Cyber Security Landscape 2022

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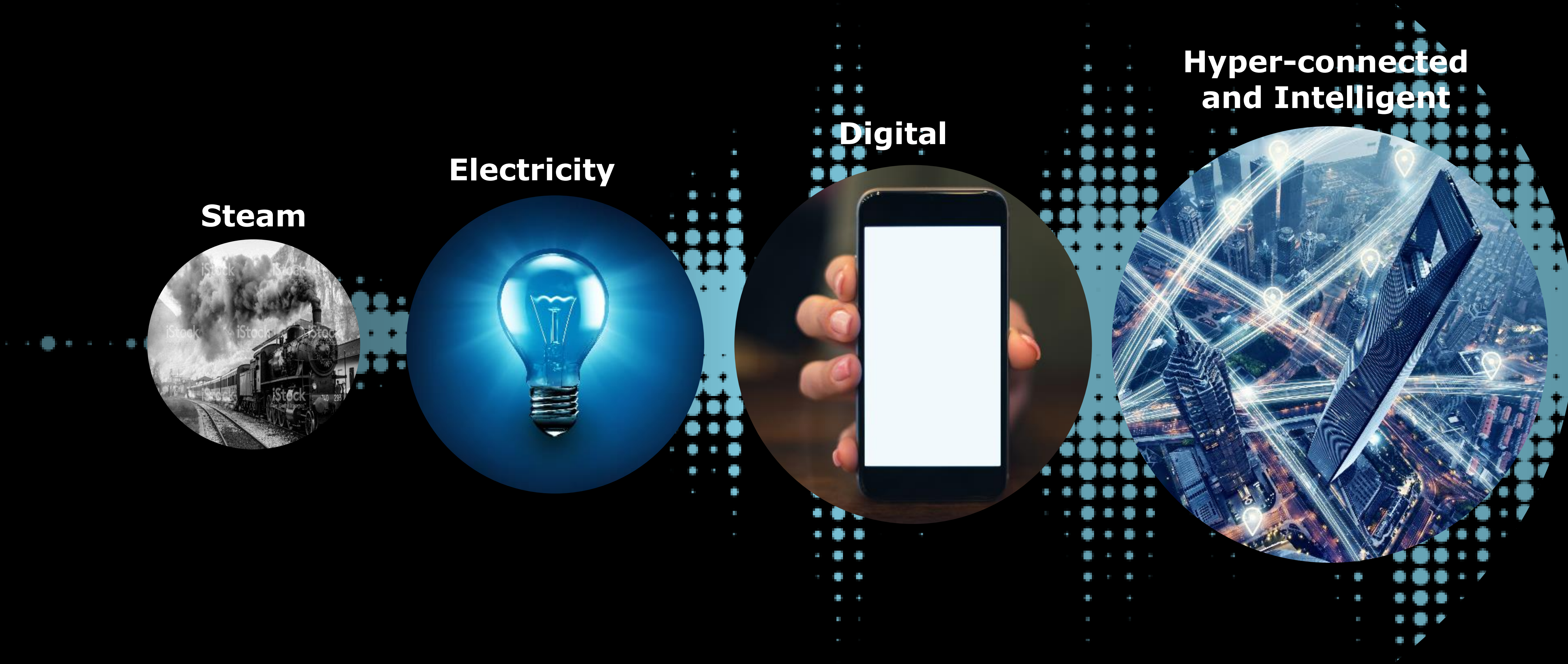
ENTERPRISES CAN THRIVE IN AN ERA OF COMPLEXITY

