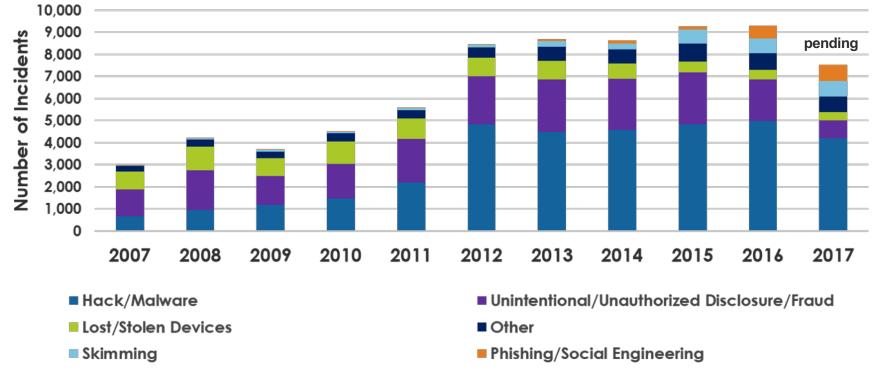


Region-Specific Industry Market Shares

U.S., Canada, Great Britain, Europe, Japan, Australia, and rest of world (RoW)

Data on Wide Range of Security Incidents Available

Security Breach Incidents by Type

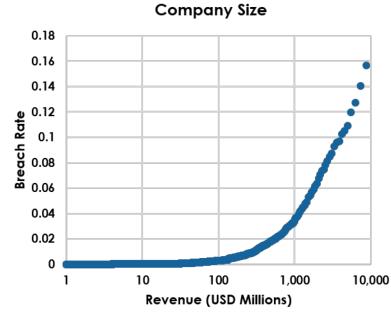




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Bias in Reported Data Requires Adjustment Using Claims

Security Breach Frequency Varies by

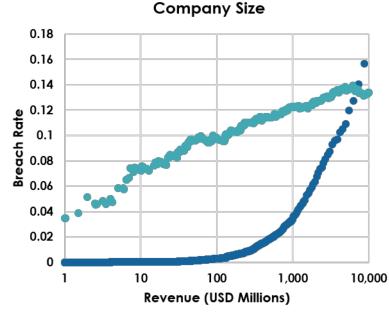


Publicly Reported

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Bias in Reported Data Requires Adjustment Using Claims

