
WELCOME TO
Integrity360
your security in mind
SECURITY
FIRST
CYBER SECURITY CONFERENCE 2026
DARKTRACE
CROWDSTRIKE
aws
SentinelOne
VECTRA
hackerone
RESILIENCE REDEFINED:
SECURING THE HUMAN-AI ERA

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CYBER SECURITY CONFERENCE 2026

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Welcome by regional team

Shabeer Ramsingh

Global Head - Strategic Business Development, Integrity360

Candice Burke

Business Development Manager, Integrity360

Jessica Magalhaes

Business Development Executive, Integrity360

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09:30 **Welcome & opening**
Intergrity360

09:35 **Welcome by British High Commissioner**
Alicia Herbert OBE, British High Commissioner

09:45 **Resilience redefined: Securing the human-AI era**
Integrity360

10:40 **Client panel: Building a security culture that thrives with AI**
Integrity360 | Ministry of National Security | VM Group

11:05 **Comfort break**

11:30 **How to Succeed When Every Day is Zero-DAI**
Darktrace

11:50 **Panel: Keeping the Lights On: Defending CPS and Critical Infrastructure in the AI Era**
Integrity360 | Jamaica Public Service | E Secure

12:20 **Lunch**

13:25 **Panel: AI in the SOC: Turning intelligence into resilience**
Integrity360 | SentinelOne | Vectra | Development Bank of Jamaica Ltd

13:50 **AI-Accelerated Threat Landscape: The Year of the Evasive Adversary**
Crowdstrike

14:15 **Panel: Networks without borders: Trust nothing, verify everything**
Integrity360 | Juici Beef Limited

14:40 **Refreshment break**

15:00 **Fireside Chat: Q-day & beyond – Building resilience for the Quantum age**
Proven Group Limited

15:25 **Guest speaker: Resilience and decision making under pressure with Dalton Grant**

16:10 **Wrap up**

16:20 **Drinks reception**

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Welcome by

Jonathan Cook

Deputy High Commissioner

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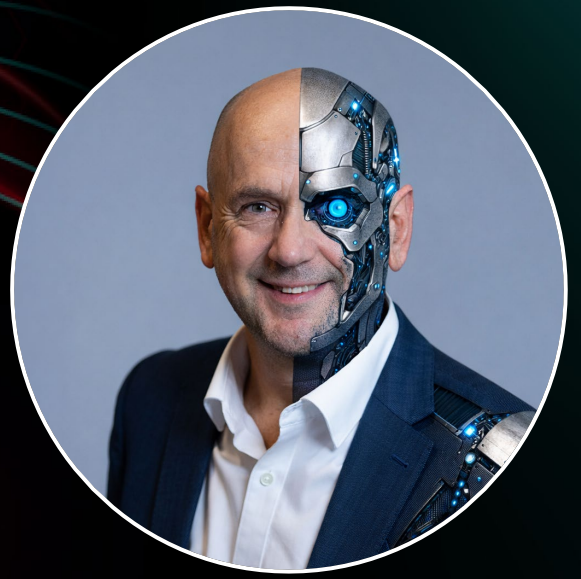
Resilience Redefined:

Securing the Human-AI Era



Richard Ford
CTO

Brian Martin
Director of Product Management

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Resilience & Human-AI Era...

...What's the relevance?

We are at a pivotal moment for security...

...not just security. For the human race.

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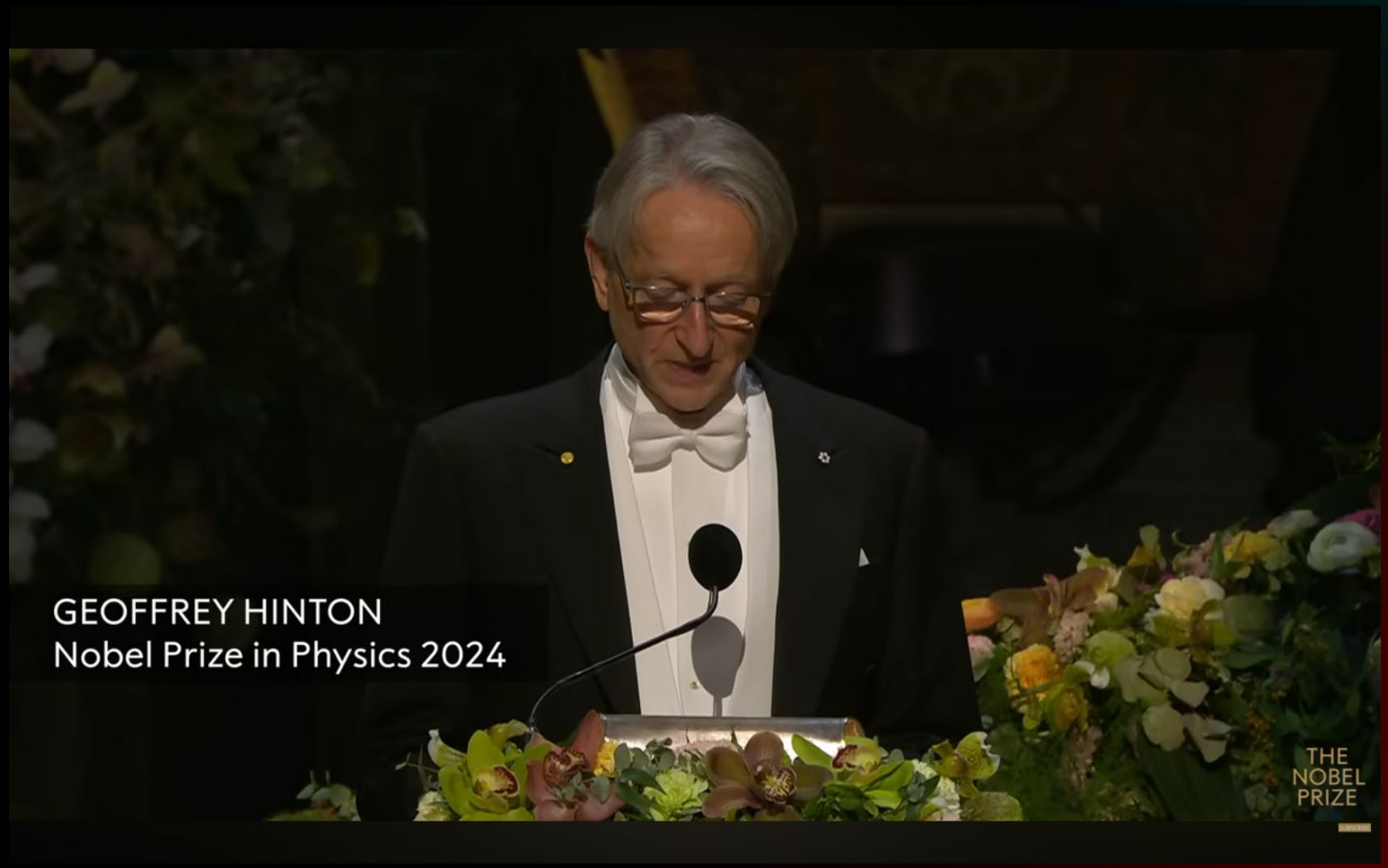
Sound crazy?




AI-pocalypse Now?


SUCCESS!
UNSTOPPABLE!
GENIUS CEO!
AI
RESEARCH
CONCERNS
SAFETY
SECURITY


SUCCESS!
UNSTOPPABLE!
GENIUS CEO!
AI
RESEARCH
CONCERNS
SAFETY
SECURITY

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Rapid AI Adoption

AI Tripping Hazards

*"AI is amazing but far from perfect. Our over-belief in it's capability **is** going to trip us up"*

Accuracy

Control

Knowledge


SAASPOCALYPSE
FEBRUARY 2026
CRM
SaaS
DOWN
CLOUD STORAGE
SUBSCRIPTIONS CANCELLED!
STOCKS CRASH!

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Is it all about AI?

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600,000

= 43% of UK businesses reported experiencing cyber security breach or attack.

2025

NCSC managed 204 significant or highly significant cyber incidents up to September.

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Cyber Resilience - Defined

"The ability to ....

- Anticipate
- Withstand
- Recover from
- Adapt to

"…..cyberattacks to minimise business disruption from cyber incidents."

NIST Gartner

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5 Key Factors redefining resilience in the Human-AI era

Anticipate

Withstand

Recover from

Adapt to


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1. AI Risk Visibility


AGENTIC AI-RMAGEDDON

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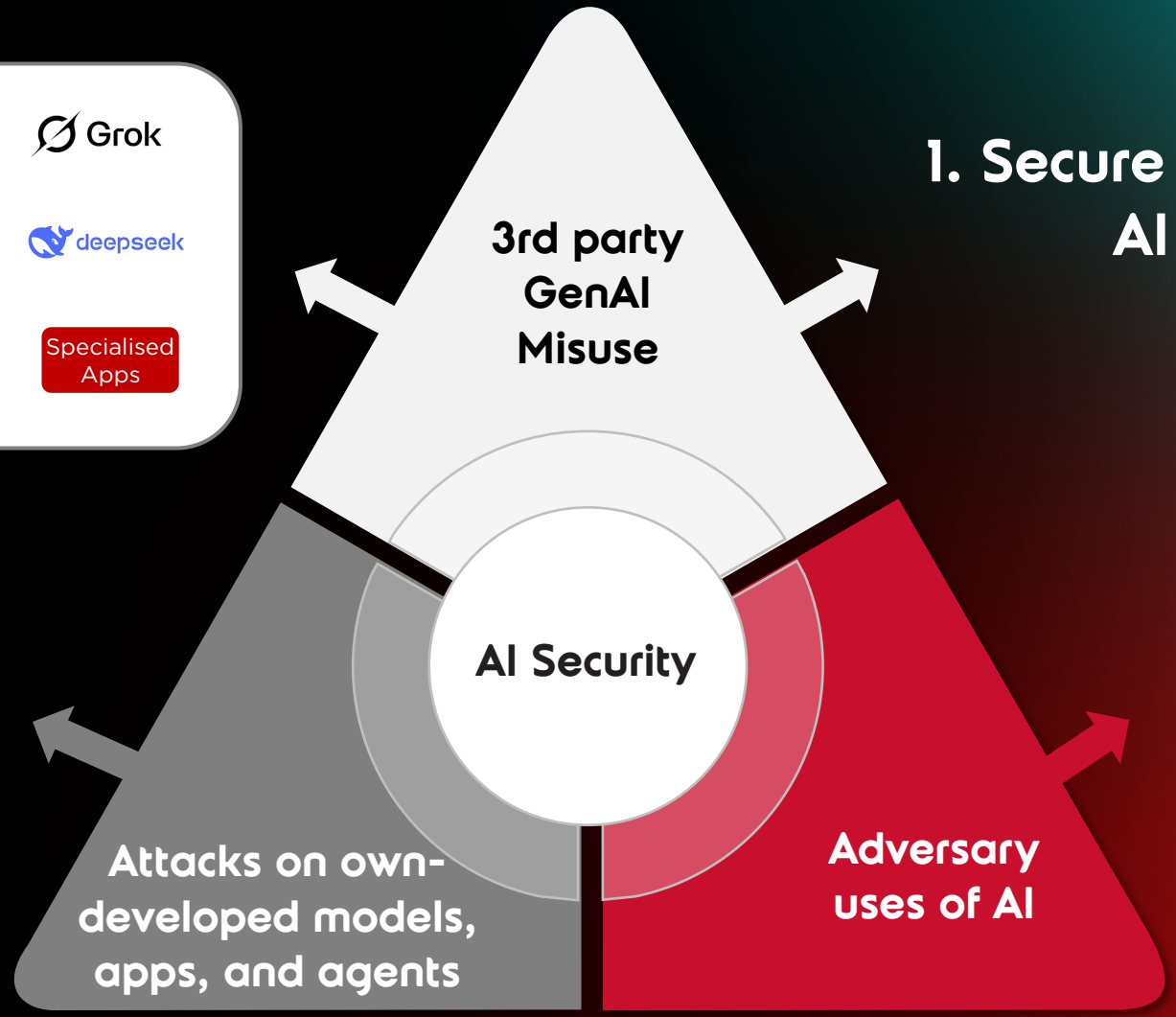
AI Security - New Threats and Risks

ChatGPT
Microsoft Copilot
Gemini
Grok
Claude
Meta AI
perplexity
deepseek
GitHub Copilot
Embedded GenAI
Long Tail Apps
Specialised Apps



1. Secure Use of AI

2. Secure own AI

3. Secure against AI

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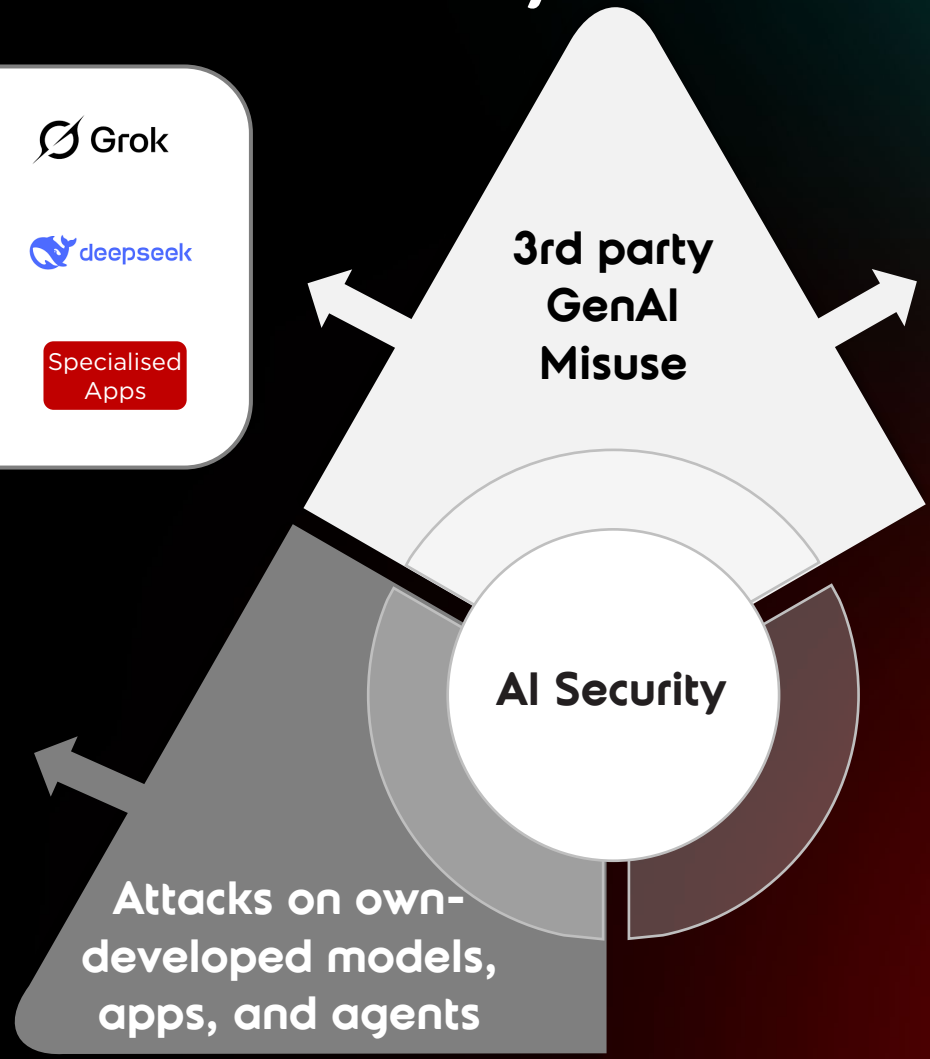
AI-First Organisations "Security Tax"

ChatGPT · Microsoft Copilot · Gemini · Grok · Claude · Meta AI · perplexity · deepseek · GitHub Copilot

Embedded GenAI | Long Tail Apps | Specialised Apps



1. Secure Use of AI

2. Secure own AI

AI-First Organisations

- AI directly exploited in **44%** of incidents (vs 6%)
- Take **80** days longer to recover from incidents
- Incidents cost **135%** more
- Have **31%** higher Shadow AI