Digital interaction with clients and customers

Leveraging the latest technological innovation

Converging IT/OT and interconnecting supply chains

THE BUSINESS LANDSCAPE IS CHANGING AND LAUNCHING THE START OF THE 4TH INDUSTRIAL REVOLUTION



Steam

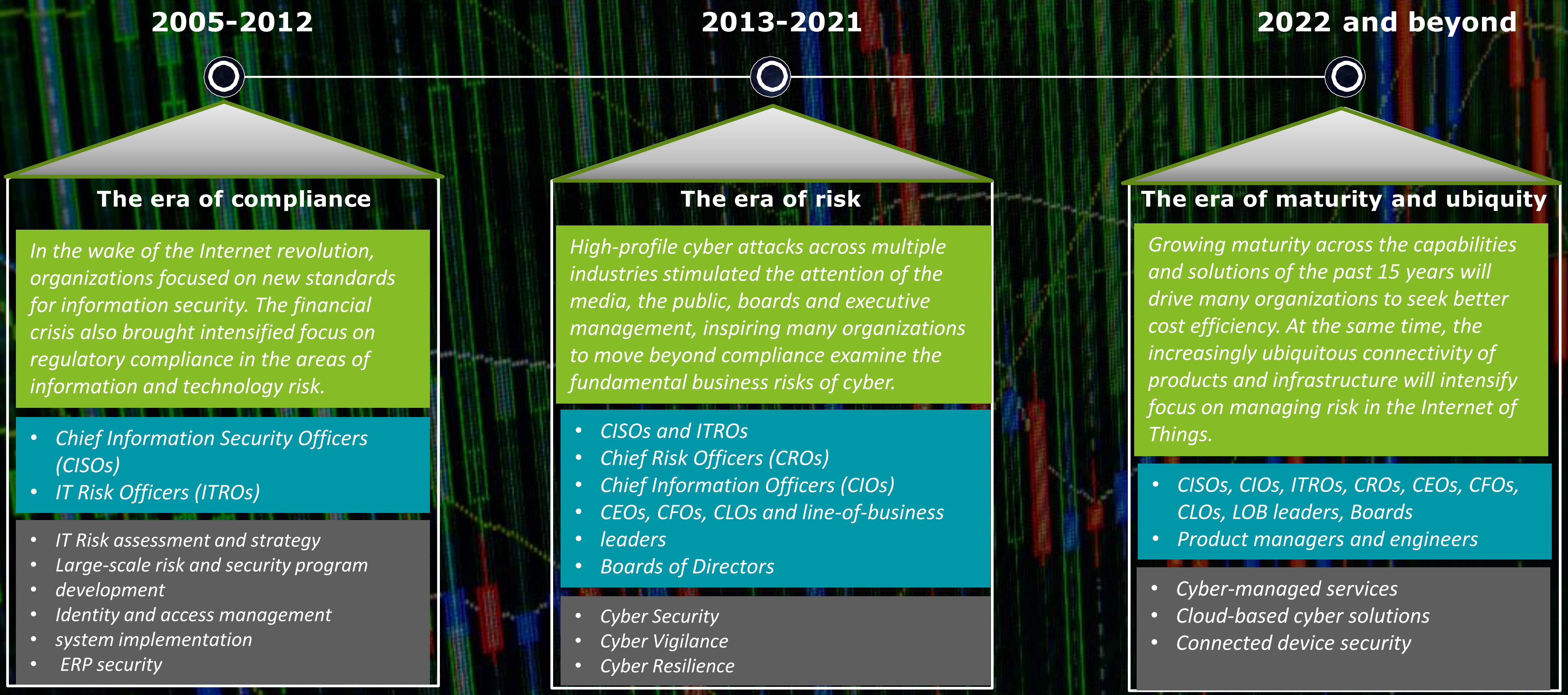
Electricity

Digital

Hyper-connected and Intelligent

THE EVOLUTION OF CYBER RISK

The evolution of cyber risk is generally cumulative. That is, the drivers and opportunities in one era do not replace those of the preceding era. Rather, they expand the horizon.



2005-2012

The era of compliance

In the wake of the Internet revolution, organizations focused on new standards for information security. The financial crisis also brought intensified focus on regulatory compliance in the areas of information and technology risk.

- *Chief Information Security Officers (CISOs)*
- *IT Risk Officers (ITROs)*

- *IT Risk assessment and strategy*
- *Large-scale risk and security program*
- *development*
- *Identity and access management*
- *system implementation*
- *ERP security*

2013-2021

The era of risk

High-profile cyber attacks across multiple industries stimulated the attention of the media, the public, boards and executive management, inspiring many organizations to move beyond compliance examine the fundamental business risks of cyber.

- *CISOs and ITROs*
- *Chief Risk Officers (CROs)*
- *Chief Information Officers (CIOs)*
- *CEOs, CFOs, CLOs and line-of-business*
- *leaders*
- *Boards of Directors*

- *Cyber Security*
- *Cyber Vigilance*
- *Cyber Resilience*

2022 and beyond

The era of maturity and ubiquity

Growing maturity across the capabilities and solutions of the past 15 years will drive many organizations to seek better cost efficiency. At the same time, the increasingly ubiquitous connectivity of products and infrastructure will intensify focus on managing risk in the Internet of Things.