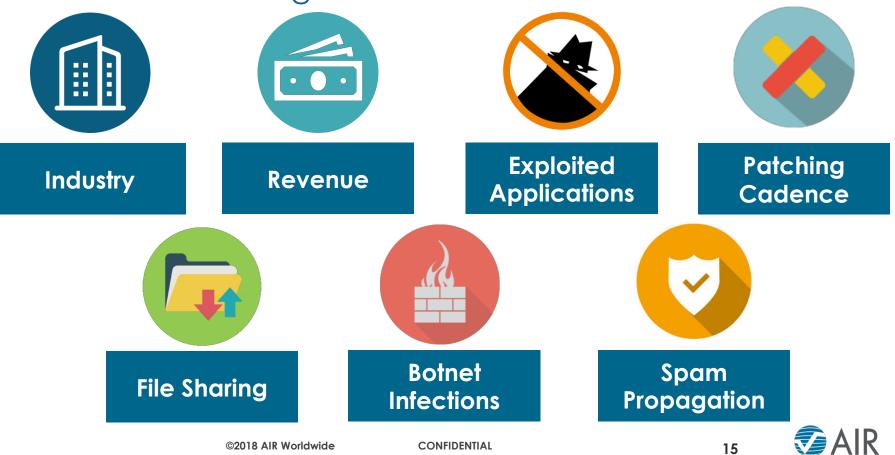
Security Breach Frequency Varies by



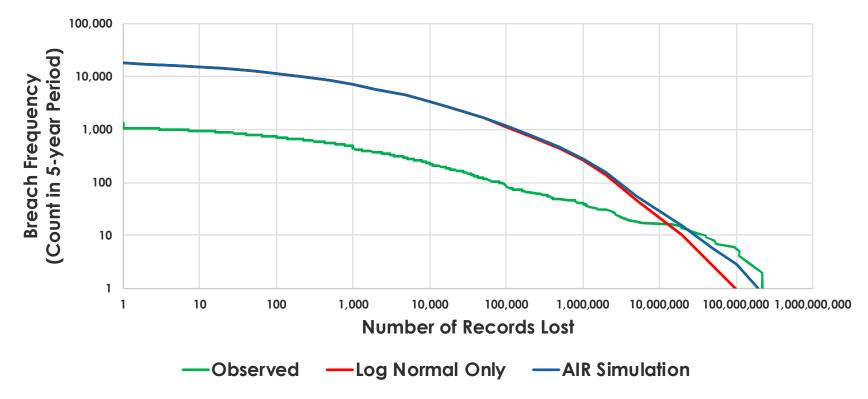


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Machine Learning Identifies Drivers of Risk



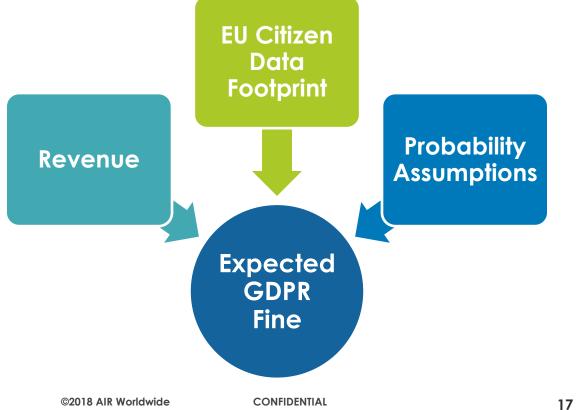
Breach Severity Is Driven by Number of Records Lost





16

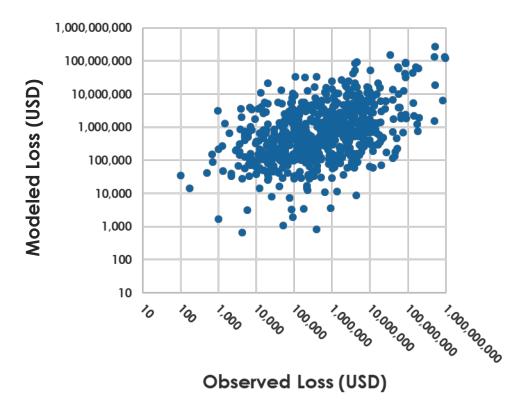
GDPR Fines Expected when Security Breaches Occur





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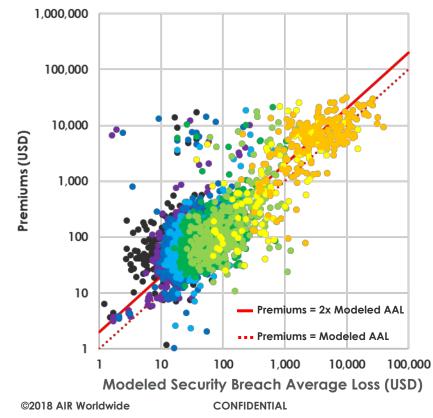
Sufficient Data Available to Validate Model Output