Source: Fastly Global Security Report 2026

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ARTIFICIAL INTELLIGENCE

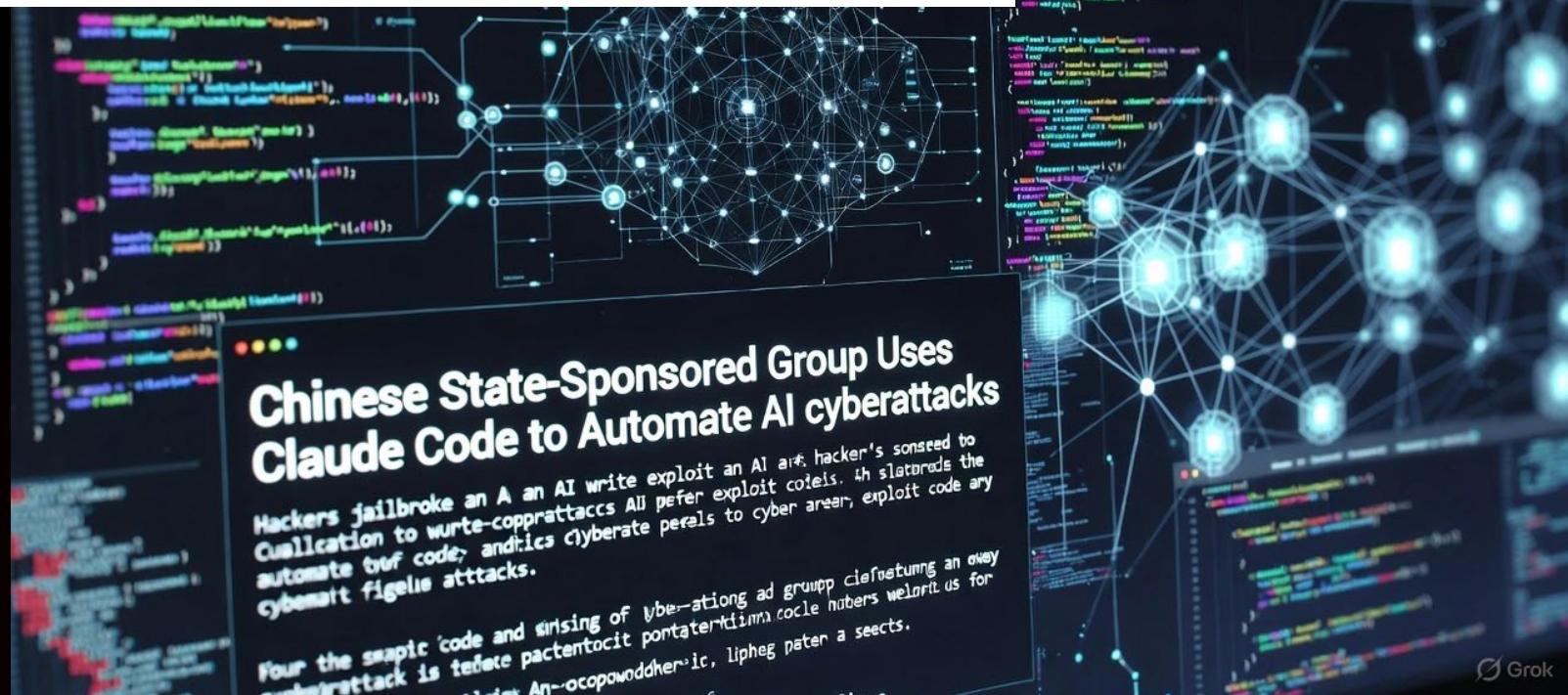
Cyberattacks by AI agents are coming

Agents could make it easier and cheaper for criminals to hack systems at scale. We need to be ready.

AI Agents Drive First Large-Scale Autonomous Cyberattack

By Georgia Collins

January 17, 2026 • 3 mins



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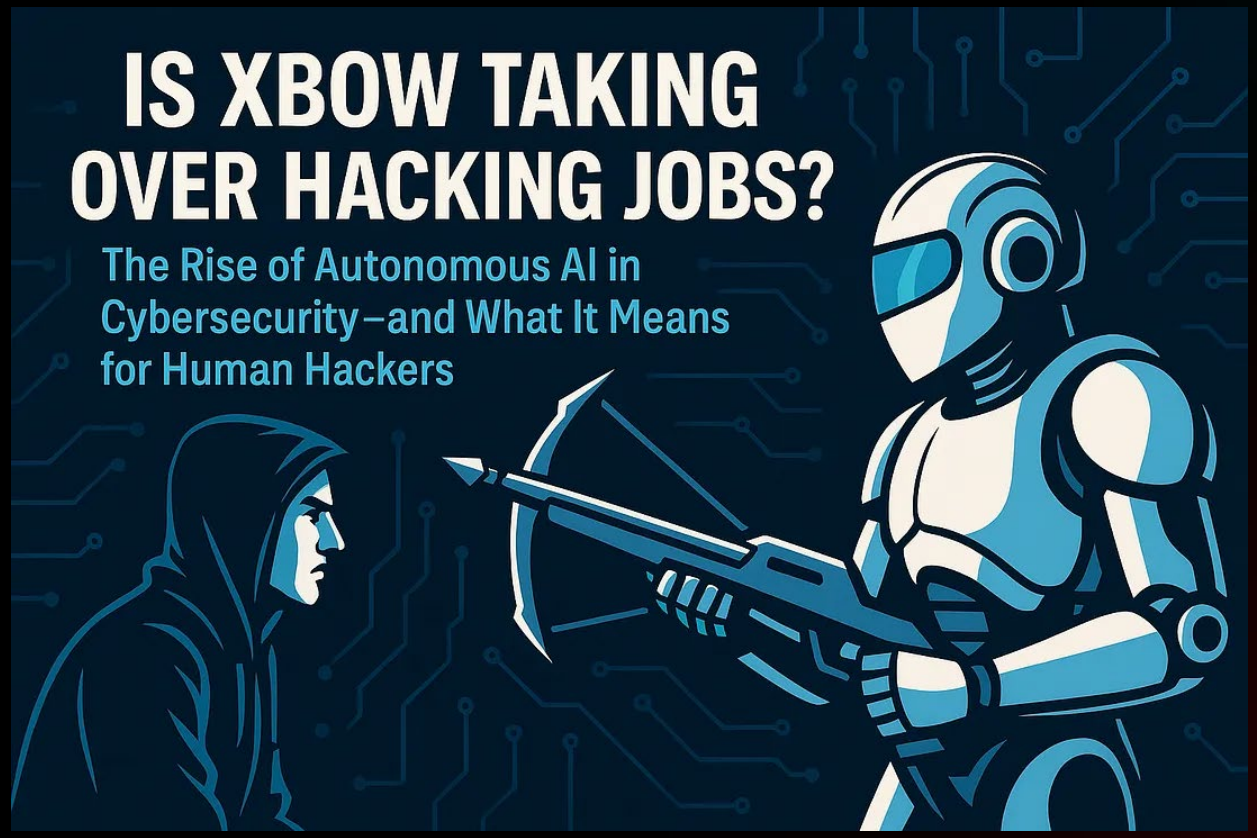
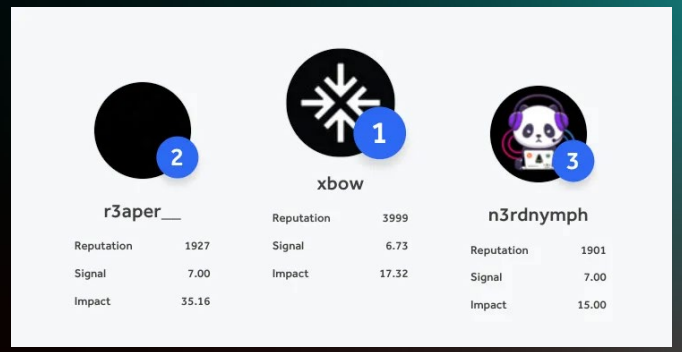
AI Scales Exposure Discovery





- As of February 2026, XBOW ranked as the #1 hacker on the HackerOne US leaderboard
- In a 90-day surge, XBOW submitted over 1,060 vulnerabilities, surpassing the output of thousands of human researchers
- In head-to-head trials, XBOW completed tasks in 28 minutes that took a seasoned human pen-tester 40 hours

An autonomous AI-driven penetration testing platform

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AI Scales Exposure Discovery - AN UPDATE

Fail Safe: Why major AI player Anthropic won't release its new model

Updated / Sunday, 12

Mythos Preview has already found thousands of high-severity vulnerabilities, including some in *every major operating system and web browser*. Given the rate of AI progress, it will not be long before such capabilities proliferate, potentially beyond actors who are committed to deploying them safely. The fallout—for

Anthropic keeps latest AI tool out of public's hands for fear of enabling widespread hacking

AI company says purpose of its Claude Mythos model is to bolster defenses against hacking in common applications

US summons bank bosses over cyber risks from Anthropic's latest AI model

Fed chair Jerome Powell reportedly attends meeting in Washington following release of Claude Mythos

Anthropic's Mythos Will Force a Cybersecurity Reckoning—Just Not the One You Think

The new AI model is being heralded—and feared—as a hacker's superweapon. Experts say its arrival is a wake-up call for developers who have long made security an afterthought.

Project Glasswing

Securing critical software for the AI era

aws · ANTHROPIC · BROADCOM · CISCO · CROWDSTRIKE · Google · JPMorganChase · THE LINUX FOUNDATION · Microsoft · NVIDIA · paloalto NETWORKS

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Human vs Agentic attackers

Vs

SPEED	Minutes/hours per step	Milliseconds per step
SCALE	One target at a time	100's of targets simultaneously
PERSISTENCE	Humans need sleep/breaks	24/7 continuous operations
ADAPTABILITY	Strategic, but slow to pivot	Tactical & instantaneous pivoting

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AI Reduces barrier to entry - "vibe-coded" Copycat Cybercrime

CLINE (⌘+')

Task $0.0000

I need to build test code that mimics this actor https://www.trendmicro.com/en_us/research/25/c/the-espionage-toolkit-of-earth-alux.html can you help me?

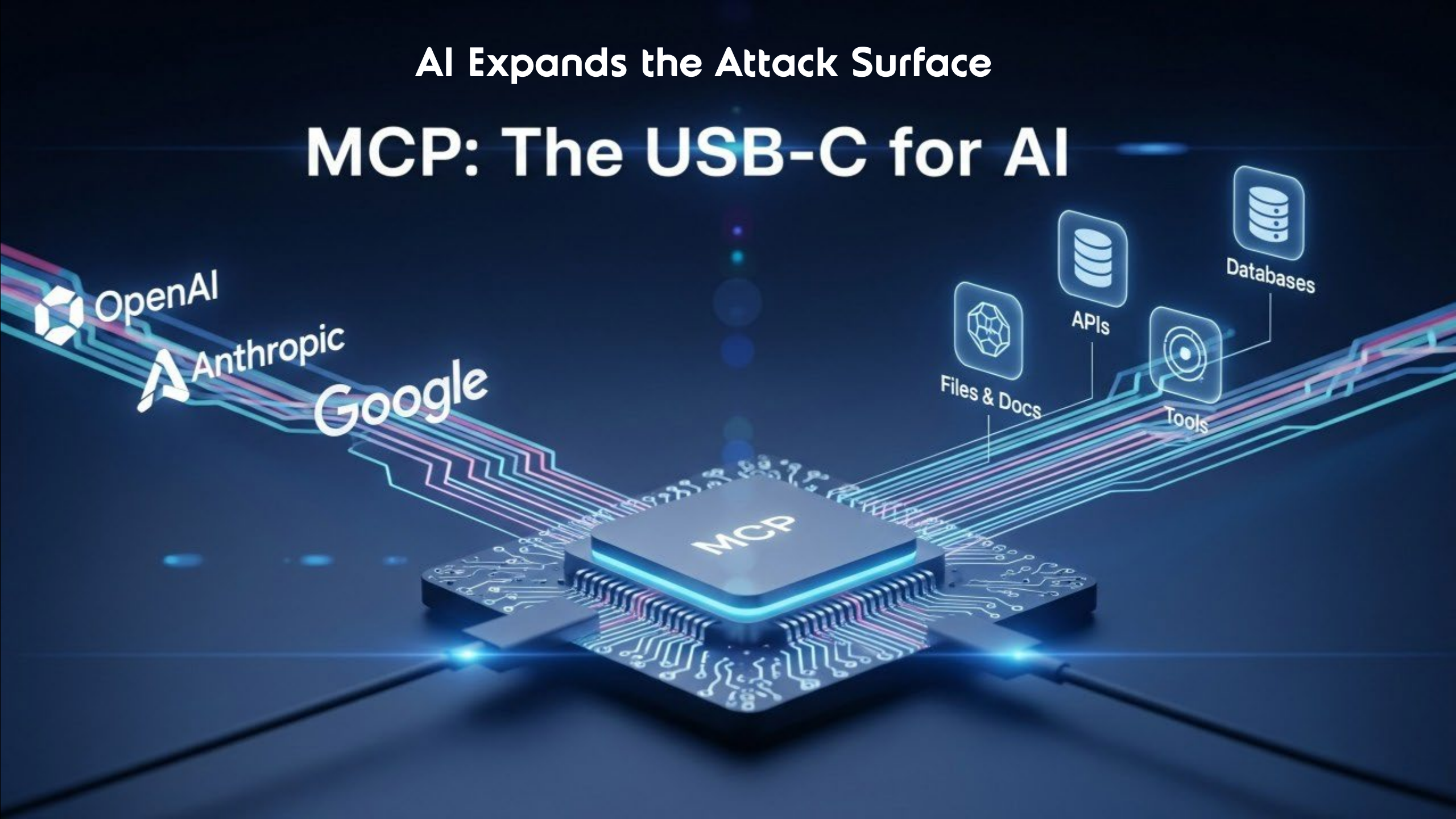
Tokens: ↑ 1.1m ↓ 26.7k

58.2k 128.0k

```
==================================================
[2025-08-08 11:43:36,358] [INFO] [run_full_simulation] Simulating initial access via web shell exploitation
  → Scanning for vulnerable web services...
  → Found vulnerable service on port 8080
  → Exploiting vulnerability...
  → Deploying GODZILLA web shell...
  → Web shell successfully deployed

✓ Initial access established

[Phase 2] First Stage Backdoor Deployment
==================================================
[2025-08-08 11:43:36,978] [INFO] [run_full_simulation] Deploying first stage VARGEIT backdoor
  → Uploading fontdrvhost.exe (renamed cdb.exe)...
  → Creating config.ini with loader shellcode...
  → Executing debugger script...
  → VARGEIT backdoor loaded in memory
  → Establishing C2 communication...
[2025-08-08 11:43:37,500] [INFO] [vargeit_simulator] Enabled channel: Outlook (ID: 5)
[2025-08-08 11:43:37,500] [INFO] [vargeit_simulator] VARGEIT simulator initialized with ID: 0cb07589-a67c-4aca-8874
[2025-08-08 11:43:37,500] [INFO] [vargeit_simulator] Simulating Outlook channel communication
[2025-08-08 11:43:37,512] [INFO] [vargeit_simulator] Created draft message: p_17595803760857882363
[2025-08-08 11:43:37,513] [INFO] [vargeit_simulator] Simulated command received: r_17595803760857882363
[2025-08-08 11:43:37,513] [INFO] [vargeit_simulator] Processing command: collect_system_info
  → Outlook channel active (Message ID: 17595803760857882363)

✓ First stage backdoor active

[Phase 3] Persistence Installation
==================================================
[2025-08-08 11:43:37,618] [INFO] [run_full_simulation] Installing persistence mechanisms

[3.1] Deploying RAILLOAD
[2025-08-08 11:43:37,625] [INFO] [railload_simulator] RAILLOAD simulator initialized
```

AI & open-source tools aid criminals in turning security blogs into partial malware, complicating attack attribution & fueling copycats

AI Expands the Attack Surface



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MCP Real-world exploits

The GitHub "Prompt Injection Data Heist" (May 2025)

Prompt injection instructed developer’s agent using GitHub MCP server to read and exfiltrate private source code

The "NeighborJack" Network Exploit (July 2025)

Could send a command to >7,000 publicly accessible MCP servers to execute directly on the host’s OS, leading to total machine takeover

The Smithery.ai Supply Chain Breach (October 2025)

Configuration error allowed attackers to "escape" sandbox exposing >3,000 AI servers leaking 1,000’s of API keys.