- *CISOs, CIOs, ITROs, CROs, CEOs, CFOs, CLOs, LOB leaders, Boards*
- *Product managers and engineers*

- *Cyber-managed services*
- *Cloud-based cyber solutions*
- *Connected device security*

🟩 Market drivers 🟦 Key Decision Makers ⬜ Key new opportunities

SCALE, SOPHISTICATION AND IMPACT OF TODAY'S CYBER THREATS ARE INCREASING

Growing exploitation of our digital ecosystem

Threat actors moving with the age of digitalisation

Increasingly sustained and sophisticated attacks

MORE DETERMINED ACTORS OPERATING ON A GLOBAL SCALE

Maximising options for opportunistic gain

Shifting to direct targeting of internal networks

Advancing social engineering and malware capability

Why is Ransomware an Issue?

Ransomware is the Most Prevalent Emerging Business Risk

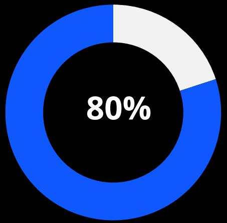
Ransomware attacks now pose not only a cybersecurity risk, but also an enterprise-wide risk, threatening business continuity and operations. Through all the Deloitte Cyber Capabilities, different enterprise risks can be mitigated to build resiliency and fuel organization's preparedness when it comes to ransomware.

GROWING THREAT

4,000

Ransomware attacks occur daily [8]

80% of Companies who paid the ransom experienced another attack [3]



191 days

The average number of days an organization takes to identify a breach [2]

8.7% increase

In the average number of cases that are exfiltrating and dropping ransomware from Q1 2020 [5]

FINANCIAL TURMOIL

$265 BILLION

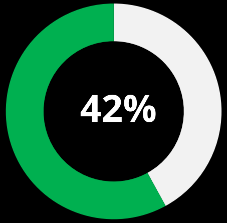
Ransomware attacks will cost its targets $265 billion by 2031 [9a]

$350 M

Victims paid $350 million in ransom in 2020 [10]

104% increase

In the average ransom payment amount from Q4 2019 [2]

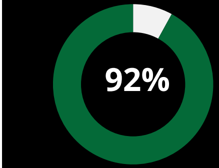


42% of companies with cyber insurance did not have all losses covered by insurance [3]

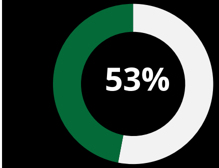
BUSINESS IMPACTS

19 days

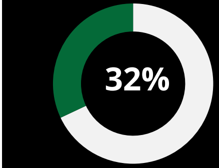
The average time of system outages [5]



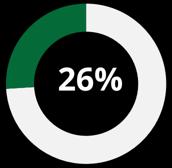
92% of companies who paid ransom do not get all their data restored [6]



53% of companies reported that their brand suffered [3]



32% of companies lost C-level talent as a direct result of a ransomware incident [3]



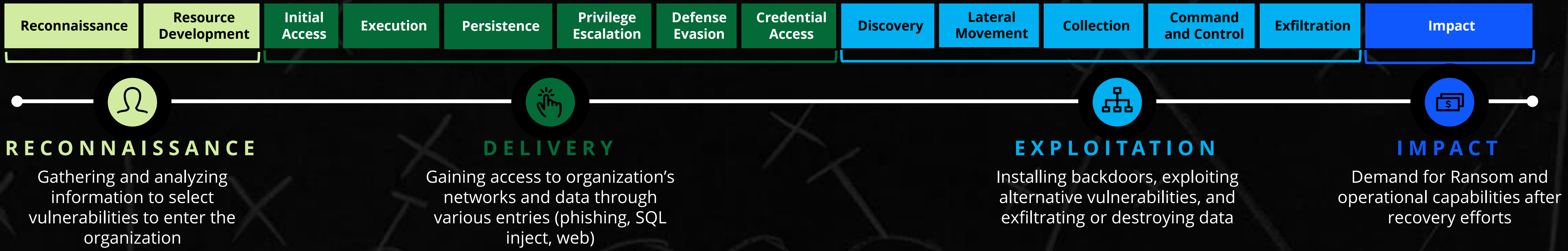
26% of organizations report a requirement to close operations for some period of time [3]

Sources: [1] SecurityMetrics [2] PurpleSec [3] CyberReason [4] HG Report [5] Coveware [6] Sophos [7] Deloitte [8] FBI [9] Cybercrime Magazine [10] IST

What Happens During a Ransomware Attack?