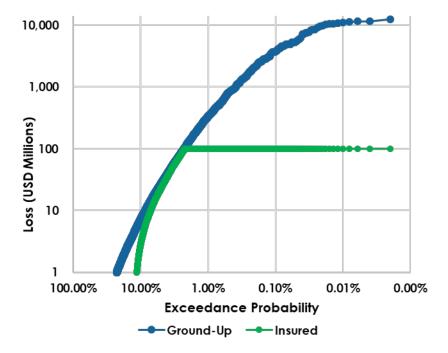
Cyber Risk Policies Have Been Mispriced

Comparison of Insurance Pricing vs Model Estimates



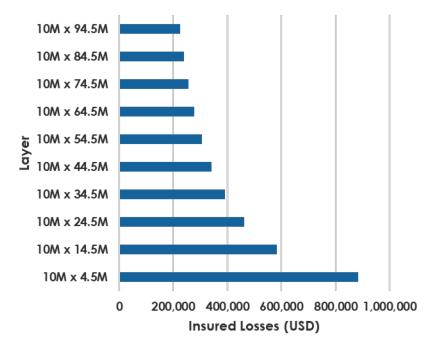


Most Breaches Result in Total Insured Loss



EP Curve for Large Retailer

Large Retailer Notional Layer Losses





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Cloud Providers Can Fail for a Variety of Reasons





Accidental

21

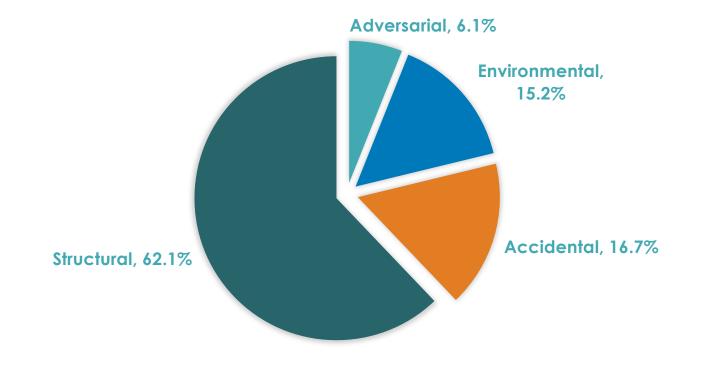








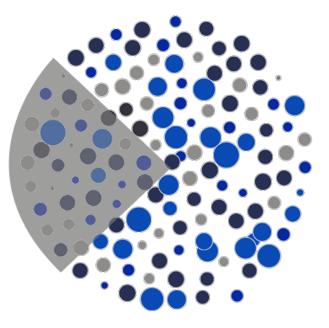
Cloud Providers Can Fail for a Variety of Reasons





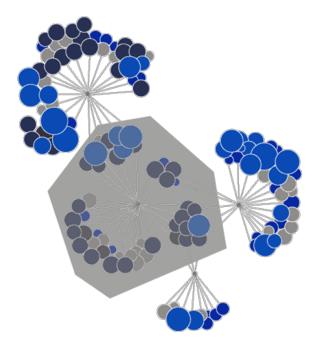
Robust Risk Management Includes Several Approaches

Market Share Approach



Cloud Vendor X has 25% Market Share

Detailed Accumulation Approach



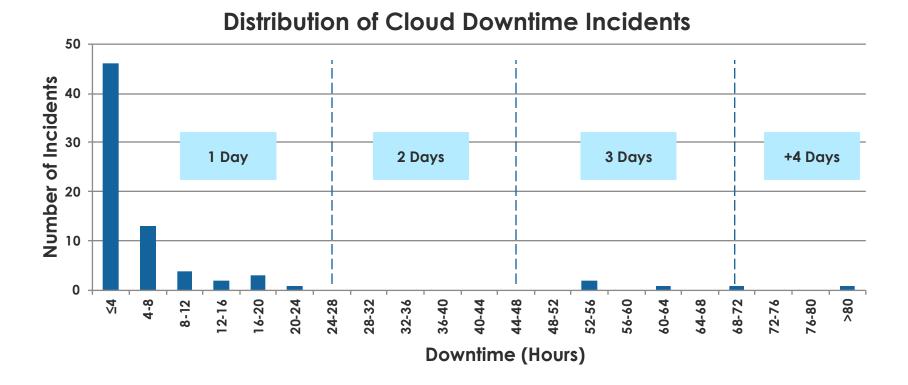
Cloud Vendor X is used by these specific 33% companies