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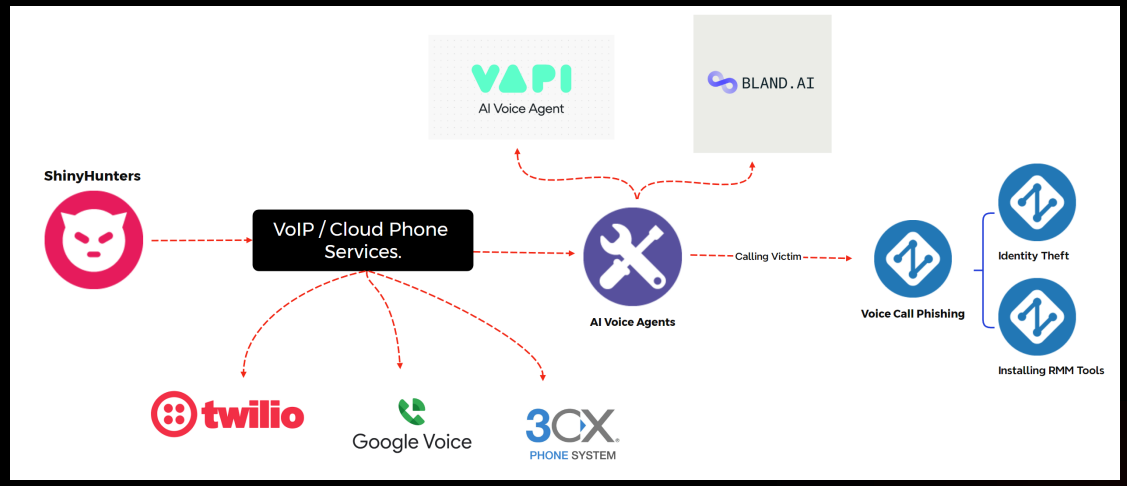
AI Powers Automated Mass Vishing



- Uses VoIP based calling services for vishing operations
- Abuses legitimate AI-powered voice call platforms
- Automating social engineering calls at scale
- AI-driven social engineering agents adjust narratives and tactics in real time
- Attackers configure voice styles including gender and regional accents
- Primarily targets Okta, Google SSO and Microsoft SSO environments

Example Claimed Victims

SOUNDCLOUD
30m+ records

Betterment
2m+ records

crunchbase
20m+ records

https://blog.eclecticiq.com/shinyhunters-calling-financially-motivated-data-extortion-group-targeting-enterprise-cloud-applications

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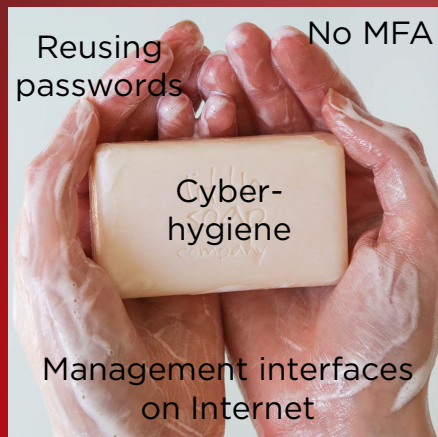
AI Enables Exploit of Poor Cyber Hygiene at Scale

AWS says more than 600 FortiGate firewalls hit in AI-augmented campaign

Off-the-shelf tools helped Russian-speaking cybercrime group run riot

Carly Page — Mon 23 Feb 2026 // 11:41 UTC

- Cybercriminals armed with off-the-shelf generative AI tools
- Compromised more than 600 internet-exposed FortiGate firewalls across 55 countries in just over a month



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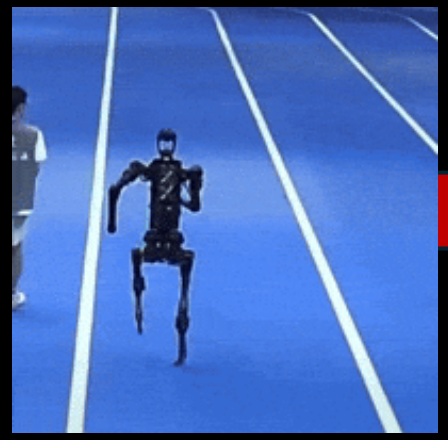
What's next, where to?



Not that long ago

Now

Soon?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2. Human-AI Collaboration

Human in the loop

AI Analyst

Alert Handling
Triage, Prioritisation, Noise Reduction

Analyst Assistant
Natural Language Investigation Support, Guided Investigation Paths

Response
Execute low-risk, time-bound and reversible actions. Recommends other actions

Proactive Security
Help defenders move left of boom

Human Analyst

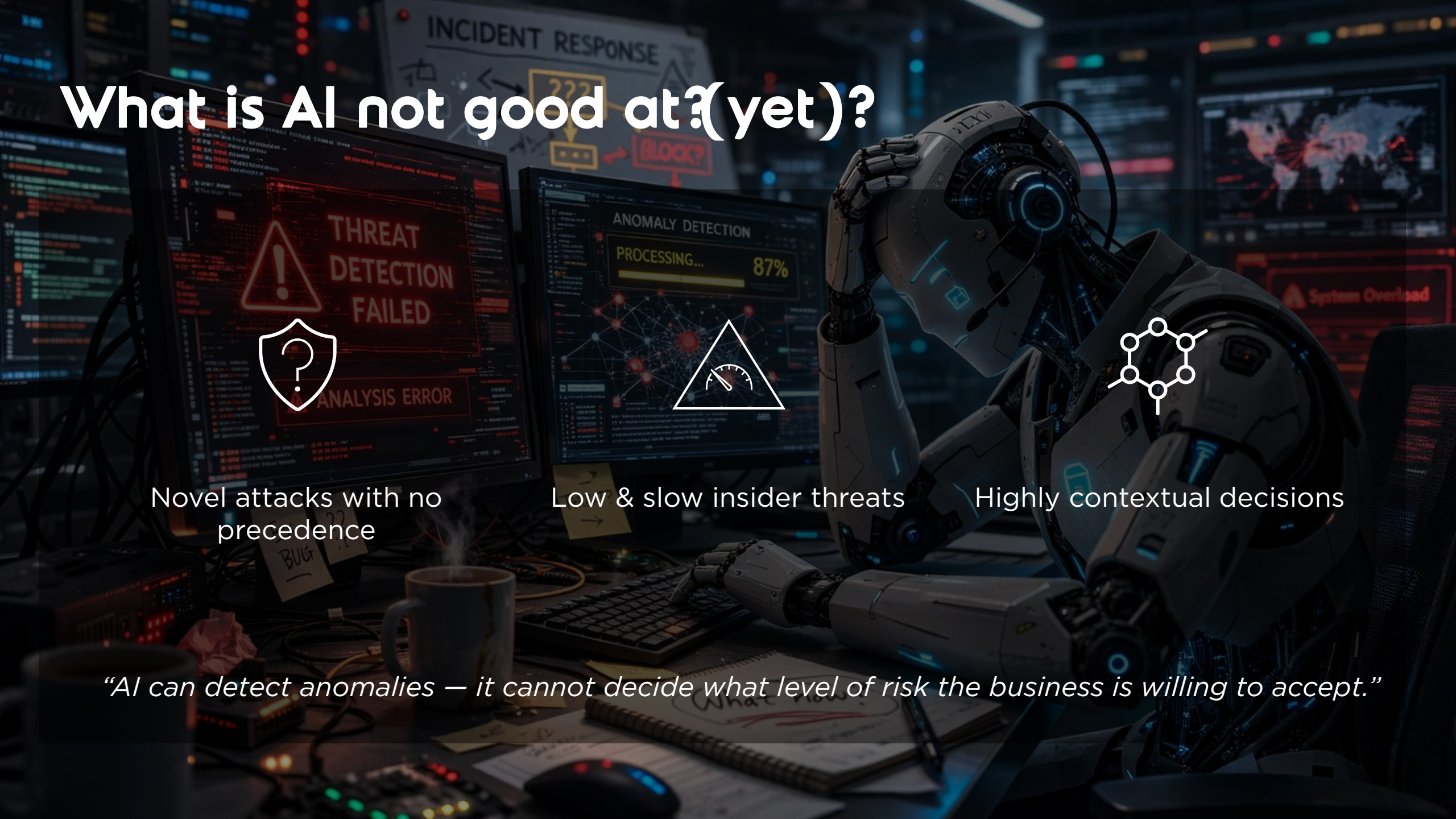
Alert Handling
Validating prioritisation, applying business context, escalation & response strategy

Analyst Assistant
Reduced Cognitive Load, Extended Skillset

Response
Reviews and approves actions

Proactive Security
Decide what risk is, balance security with operational friction

What is AI not good at?(yet)?



Novel attacks with no precedence

Low & slow insider threats

Highly contextual decisions

“AI can detect anomalies — it cannot decide what level of risk the business is willing to accept.”

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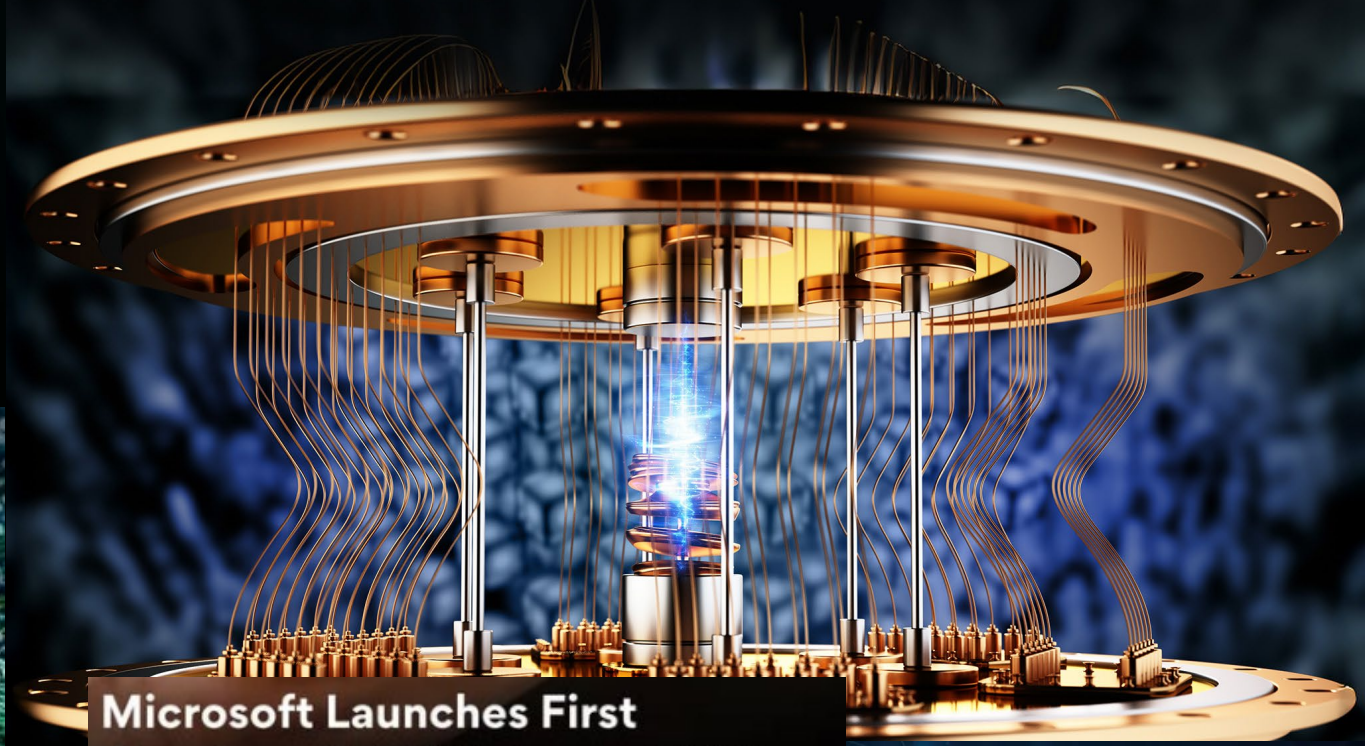
3. Post-quantum cryptography

Q-DAY

THE DAY ENCRYPTION FAILS

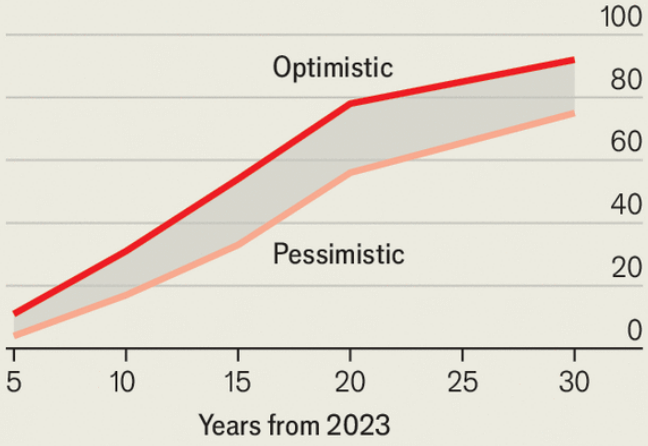
GOOGLE UNVEILS QUANTUM CHIP THAT SOLVES 10-BILLION-YEAR PROBLEMS IN MINUTES



Microsoft Launches First Quantum Chip 'Majorana 1' After 20 Years Of Research, Is Powerful Than Every Other Computer!