The Anatomy of Ransomware

Before actively taking measure for preventing from a Ransomware attack, it is important to understand the overall lifecycle that takes place within an organization during an incident. Outlined below is the “anatomy” of ransomware and several industry specific examples.



RECONNAISSANCE
Gathering and analyzing information to select vulnerabilities to enter the organization

DELIVERY
Gaining access to organization’s networks and data through various entries (phishing, SQL inject, web)

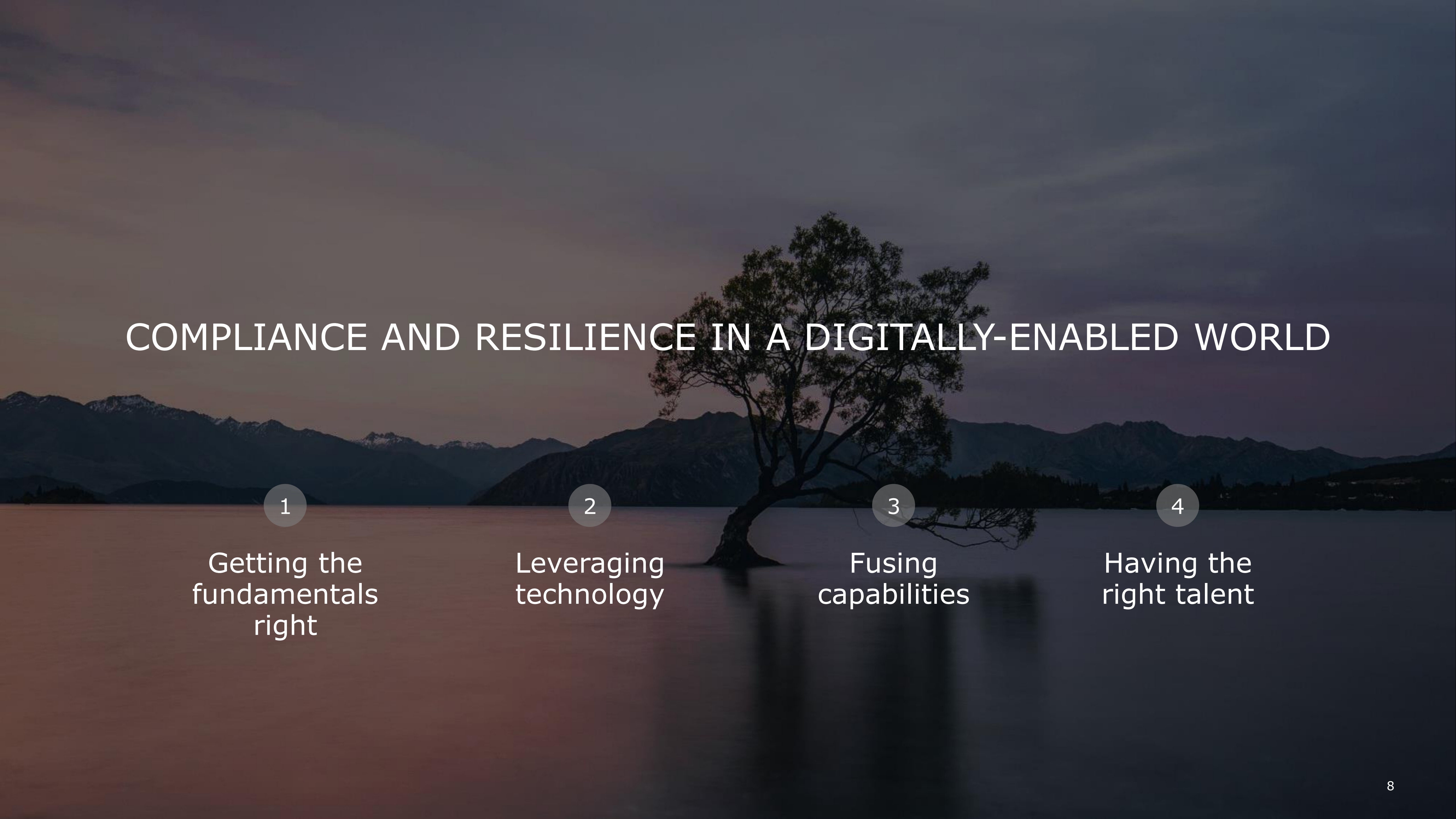
EXPLOITATION
Installing backdoors, exploiting alternative vulnerabilities, and exfiltrating or destroying data