23



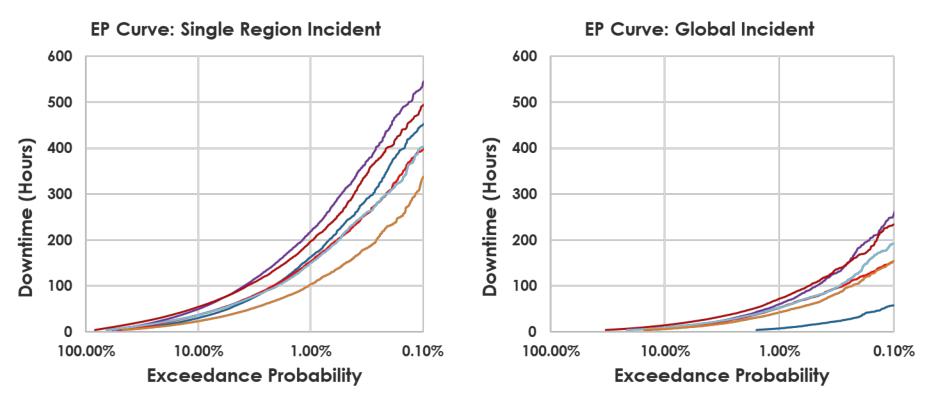
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Data on Cloud Downtime Incidents Available



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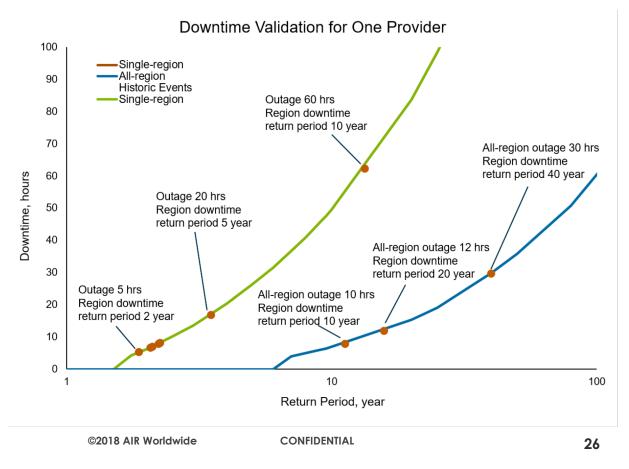
Not All Cloud Providers Are Equally at Risk





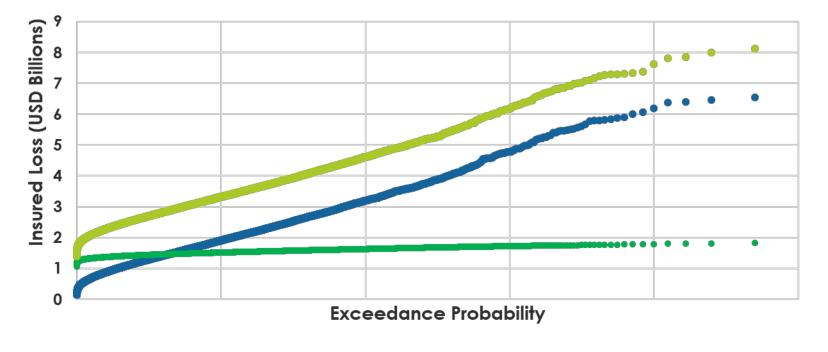
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Downtime Validation for One Cloud Provider