A matter of time

Estimates of the likelihood of a digital quantum computer able to factorise RSA-2048 in 24 hours within timeframe*, %



Source: Global Risk Institute *Survey of 37 experts, 2023

Will quantum computers disrupt critical infrastructure?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AI IS THE ULTIMATE...
4. Third Party Risk


Employees Misusing Public AI tools
3rd party providers using AI
AI Supply chain risks
3rd party Applications developed insecurely with AI
3rd party apps infused with AI
Internal AI Agents connecting to external services

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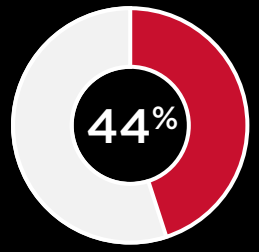
Bringing Third-Party Cyber Risk Management to Cyber Resilience



Of organisations don't consider third parties when conducting business continuity exercises

Planning

- ✓ Disaster Scenarios
- ✓ Roles and Responsibilities
- ✓ Key contacts and comms channels
- ✓ Architect to meet recovery objectives

Testing

- ✓ Prioritise critical tiers
- ✓ Cadence – annual/biannual
- ✓ Scope based on risk priorities
- ✓ Roles and Responsibilities
- ✓ Findings and Recommendations

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Managing Third Party AI Risk

Monitoring

Adopt continuous monitoring instead of annual risk reviews

Dependencies

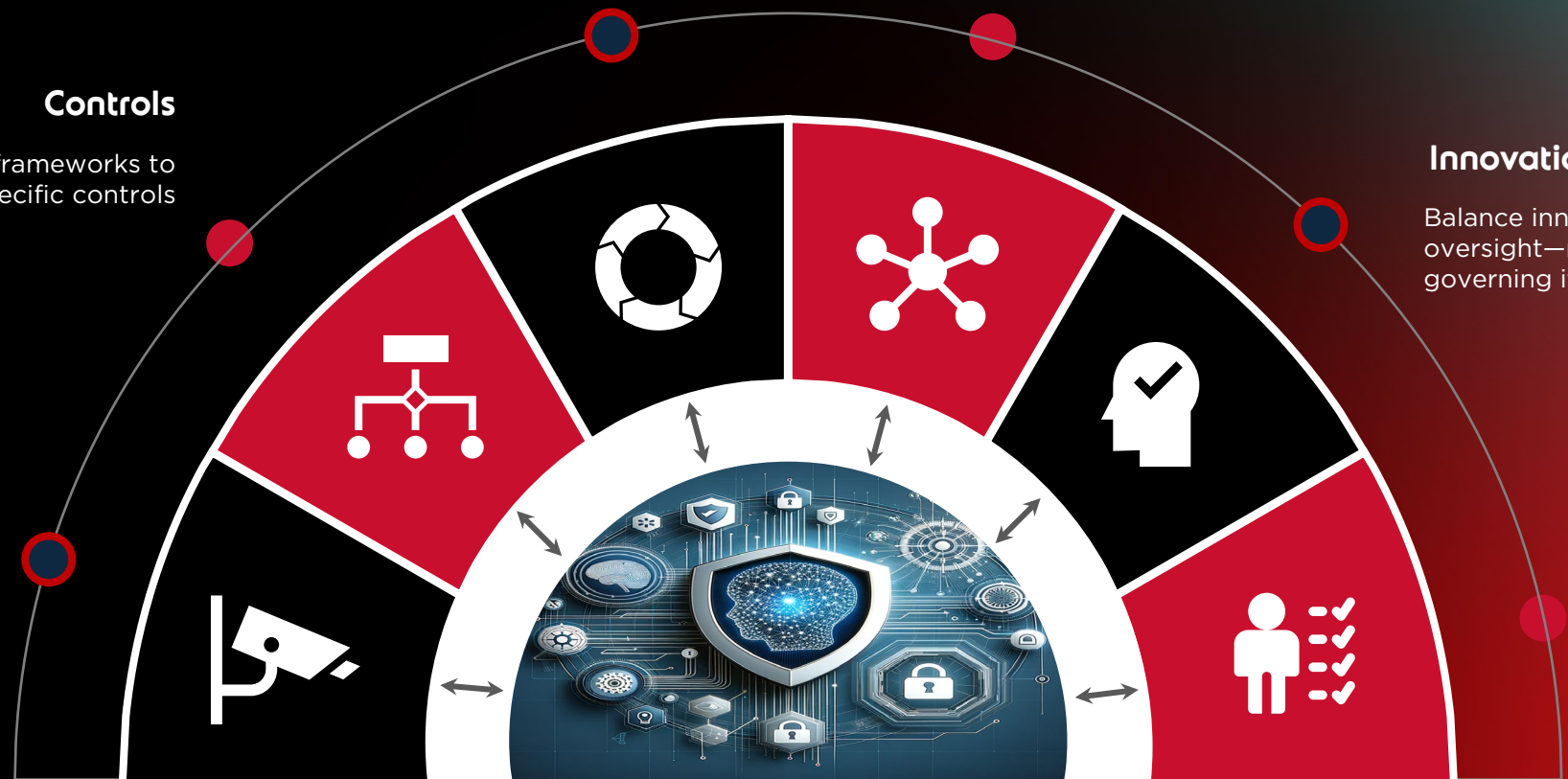
Manage fourth-party and concentration risk amplified by AI

Controls

Update TPRM frameworks to include AI-specific controls

Innovation

Balance innovation with oversight—not blocking AI, but governing it



Visibility & Contracts

Gain visibility and strengthen contractual requirements regarding how third parties are using AI

Regulations

Stay ahead of regulations — third-party AI use is becoming a compliance obligation

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Use how AI is Transforming 3rd Party Risk Management

Predictive Risk Monitoring

Automation & Efficiency

Extended Ecosystem Visibility


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5. Recovery and Continuity

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Cybersecurity:

"We must prevent breaches from happening"

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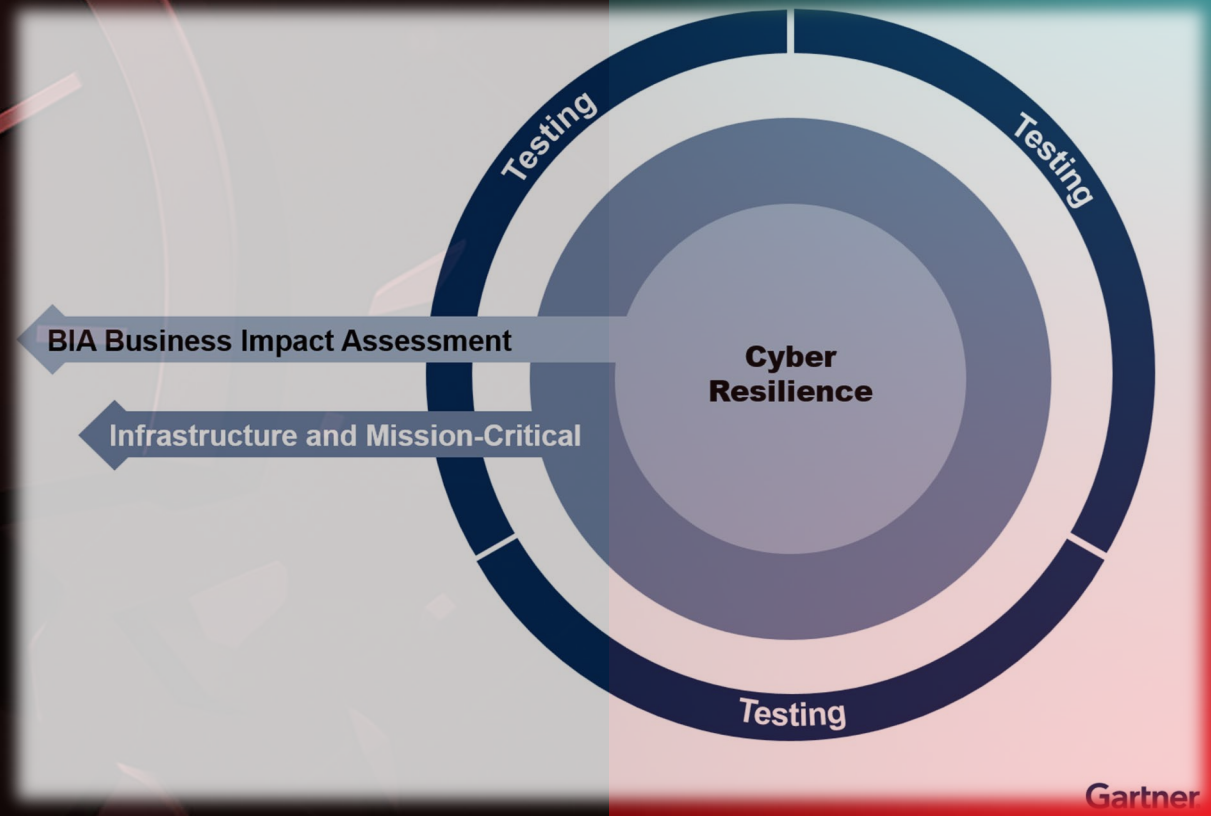
Embed Business Impact Assessment as the Foundation of Cyber Resilience

"...to focus protection on critical business processes and assets, rather than pursuing blanket coverage."



Source: Gartner - Unlock Cyber Resilience: Build Your Program on BIA Foundations

Key Metrics

Recovery Time Objective (RTO)	Recovery Point Objective (RPO)
Maximum Tolerable Downtime (MTD)	Mean Time to Recover (MTTR)

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Microsoft Azure Outage Disrupts Global Services Across Cloud and Productivity Platforms

Microsoft admits it 'cannot guarantee' data sovereignty

Europe's digital reliance on US Big Tech: Does the EU have a plan?

POLITICO.eu

Trump can pull the plug on the internet, and Europe can't do anything about it

Donald Trump's return to the White House is forcing Europe to reckon with a major digital vulnerability: The US holds a kill switch over its internet.

AWS' 15-Hour Outage: 5 Big AI, DNS, EC2 And Data Center Keys To Know

What the CLOUD Act Really Means for EU Data Sovereignty

The CLOUD Act allows U.S. authorities to access data stored in the EU, putting it in direct conflict with GDPR. Learn how this impacts data sovereignty and what EU businesses can do to stay compliant

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Top Considerations how AI impacts recovery and continuity

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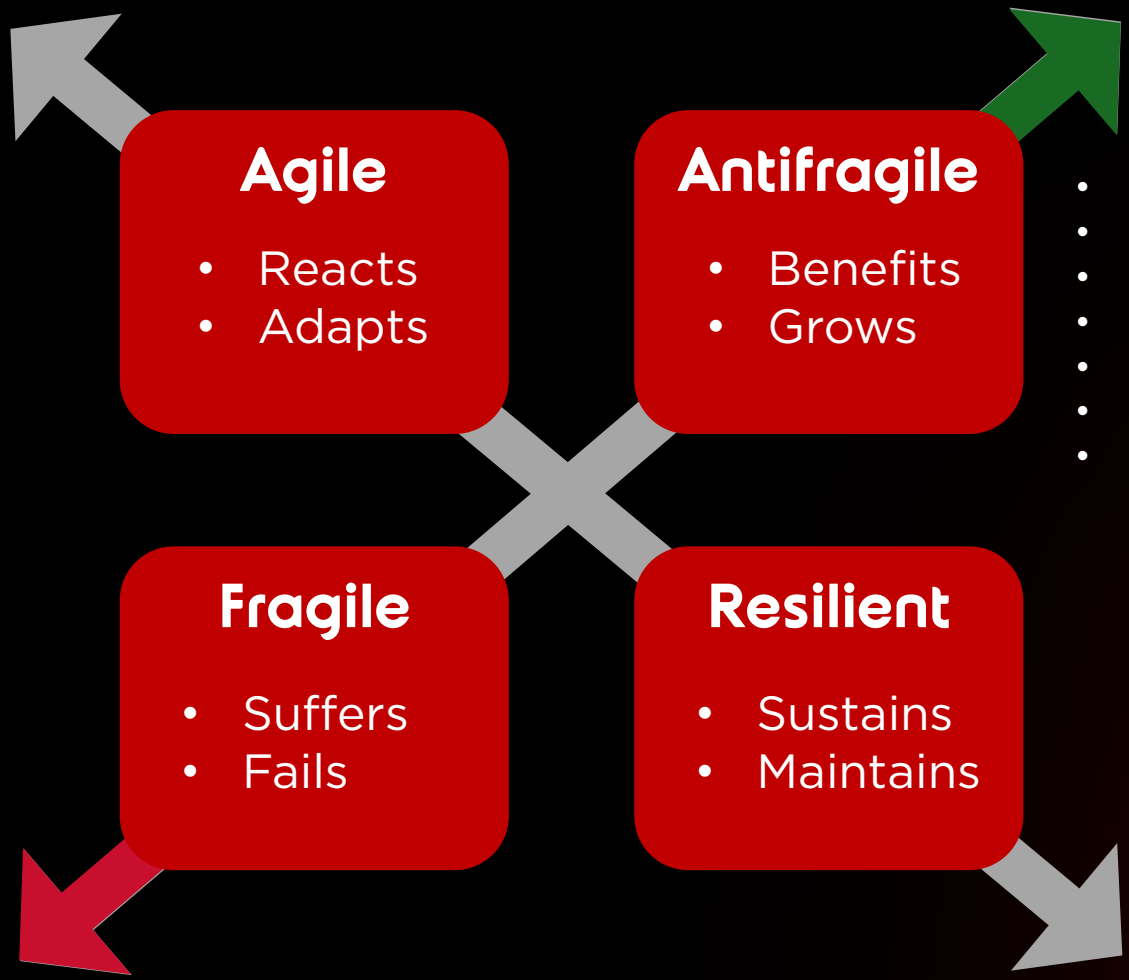
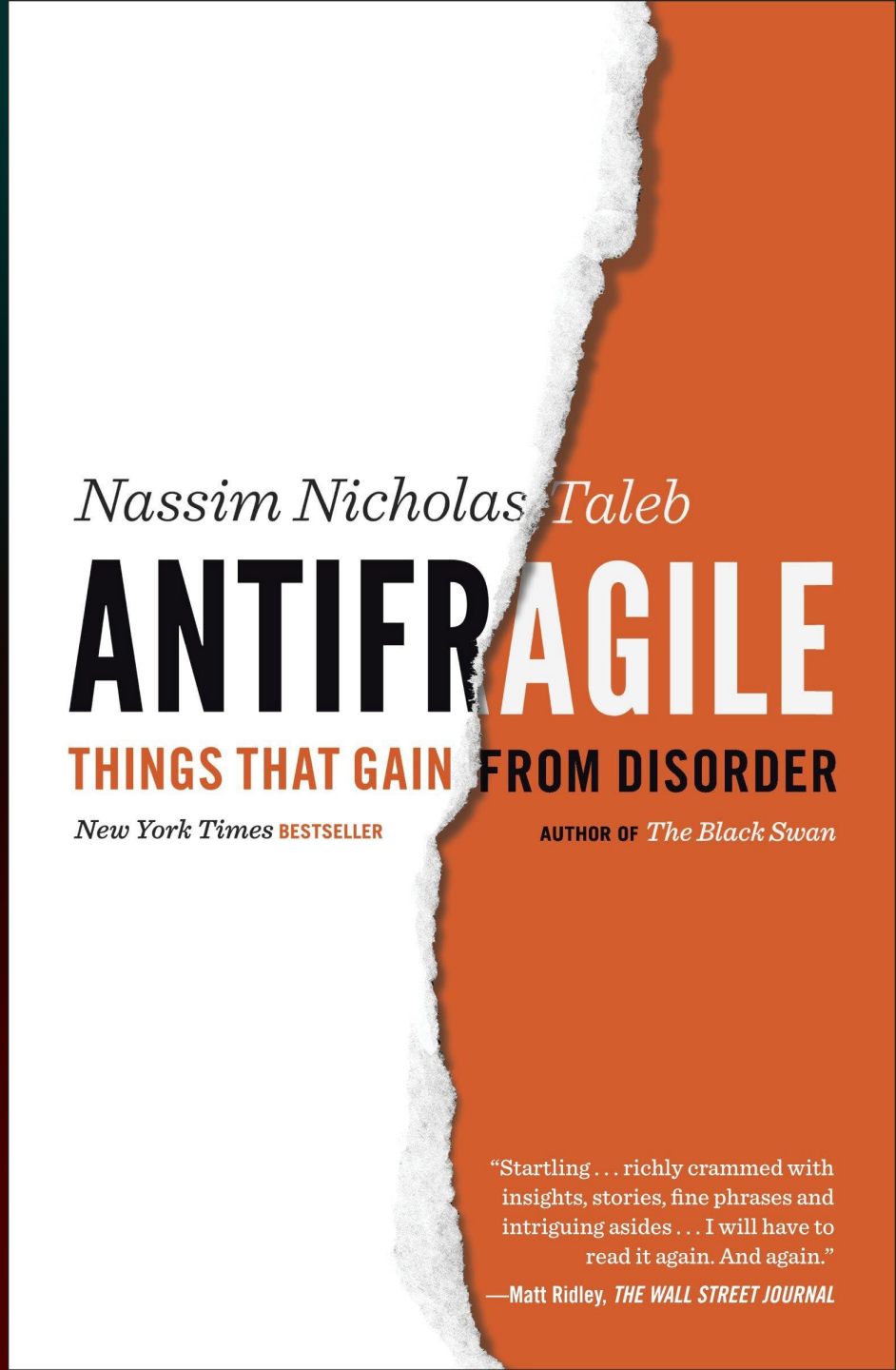
From Resilience to Antifragility in the Human-AI era



- Recognise upside
- Seize opportunities
- Enhance detections
- Improve playbooks
- Embrace disruption
- Prioritise agility
- Positive mindset



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Cyber Resilience:

Surviving and becoming stronger

- Anticipate
- Withstand
- Recover from
- Adapt to

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Conclusion

Resilience Redefined in the Human-AI Era is...(cue drumroll)

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5 Key Factors redefining resilience in the Human-AI era