IMPACT
Demand for Ransom and operational capabilities after recovery efforts

RANSOMWARE INDUSTRY EXAMPLES

Identified a **Virtual Private Network (VPN)** without **Multi Factor Authentication (MFA)**	Utilized an inactive account credential to get initial access through a remote accessed network.	Stole **100 gigabytes of data** and caused a **shut down of operations** of necessary infrastructure	Paid **$4.4 million** to not have data leaked to attackers
Information was obtained through **legitimate credentials** used by attacker	Utilized a **fake browser update** from a legitimate website to inject **malware**	**Encrypted** systems and **~75,000 client’s PII data** alongside **destroying backups**	Paid **$40 million** to regain access to their network and decrypt client PII data
Exploited a **zero-day vulnerability** for VSA software access	Restricted **admin access** to prevent intervention and **initiated malicious agent**	Malicious update **disabled malware prevention and related backups**	Delayed **patch development/restored, decryption key** later received
Purchased **stolen credentials** from an Initial Access Broker (IAB) and identified a **lack of MFA**	Accessed systems through **stolen credentials** to encrypt data	**Encrypted** and **stole 150 gigabytes** of data	Paid **$4.4 million** to regain data access and **prevent data disclosure**

Sources: Bloomberg, EMIS, Heimdal Security, CSO Online, CSO Online, Heimdal Security, EMIS IT Governance UK



COMPLIANCE AND RESILIENCE IN A DIGITALLY-ENABLED WORLD

1. Getting the fundamentals right
2. Leveraging technology
3. Fusing capabilities
4. Having the right talent

GETTING THE FUNDAMENTALS RIGHT

Understand the criticality of your most important assets

Adopt a security posture relevant to your risk profile

Build a robust monitoring and response plan

OPPORTUNITY TO BETTER LEVERAGE TECHNOLOGY

Adopt new solutions for faster detection and better prevention

Leverage data to increase insight and visibility

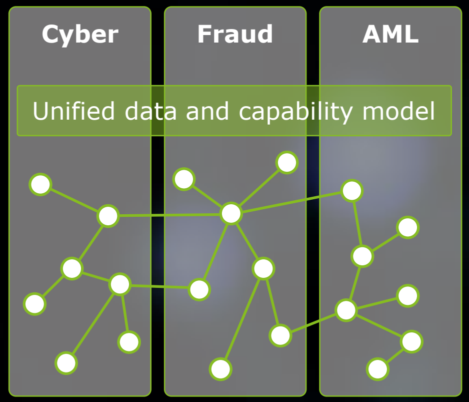
Exploit the digital opportunities of privacy

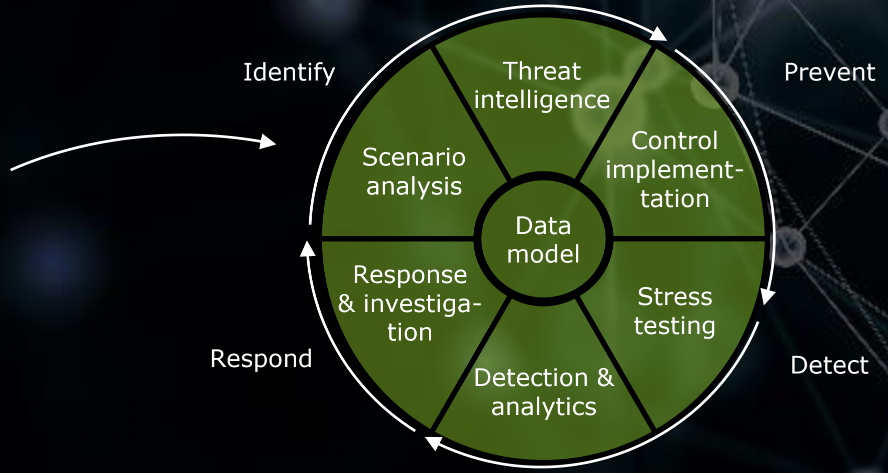
FUSING CAPABILITIES TO INCREASE VISIBILITY