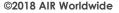




Cyber Insurers Expected to Lose Billions per Year



Business Interruption
 Security Breach
 Combined



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Live Demo of ARC



Verisk Synergies and Product Roadmap



Verisk Offers a Holistic View of Cyber Risk



Improve your policy and rating solutions



Automate your rating updates



Understand the likelihood and financial impact of cyber incidents



Identify growth opportunities

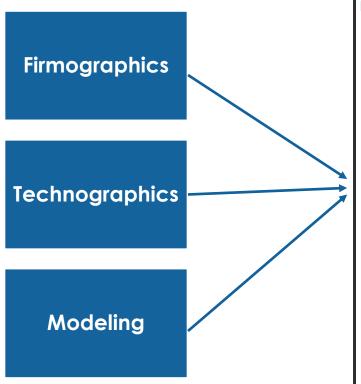


Access estimates of global cyber losses



30

Access Cyber Data and Analytics via Underwriting Report



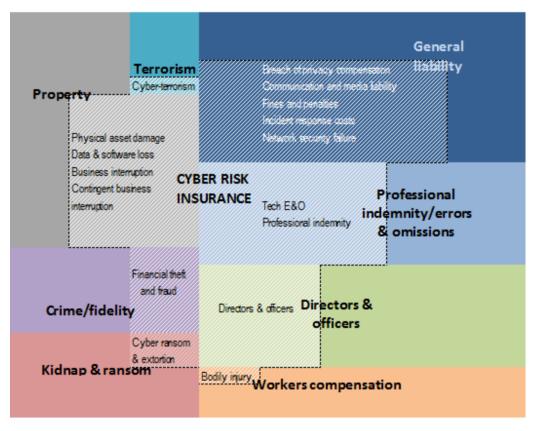
EXECUTIVE SUMMARY		
Company Overview		
Organization Name	ABC RENEWABLE ENERGY	
Nature of Business (NAICS)	221116 - GEOTHERMAL	Primary
Lorem ipsum dolor sit amet, posse debet deterruisset ea qui,	221114 - SOLAR ELECTRIC POWER GENERATION	Secondary
graecis iracundia cotidieque mea et, in mundi perpetua nec. Pericula voluptatibus no mel, cibo minimum ut duo.	221117 - BIOMASS	Tertiary
Revenue	\$300M	
Number & Severity of Data Breaches Last 3 Years	2.0 \$20,000,00	00
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Score Trend Rating		74th Percentile
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Home Office Address	123 MAIN STREET JERSEY CITY, NJ 07310	
Number of Employees	1,000	
Date Established	JUNE 12, 1958	
Legal Structure of the Organization	GOVERNMENT	
Lorem ipsum dolor sit arret, posse debet deterrulaset ea qui, graecis i	racundia cotidieque mea et, in mundi perpetua nec.	
State of Domicile	NEW JERSEY	
Website	ABCRenewableEnergy.com	
Web Presence	BCRenewableEnergy.com/blog	
ISO assigns each municipality a Building Code Effectiveness Classification from 1 (exemplary commitment to building-code enforcement to 10 for both commercial and residential construction	facebook.com/ABCRenewableEnergy	
TO IN OUR OWNERS AND INTERVENTION AND INTERVENTION	MABCRenewableEnergy	



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Silent Cyber Threat Looms Throughout



Source: OECD

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ARC Supports Cyber Business Growth



Optimize your underwriting strategy



Diversify portfolio with more confidence

Keep up with evolving risk landscape

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Register for the 2019 AIR Cyber-Casualty Conference



When: Tuesday, February 12, 2019
Where: The Westin New York at Times Square
What: Thought Leadership, Product Presentations, Breakfast,
Lunch and Networking Reception with AIR and Industry Experts
Pricing: \$155*

*Take advantage of our limited-time offer through November 30: Buy 1 registration and get 1 FREE! <u>https://airww.co/cybercasualty19</u>

Book a 1:1 Demo of ARC and Learn More

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	Analysis Name Exposure Backfill Option	Fortune 100 Security Breach Fortune100_Sample Enhance Data				Date Submitted Model Models Included	9/20/2018 21:19 Probabilistic Models Probabilistic Security Breach		
		Security Breach	- EP Chart]			Security Breach - EP Summa	ary Table	
					-	Perspective	Aggregate Ground Up Loss	Aggregate Gross Loss	
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https://airww.co/cyberdemo