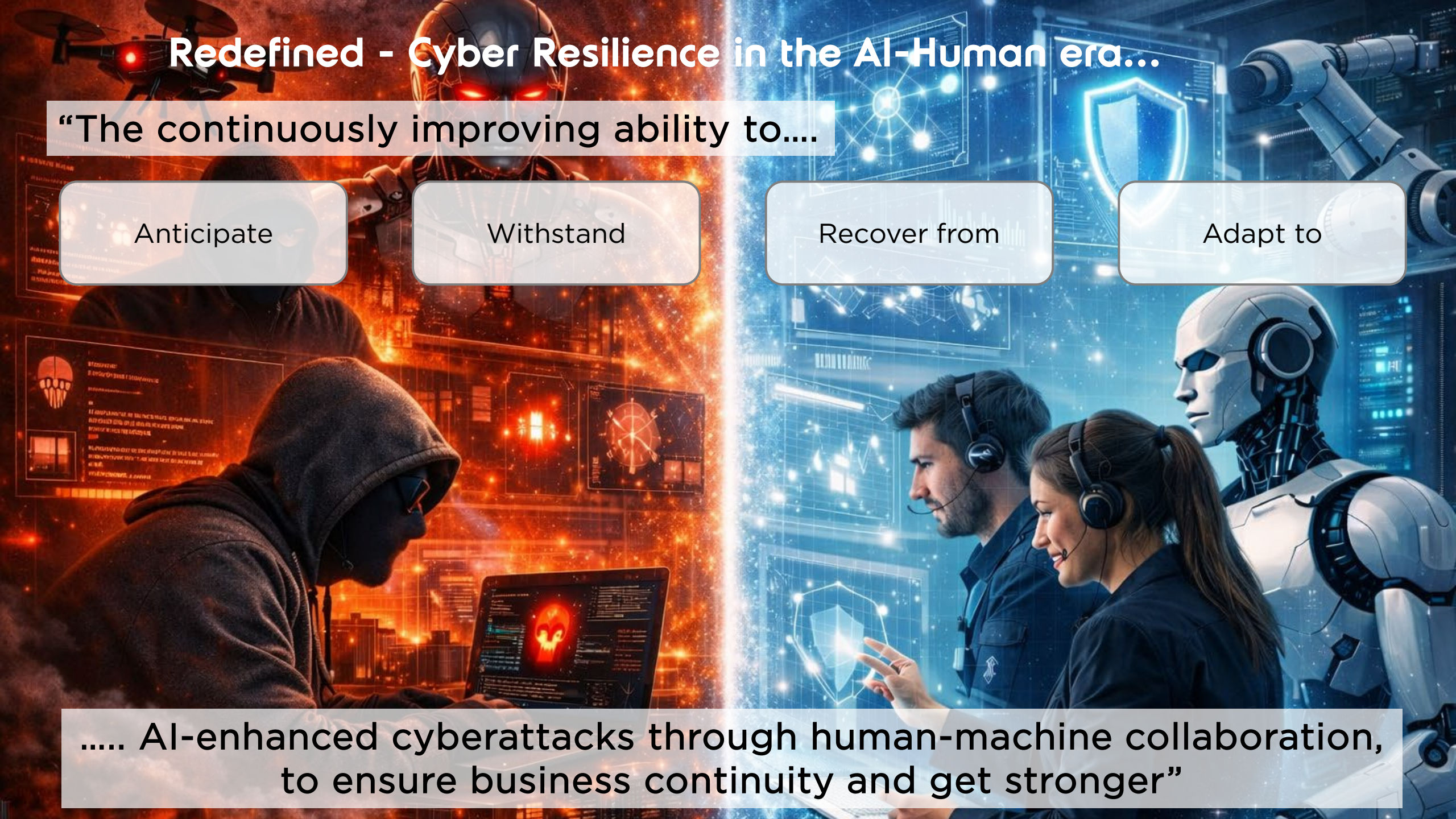
Anticipate

Withstand

Recover from

Adapt to

Redefined - Cyber Resilience in the AI-Human era…



"The continuously improving ability to….

- Anticipate
- Withstand
- Recover from
- Adapt to

….. AI-enhanced cyberattacks through human-machine collaboration, to ensure business continuity and get stronger"

Redefined - Cyber Resilience in the AI-Human era…

"The continuously improving ability to….

- Anticipate
- Withstand
- Recover from
- Adapt to

….. AI-enhanced cyberattacks through human-machine collaboration, to ensure business continuity, and get ever-stronger"

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Thank you

Richard Ford
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Brian Martin
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Client Panel: Building a security culture that can thrive with AI

Shabeer Ramsingh

Global Head - Strategic Business Development, Integrity360

Trezawnah Gordon

Senior Policy Director Cyber Intelligence Policy and Incident Response Branch, Ministry of National Security, Jamaica

Demar Williams

Information Security Manager, VM Group

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Comfort break

FEEDBACK

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Welcome back

FEEDBACK

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How to Succeed When Every Day is Zero-DAI

Jack B Miller
VP, Field CISO, Darktrace

DARKTRACE

#SecurityFirst2026

DARKTRACE

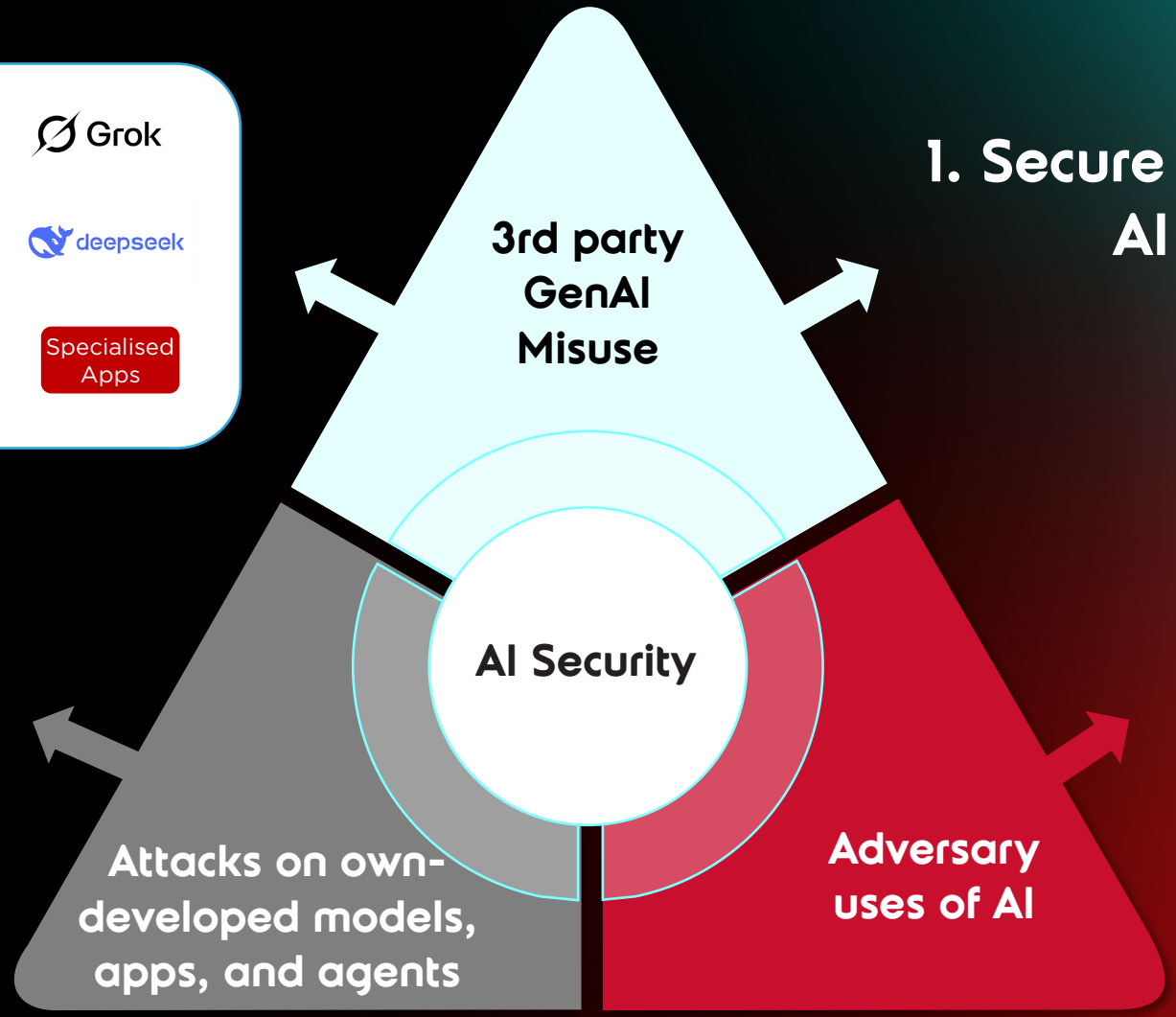
How to Succeed When Every Day is Zero-DAI

As AI created Zero-Day Attacks become the norm, only AI powered defenses can protect us.

Jack B. Miller, Vice President & Field CISO
https://www.linkedin.com/in/jack-m-03a72637/

AI Security - New Threats and Risks

ChatGPT
Microsoft Copilot
Gemini
Grok
Claude
Meta AI
perplexity
deepseek
GitHub Copilot
Embedded GenAI
Long Tail Apps
Specialised Apps



1. Secure Use of AI

2. Secure own AI

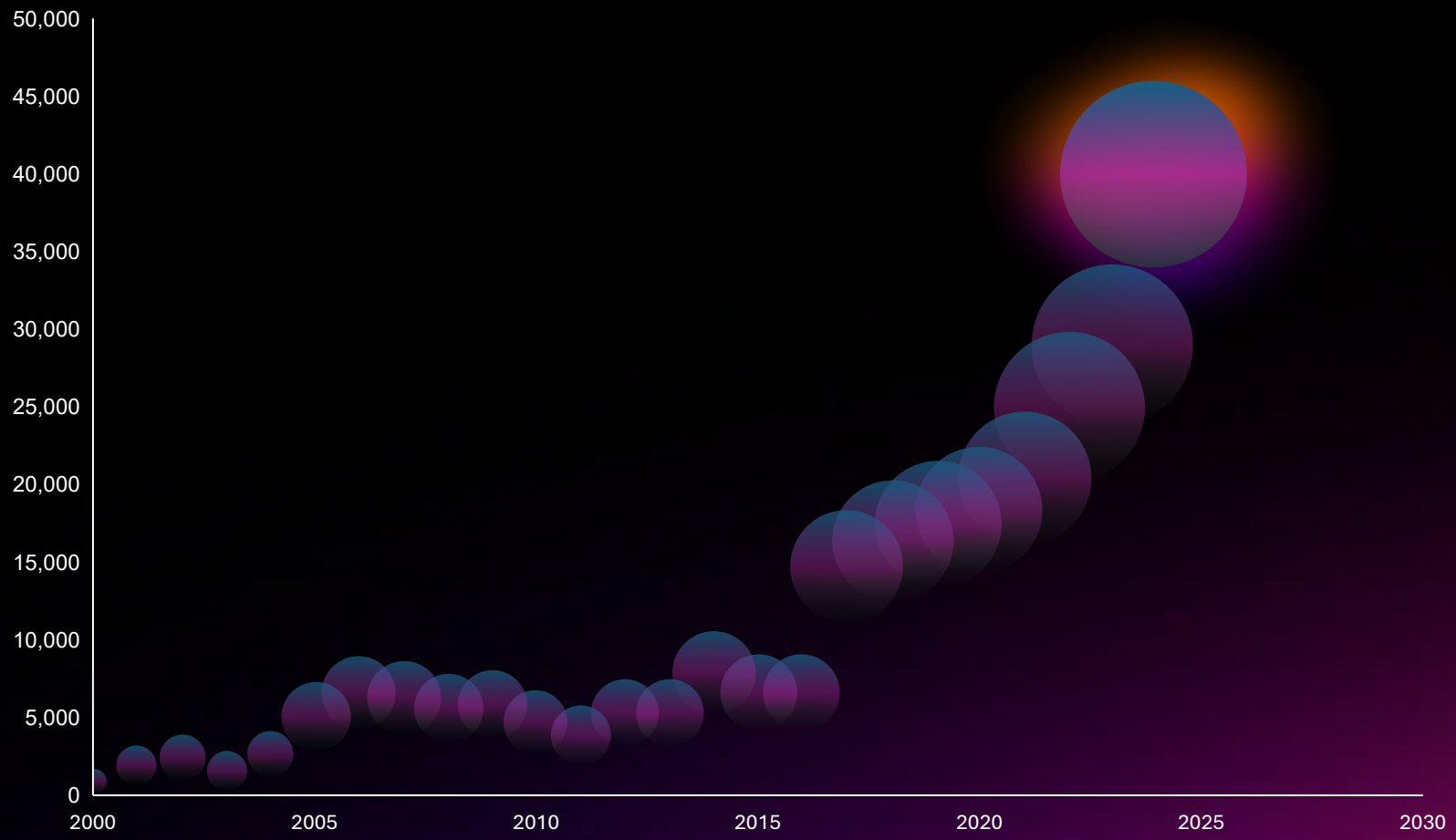
3. Secure against AI

Attackers Choice - Zero-DAI Every Day

1. Not Protected
   - The average time between discovery and patch is 22 days
   - The average time to weaponization is 5 days
   - 25% of Zero-Days are weaponized within 24 hours
   - The average lifespan of a Zero-Day vulnerability before public disclosure is 7 years
2. Difficult To Detect
   - The detection rate for leading security tools is less than 30%
   - IOA, Threat Intel, Hash/Signature & IOC based tools can’t adequately detect & respond
3. Enormous Attack Surface
   - 75% of exploited Zero-Days target Microsoft, Apple or Google

CVE Explosion

Over 40,000 CVEs Published in 2024



15.2%

- **Of all CVEs were identified in 2024 alone**
- **AI Bug Hunter sets milestone by claiming top spot on HackerOne's leaderboard**

So Why Haven’t We All Been Compromised?

- Zero-Day Attacks Are Rare
  - Nation-state actors are responsible for over 80% of zero-day exploit usage
  - Zero-day prices on the dark web range from $60,000 to $2.5 million
- But Times Are Changing
  - Attackers are using AI to quickly identify vulnerabilities and create exploit code
  - *Prediction* - Majority of attacks will be Zero-Day attacks
  - *Prediction* - Zero-Day attacks will be automated & continuous
- Defend With AI Detection & Response (AIDR)

1. Detect the unknown
2. Investigate at wire speed
3. Minimize the impact

Detecting the Unknown Requires The Right Type of AI

	Generative AI & LLMs	**Attacker-Centric** Supervised machine learning	**Business-Centric** Unsupervised machine learning
Data	▪ Internet ▪ Data Lakes and indexed repositories	▪ Known attack patterns ▪ Threat intelligence & research	▪ Unstructured business centric data ▪ Organization-specific behaviors and patterns
Models	▪ Pre-trained and feedback from users	▪ Pre-trained/static data, retrained	▪ Continuously learning
Common Use Case	▪ Context of language, media, audio ▪ Content summarization ▪ Content generation	▪ Known attacks and variants ▪ Content summarization ▪ Simulation	▪ Known, unknown, novel attacks ▪ Abuses, misuses, misconfigurations ▪ Simulates attacks and analyzes relationships
Implication	▪ Cannot detect attacks ▪ Confirmation bias & hallucination challenges	▪ Cannot detect novel/insider attacks ▪ Exhaustive data integrity process	▪ Requires compounding of ML models for accurate results