Connect more to see more across the attack chain

Manage risk better, with less complexity and cost

Collaborate across industry to amplify effect





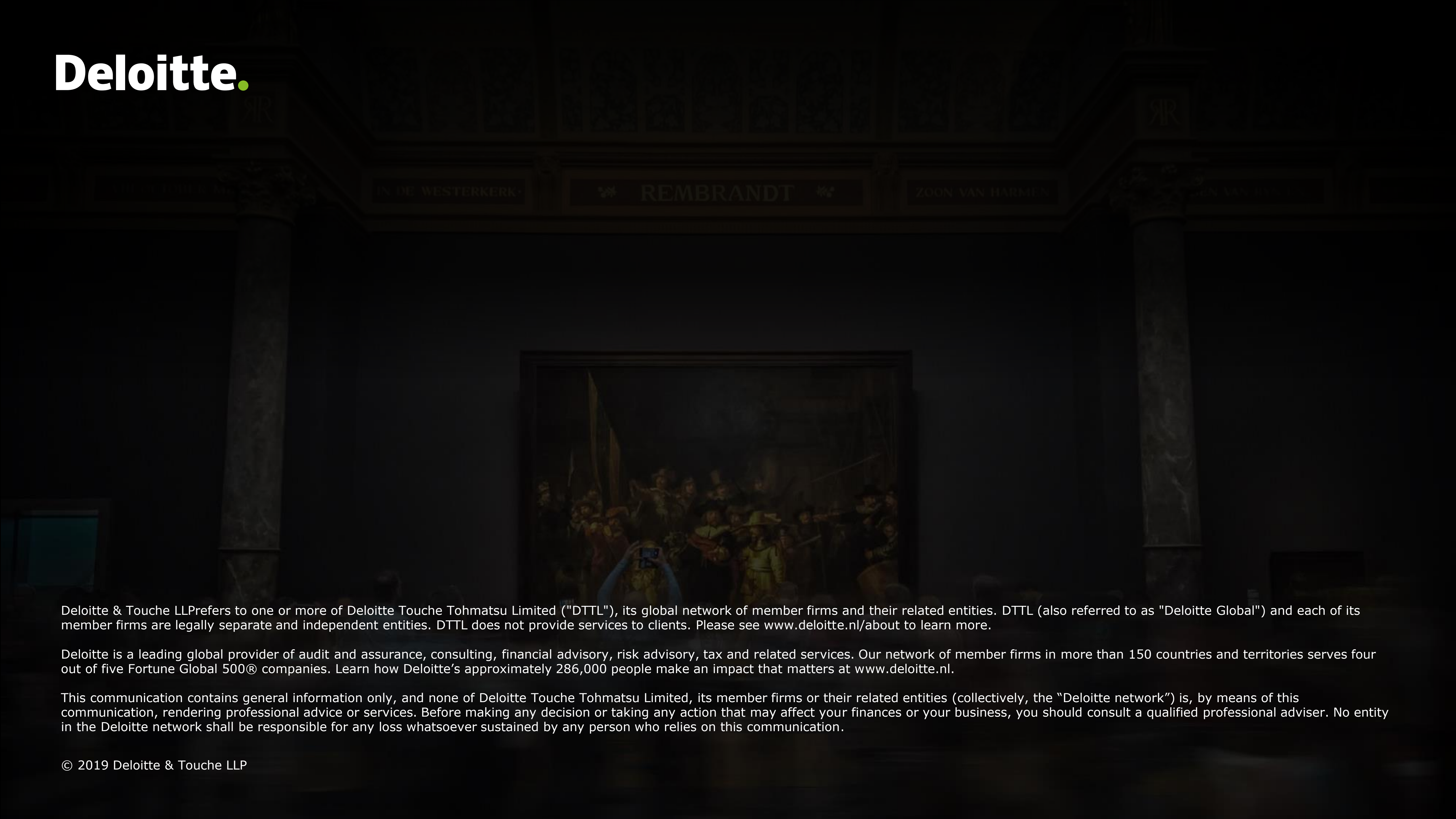
HAVING THE RIGHT TALENT

Deploy critical skill sets across regions and time zones

Build mixed teams of suits and hoodies

Grow and enable a new breed of cyber leaders

Q&A



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