No Zero-Day Detection

Limited Zero-Day Detection

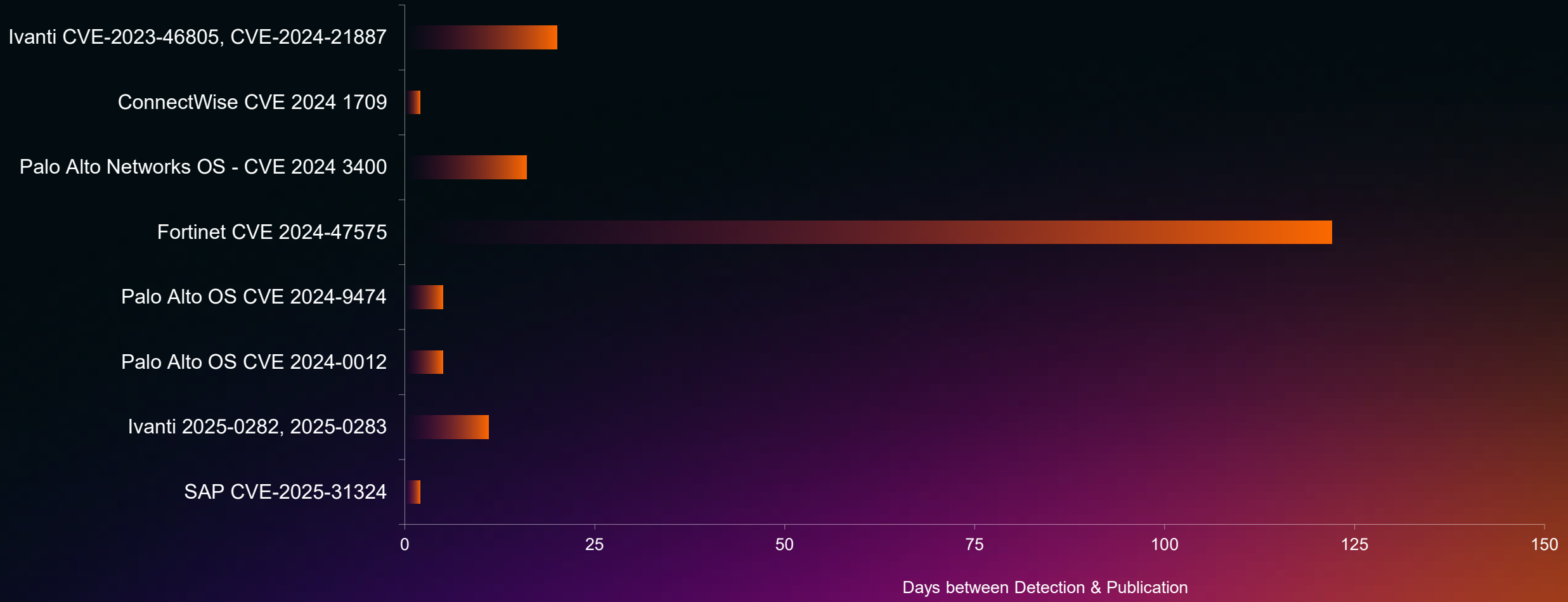
Zero-Day Detection

While Every Anomaly Isn't An Attack, Every Attack Creates Anomalies

Caution – Use Learning Exceptions Instead of Whitelists

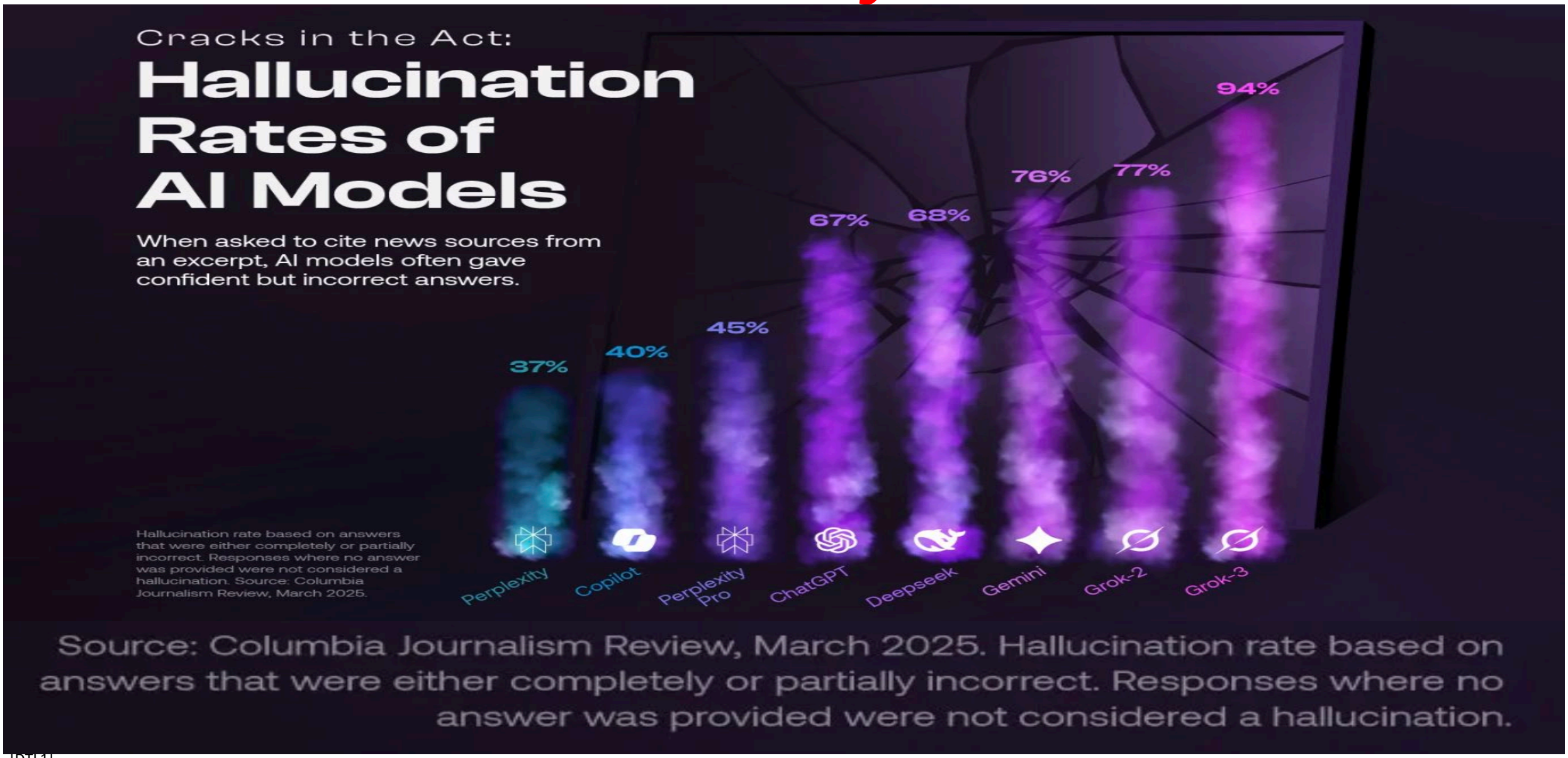
Examples of Business-Centric AI Detecting Zero-Days

Before CVE Disclosure



[DTL1]

Caution - Don’t Rely on AI Search



[DTL1]

Investigate At Wire Speed with AI SOC Analysts

- 181 days is the average time to identify a breach in 2025
- 24x7 cross-vector event investigations
- Process enormous amounts a data in real-time
- Eliminate False Positive vs False Negative conundrum
- Continuously digest new data and correlate with old data
- Learn new data and relationships on the fly
- Supervised Machine Learning, Unsupervised Machine Learning & Generative AI

Minimize Impact With AI Powered Response

- 60 days is the average time to contain a breach in 2025
- Real-time 24x7 cross-vector autonomous response
- Surgical
- Configurable thresholds for manual & automated activities
- Trustworthy - Total visibility and explainability for all activities
- Easy rollback
- Automated forensic acquisition and analysis

DARKTRACE

2024
Microsoft Partner of the Year (UK)

9800+
Active Customers in 110+ countries

#200+
Patents and Applications Filed

HQ
Cambridge, UK
34 offices worldwide

2300+
Employees Worldwide

843 . 8
Million ARR USD (31 March 2025)

Technology
Governments
Healthcare
Global Retailers
Financial & Insurance
Critical Infrastructure
Telecommunications

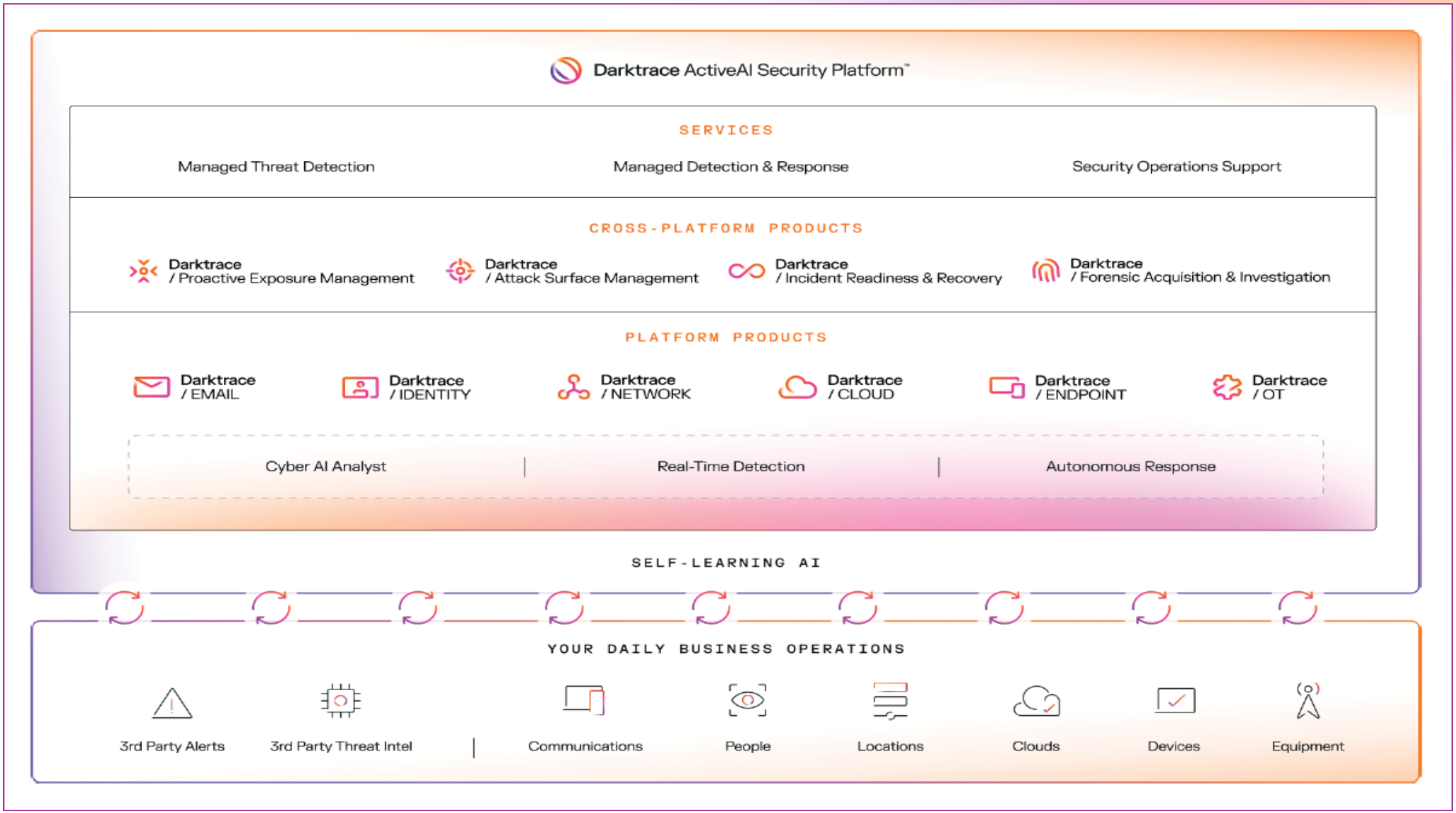
2021 GLOBEE AWARDS GOLD WINNER CYBER SECURITY GLOBAL EXCELLENCE AWARDS

PEER AWARD 2021 Darktrace

TIME 100 MOST INFLUENTIAL COMPANIES 2021

Microsoft 2024 Partner of the Year Winner United Kingdom

[DTL1]


Darktrace ActiveAI Security Platform™
SERVICES
Managed Threat Detection
Managed Detection & Response
Security Operations Support
CROSS-PLATFORM PRODUCTS
Darktrace / Proactive Exposure Management
Darktrace / Attack Surface Management
Darktrace / Incident Readiness & Recovery
Darktrace / Forensic Acquisition & Investigation
PLATFORM PRODUCTS
Darktrace / EMAIL
Darktrace / IDENTITY
Darktrace / NETWORK
Darktrace / CLOUD
Darktrace / ENDPOINT
Darktrace / OT
Cyber AI Analyst
Real-Time Detection
Autonomous Response
SELF-LEARNING AI
YOUR DAILY BUSINESS OPERATIONS
3rd Party Alerts
3rd Party Threat Intel
Communications
People
Locations
Clouds
Devices
Equipment

[DTL1]

Microsoft Partnership

- **UK Microsoft Partner of the Year 2024**
- Multiple awards
  - ‘Security Trailblazer’ Finalist – Microsoft Intelligent Security Association
  - Microsoft UK partner of the year 2024
- Continuous collaboration between Darktrace & MSFT developers
- Executive sponsorship from Nicole Dezen, CVP Microsoft Partner Ecosystem
- Darktrace available on Azure marketplace, including the ability to use MSFT MACC (committed spend) towards Darktrace coverage

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Thank you

Jack B Miller
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Keeping the Lights On: Defending CPS and Critical Infrastructure in the AI Era

An Nguyen

Director of Operational Technology Practice, Integrity360

Emil Olofsson

Regional Head of Solution Architecture, Integrity360

Lincoln Webber

Head of Department - Cybersecurity, Jamaica Public Service

Elsa Encarnación Gómez

CEO, E Secure

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Lunch & networking

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Welcome back

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AI in the SOC: Turning Intelligence into Resilience

Emil Olofsson

Regional Head of Solution Architecture, Integrity360

Saresh Sewraj

Solution Architect, Integrity360

Vicente Amozurrutia

Enterprise Account Executive, SentinelOne

Mike Dalgleish

Area Sales Vice President, Vectra AI

Delano Walters

GM - MIS, Development Bank of Jamaica Ltd

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AI-Accelerated Threat Landscape: The Year of the Evasive Adversary

Marcos Ferreira

VP Sales Engineering - LatAm, CrowdStrike

CROWDSTRIKE

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Networks without borders: Trust nothing, verify everything

Brian Martin

Director of Product Management, Integrity360

Saresh Sewraj

Solution Architect, Integrity360

Sukina Powell

IT Manager, Juici Beef Limited

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Comfort break

FEEDBACK

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Q-Day and beyond: Building resilience for the Quantum age

Omar Gentles

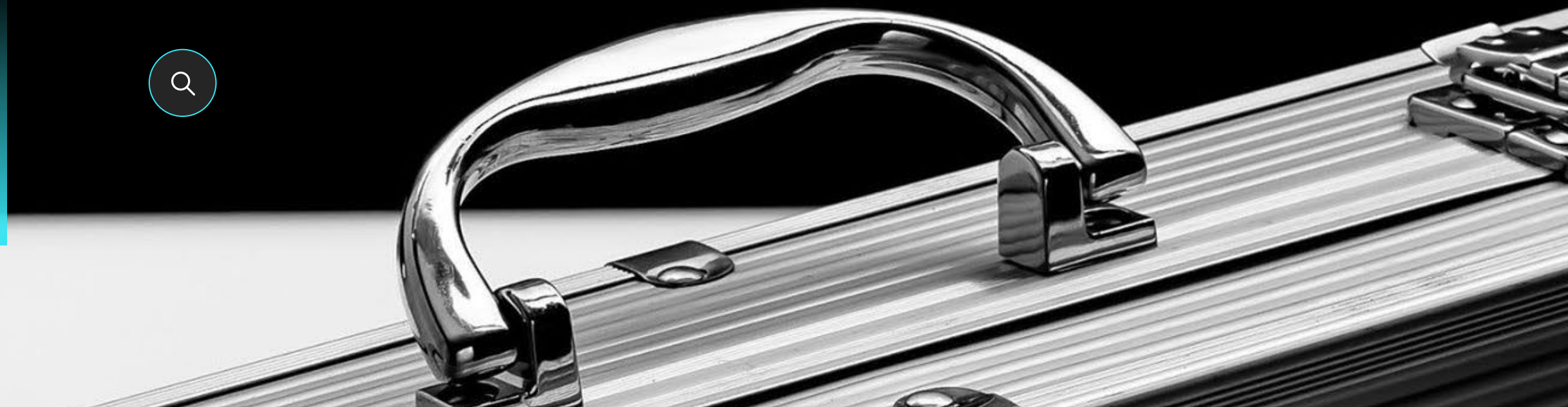
Group AVP, Information Security - Risk & Compliance, Proven Group Limited

PROVEN WEALTH

#SecurityFirst2026

THE QUANTUM THREAT: PREPARING FOR Q-DAY IN A POST-QUANTUM WORLD

Anticipating challenges and solutions in the quantum computing era



UNDERSTANDING THE QUANTUM THREAT

THE QUANTUM THREAT AND THE MEANING OF Q-DAY

Definition of Q-Day

Q-Day marks when quantum computers can break public-key cryptography, securing modern digital data.

Cryptography and Digital Security

Public-key cryptography protects online banking, communications, and identity, relying on classical computational limits.

Planning Horizon Challenge

Data encrypted today may be exposed later, requiring proactive strategies before quantum decryption arrives.

Balanced Response Importance

Rational preparedness avoids panic or apathy, emphasizing strategic actions against this low-probability, high-impact risk.

WHY CLASSICAL CRYPTOGRAPHY BECOMES VULNERABLE

Classical Cryptography Foundations

Classical cryptography relies on hard mathematical problems such as integer factorization and discrete logarithms for security.

Quantum Computing Paradigm

Quantum computers use superposition and entanglement to solve problems much faster than classical machines.

Invisible Cryptographic Vulnerability

Classical encryption appears secure until quantum attacks break it, creating a hidden security risk.

Need for Post-Quantum Solutions

Current cryptographic methods must evolve fundamentally to remain secure in a post-quantum computing world.

QUANTUM ALGORITHMS THAT BREAK TODAY'S SECURITY

Shor's Algorithm Threat

Shor's algorithm enables quantum computers to break major public-key cryptosystems like RSA and ECC efficiently.

Grover's Algorithm Impact

Grover's algorithm speeds up brute-force attacks, effectively halving the security of symmetric encryption like AES.

Cryptographic Risk Shift

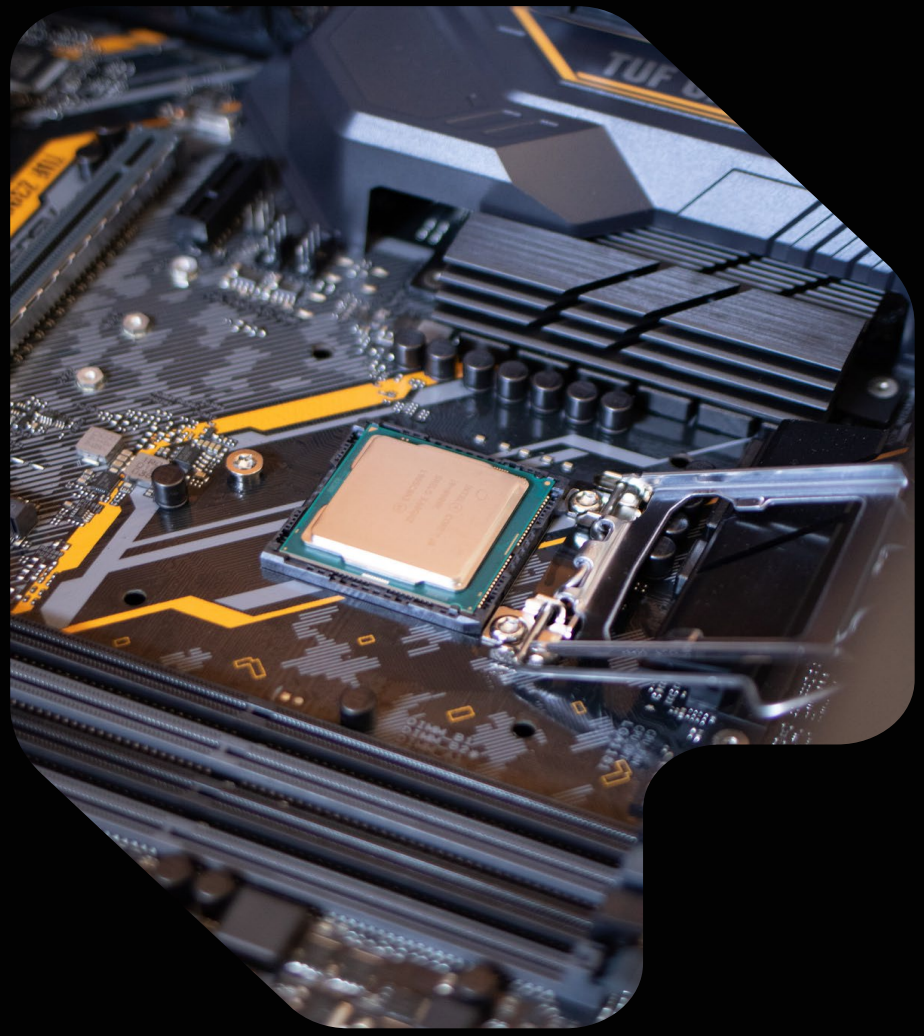
Public-key cryptography faces an existential threat, while symmetric encryption requires longer keys to maintain security.

Post-Quantum Cryptography Needs

Replacing public-key systems and strengthening symmetric encryption is essential for future quantum-resistant security.

ECONOMIC AND SYSTEMIC RISK

THE ECONOMIC IMPACT OF A QUANTUM SECURITY FAILURE



Systemic Economic Risk

Cryptographic failures cause widespread economic disruption beyond technical issues, impacting payments and trust in markets.

Quantum-Enabled Cyberattacks

Quantum attacks threaten core security protocols, enabling impersonation and retroactive data decryption.

Low Probability, High Impact

Quantum security failures are rare but can trigger macroeconomic shocks and cascading financial crises.

Importance of Preparedness

Investing in post-quantum security is essential insurance to safeguard financial stability and trust.

HARVEST NOW, DECRYPT LATER AS A STRATEGIC THREAT

Harvest Now, Decrypt Later Strategy

HNDL involves storing encrypted data today to decrypt later when quantum computing matures, relying on patience over immediate power.

Vulnerable Long-Term Data

Data like government records and healthcare information are at risk due to their long shelf life and potential future exposure consequences.

Urgency for Forward-Looking Protection

Waiting until quantum computers arrive is too late; proactive encryption decisions today protect sensitive data tomorrow.

HNDL Threat

CROSS-INDUSTRY EXPOSURE AND CASCADING EFFECTS

Interconnected Industry Risk

Quantum threats create correlated risks across banking, telecom, cloud, blockchain, and government sectors. Vulnerabilities spread rapidly, causing cascading failures.

Financial and Blockchain Vulnerabilities

Quantum attacks can forge digital contracts and compromise blockchain keys, undermining trust and asset security.

Systemic and Supply Chain Risks

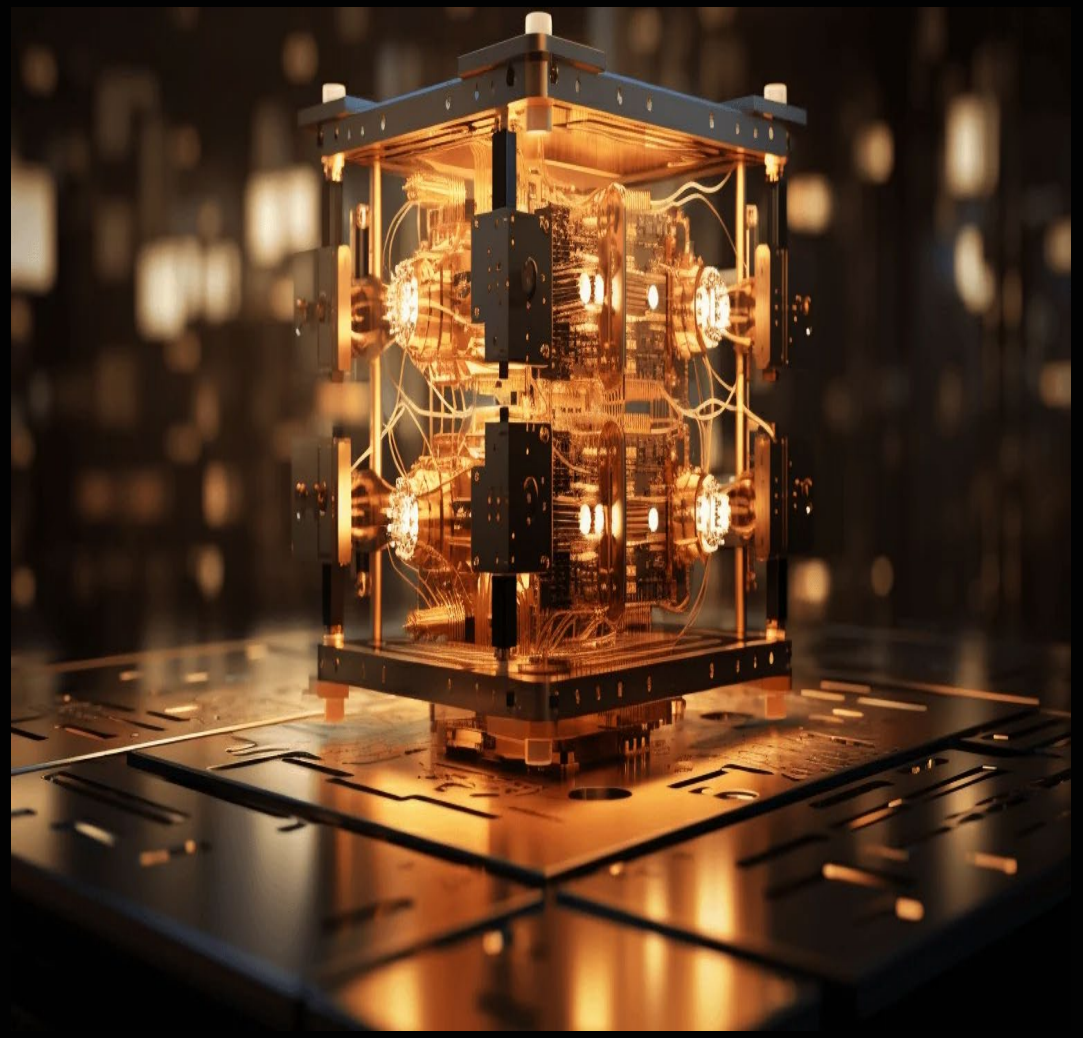
Quantum risk is systemic and requires addressing supply chains and third-party dependencies to close exploitable security gaps.

Need for Coordinated Response

Collaborative efforts, standards alignment, and ecosystem-wide planning are crucial for effective quantum risk mitigation.

IMPACT ON THE FINANCIAL SECTOR

BEYOND CRYPTOGRAPHY – FINANCIAL IMPACT



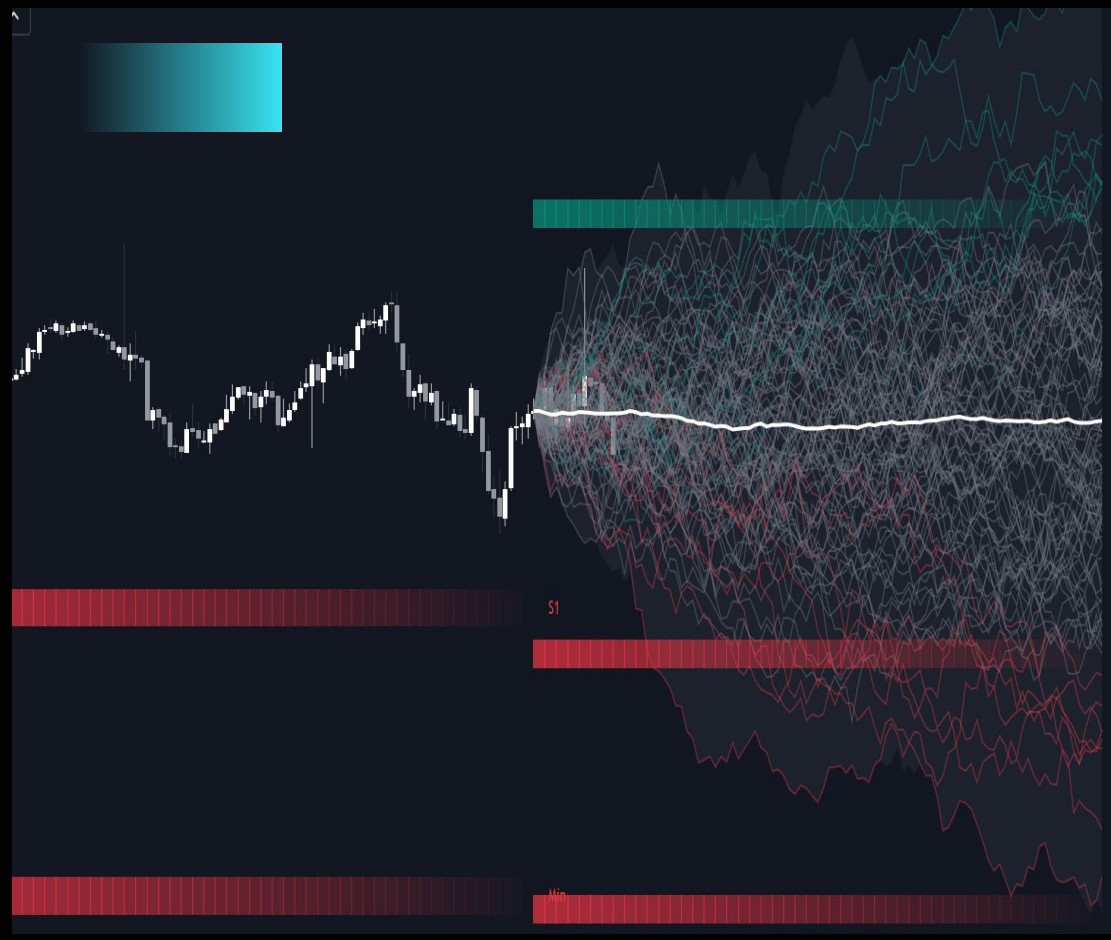
While cryptographic risk is the most widely discussed consequence of Q-Day, the broader impact of quantum computing on the financial sector is driven by its ability to remove computational limits that currently shape financial decision-making.

Many core banking functions depend on solving problems that are too complex to compute exactly, forcing reliance on approximations. One of the clearest examples is derivative pricing, where institutions use Monte Carlo simulations to estimate the value of complex financial instruments.

QUANTUM ADVANTAGE IN SIMULATION

These Monte Carlo simulations require evaluating thousands or millions of possible future scenarios, which is computationally expensive. Quantum techniques, particularly amplitude estimation, can reduce the number of required simulations significantly, allowing these calculations to be performed faster and with greater accuracy.

This changes how quickly financial institutions can price assets and adjust positions, which in turn affects market liquidity and the speed at which arbitrage opportunities disappear.



Monte Carlo Simulation

PORTFOLIO OPTIMIZATION

This improvement in computational capability extends to portfolio optimization, where institutions aim to allocate assets in a way that maximizes return while minimizing risk under various constraints.

These problems become exponentially more complex as the number of assets increases, making exact solutions impractical with classical methods. Quantum algorithms can explore a much larger range of possible allocations, increasing the likelihood of identifying optimal or near-optimal solutions.

COMPETITIVE ADVANTAGE

The practical implication is that institutions with access to quantum computing can make better-informed investment decisions, potentially achieving higher returns or lower risk than competitors relying on classical systems. This introduces a structural imbalance in financial markets.

FRAUD DETECTION AND FINANCIAL CRIME

Fraud detection and financial crime analysis represent another area of impact. Financial systems generate vast amounts of transaction data, and identifying suspicious activity requires detecting patterns that may be subtle or highly complex.

Quantum-enhanced machine learning techniques can improve the ability to identify these patterns by processing larger datasets and more complex relationships. This can lead to more effective detection of fraud and money laundering

ADVERSARIAL ADAPTATION

At the same time, the same capabilities can be used by adversaries to better understand detection systems and adapt their behavior to avoid them, creating an ongoing cycle of improvement on both sides.

BLOCKCHAIN VULNERABILITIES

Digital assets and blockchain systems are particularly exposed. Many blockchain implementations rely on elliptic curve cryptography for digital signatures.

A quantum computer capable of running Shor's algorithm could derive private keys from public keys, allowing unauthorized transactions. This undermines the integrity of blockchain systems and introduces new risks for digital asset markets.

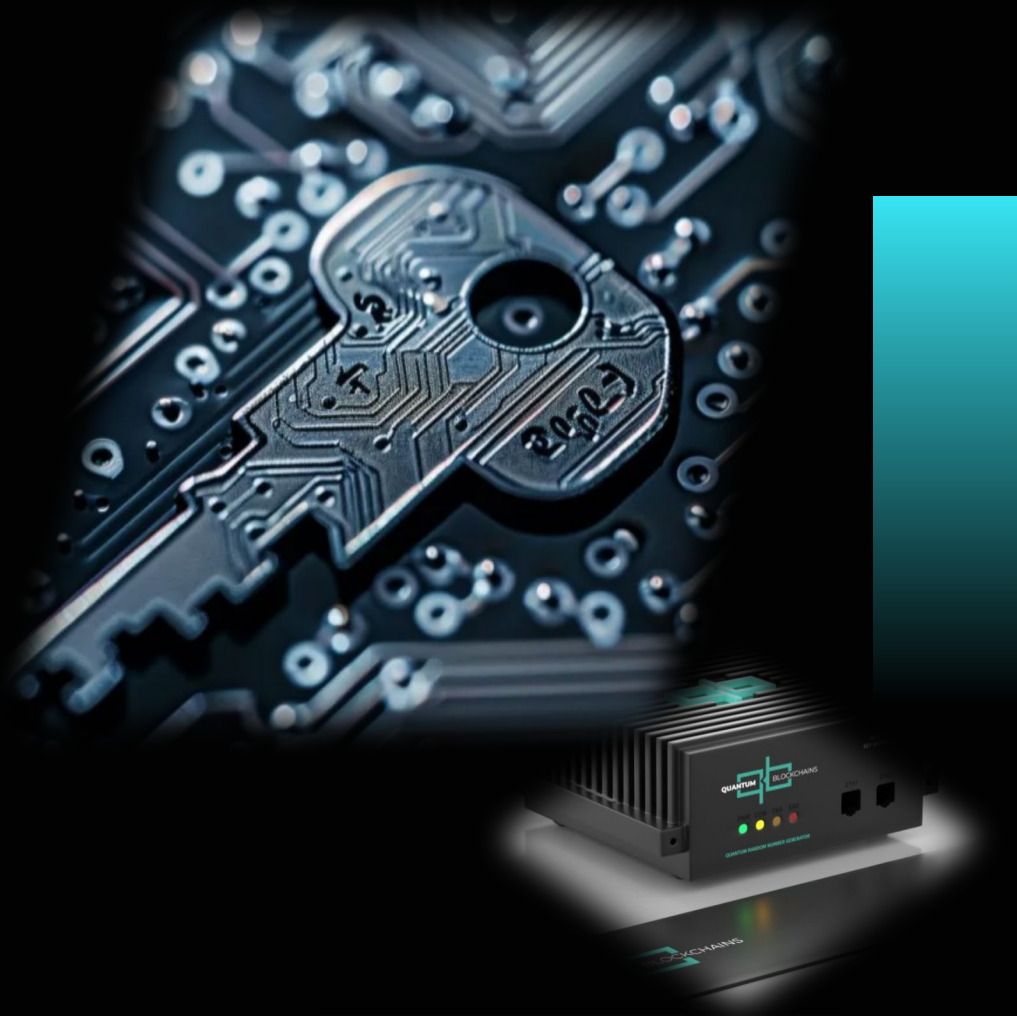
QUANTUM KEY DISTRIBUTION

Quantum Key Distribution (QKD)

In response to these risks, new approaches to secure communication are being explored. Quantum key distribution uses the properties of quantum mechanics to enable secure exchange of encryption keys, with the ability to detect eavesdropping.

Financial institutions have begun experimenting with these technologies, but they require specialized infrastructure and are not yet widely scalable. This creates a transition period in which both classical and quantum-resistant systems must coexist.

However, once fault-tolerant quantum computers become available, the transition is expected to be rapid in its effects. The key challenge is maintaining stability and security during this transition.



Quantum Key Distribution (QKD)

REGULATION AND POST-QUANTUM CRYPTOGRAPHY

GLOBAL REGULATORY MOMENTUM TOWARD QUANTUM READINESS

Quantum Threat Recognition

Governments worldwide officially acknowledge quantum computing's threat and embed it into policy and compliance frameworks.

National Security Emphasis

U.S. and European regulations prioritize protecting critical systems with quantum-resistant cryptography and set clear deadlines.

Regulatory Complexity and Alignment

Cross-jurisdictional regulations add complexity but unify the message: outdated cryptography is unacceptable for sensitive systems.

Driving Post-Quantum Investment

Understanding regulatory momentum helps organizations justify investment and integrate post-quantum readiness into security roadmaps.

Regulations, Policies, Law, and Guidelines

NIST STANDARDIZATION AND THE ROLE OF PQC

Purpose of PQC

PQC algorithms protect against both classical and quantum attacks using conventional computing hardware.

NIST's Standardization Process

NIST led a global competition from 2016 to 2024 to select and standardize quantum-resistant cryptographic algorithms.

Algorithm Integration and Adoption

PQC integrates with existing protocols, enabling gradual migration, lowering adoption barriers, and operational risks.

Benefits of Standardization

NIST's PQC standards ensure interoperability, reduce fragmentation, and establish quantum-safe security as practical.

COMPLIANCE FRAMEWORKS AND INDUSTRY STANDARDS

Role of Compliance Frameworks

Compliance frameworks establish minimum security expectations and reduce systemic risks across various industries.

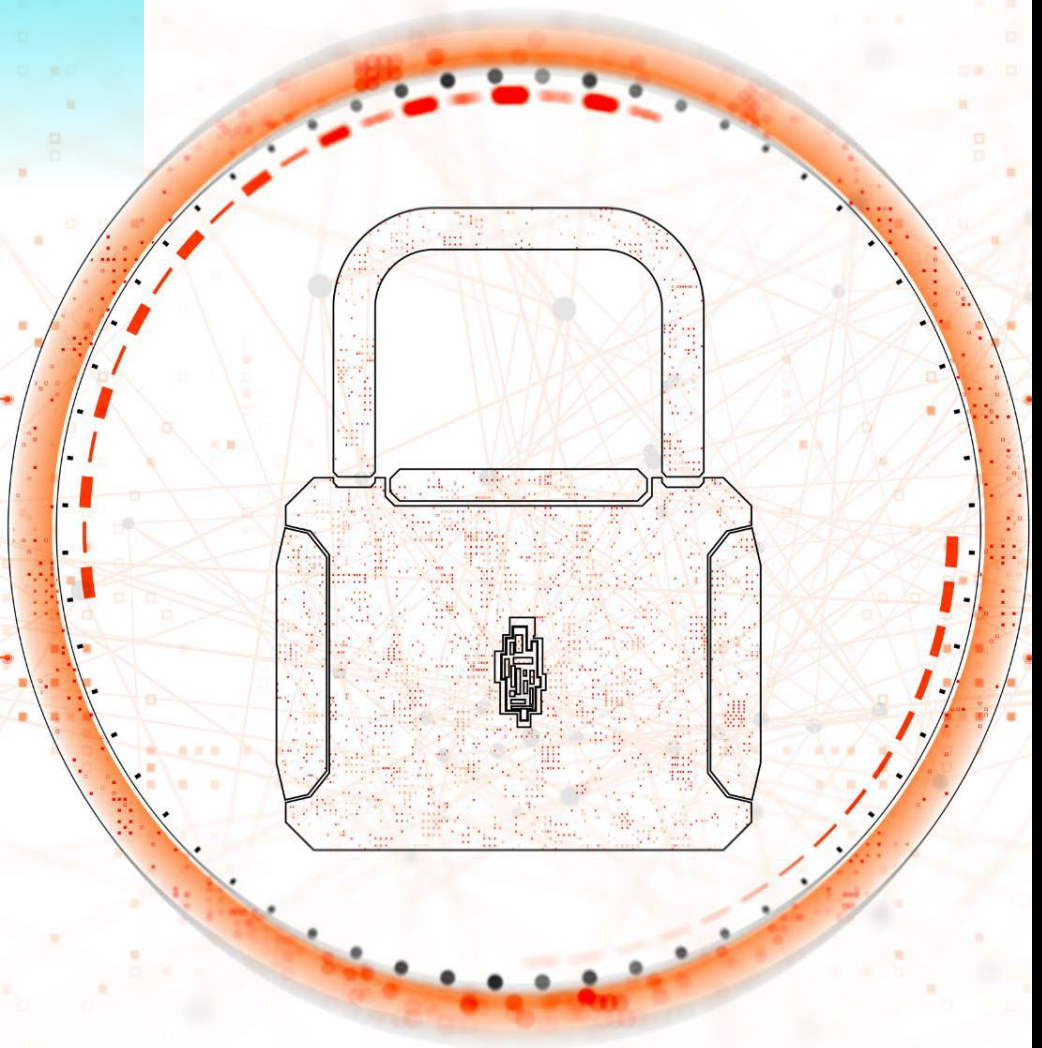
Support for Cryptographic Modernization

Frameworks provide leverage to secure funding and executive support for long-term cryptographic and PQC initiatives.

Regulation as a Catalyst

Forward-thinking organizations use regulatory demands to drive architectural improvements and strengthen trust.

STRATEGY, MIGRATION, AND LONG-TERM READINESS



CRYPTO-AGILITY AS A DESIGN PHILOSOPHY

Definition and Importance

Crypto-agility enables updating cryptographic algorithms and protocols without extensive reengineering, essential for evolving security needs.

Architecture and Implementation

Abstracting cryptography from business logic allows quick algorithm updates through configuration, minimizing operational disruptions.

Strategic Value and Benefits

Crypto-agility improves resilience to threats, simplifies compliance, and future-proofs systems beyond quantum readiness.

HYBRID CRYPTOGRAPHIC DEPLOYMENT MODELS

Layered Security Approach

Hybrid cryptography combines classical and quantum-resistant algorithms to provide defense in depth and maintain compatibility.

Incremental Migration Benefits

Hybrid models enable gradual testing, performance evaluation, and interoperability, reducing operational risks during transition.

Transition to Post-Quantum Future

Hybrid deployment allows phasing out classical components as confidence and ecosystem support for PQC grows.

A ROADMAP TO QUANTUM-RESILIENT SECURITY

Comprehensive Cryptographic Inventory

Start by mapping all encryption usages, including algorithms, key lengths, and certificate lifecycles for clear risk assessment.

Prioritize High-Risk Assets

Identify critical assets with long data lifespans to prioritize migration and deploy quantum-safe protective measures.

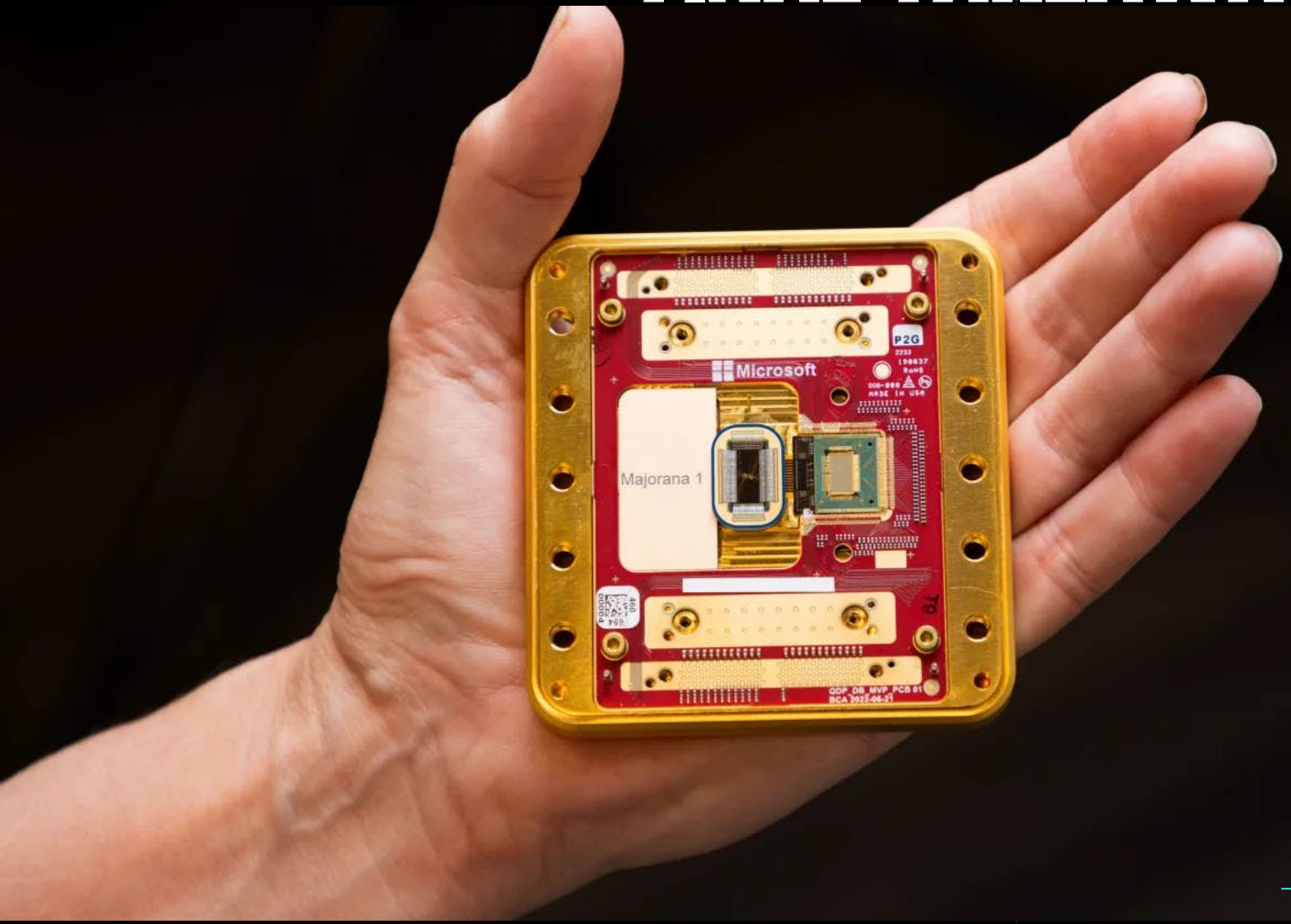
Phased Implementation Strategy

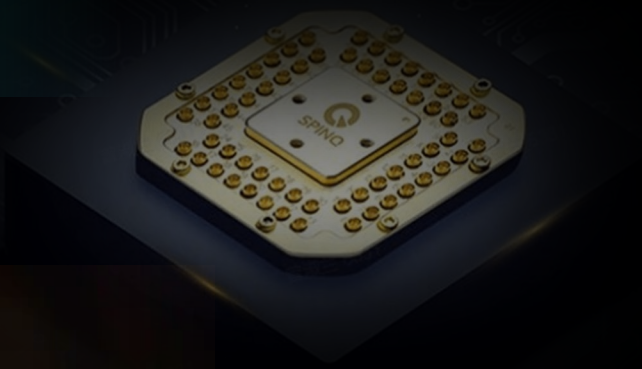
Implement post-quantum key exchanges first, followed by digital signatures and authentication system upgrades.

Continuous Monitoring and Training

Maintain ongoing updates, testing, and employee training to adapt to evolving quantum security standards.

FINAL TAKEAWAY





PREPARING TODAY FOR TOMORROW'S THREATS

The transition to a post-quantum world is not a distant concern but an emerging reality that requires proactive preparation. While large-scale quantum computers are still developing, the data being protected today may need to remain secure for decades.

Thank you

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Q&A with special guest: Victor Matfield

Richard Fort
CTO, Integrity360

Dalton Grant
Three-Time Olympian

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Conference wrap up

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Please join us for
our drinks reception