



Cybersecurity

Challenges facing the
EHS-CYBER domain



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Serves as a consultant to a variety of companies in the field of cyber security, including Meptagon group. 30+ years of leadership under the Prime Minister office and Homeland & Cyber Security community in the technology division.

The Cyber Challenges



Market Span

**\$90
Billion**

SMBs to be spent on cyber security by 2025



Potential Damage

**\$10.5
Trillion**

Cybercrime cost



Business challenges

**200
Zettabytes**

of data to be protected by 2050



**\$1.75
Trillion**

cumulative will be spent on global cyber security



**\$265
Billion**

Global ransomware damage



**\$3.5
Million**

unfilled jobs expected by 2025



**\$34
Billion**

Cyber insurance market



**Every 2
Seconds**

a ransomware attack occurs



**\$7.5
Billion**

of the world population projected to be using the internet by 2030



Defense vs. Cyber Attack



Who Wins?

Aqaba Hazardous Materials Event 27.06.2022



Aqaba Hazardous Materials Event 27.06.2022

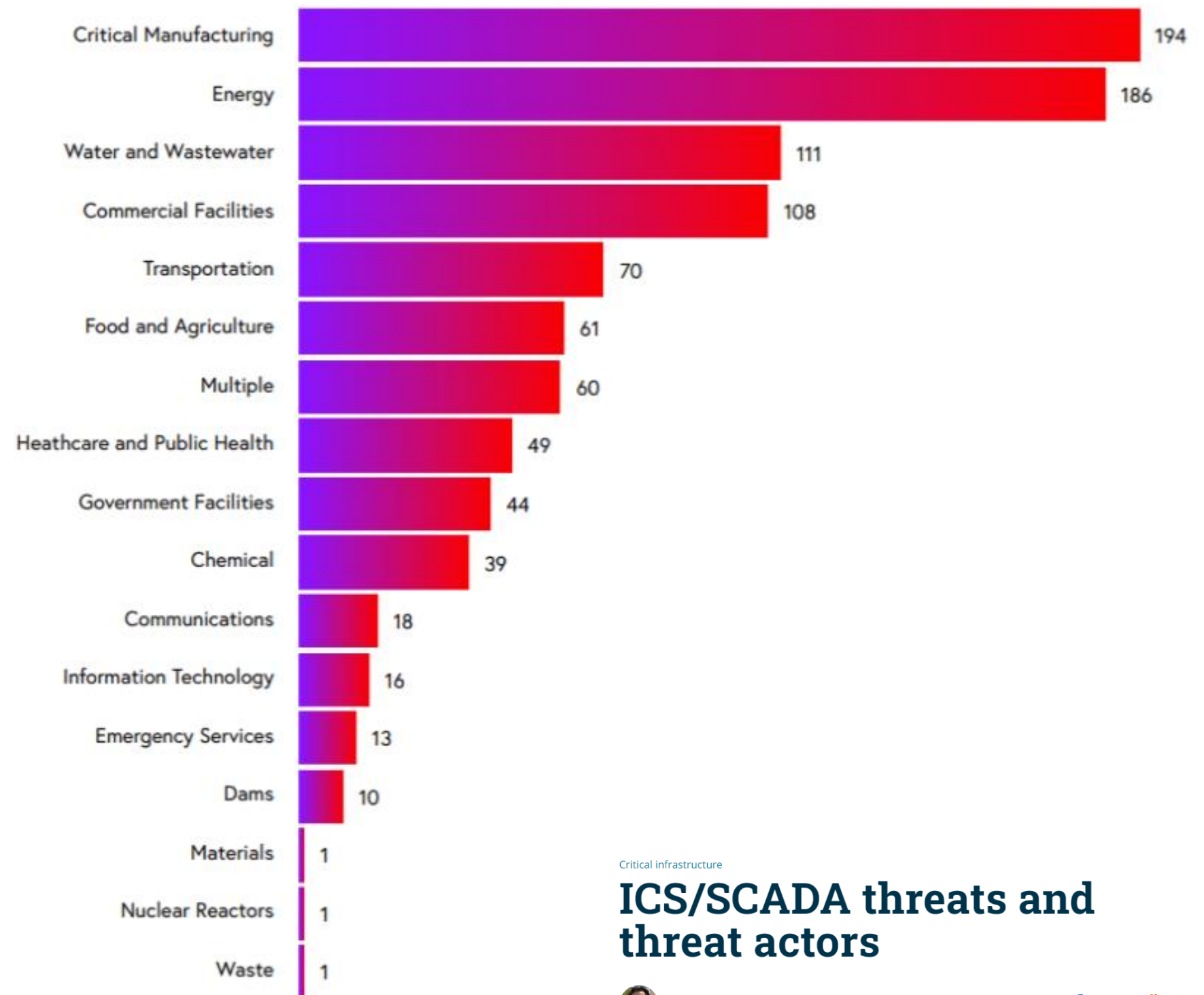


Reducing Cyber Risks for Industrial Control Systems (ICS)

Professional Supplementary Document



SECTORS



Critical infrastructure

ICS/SCADA threats and threat actors



March 23, 2021 by Pierluigi Paganini

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February 2021, Texas power outage

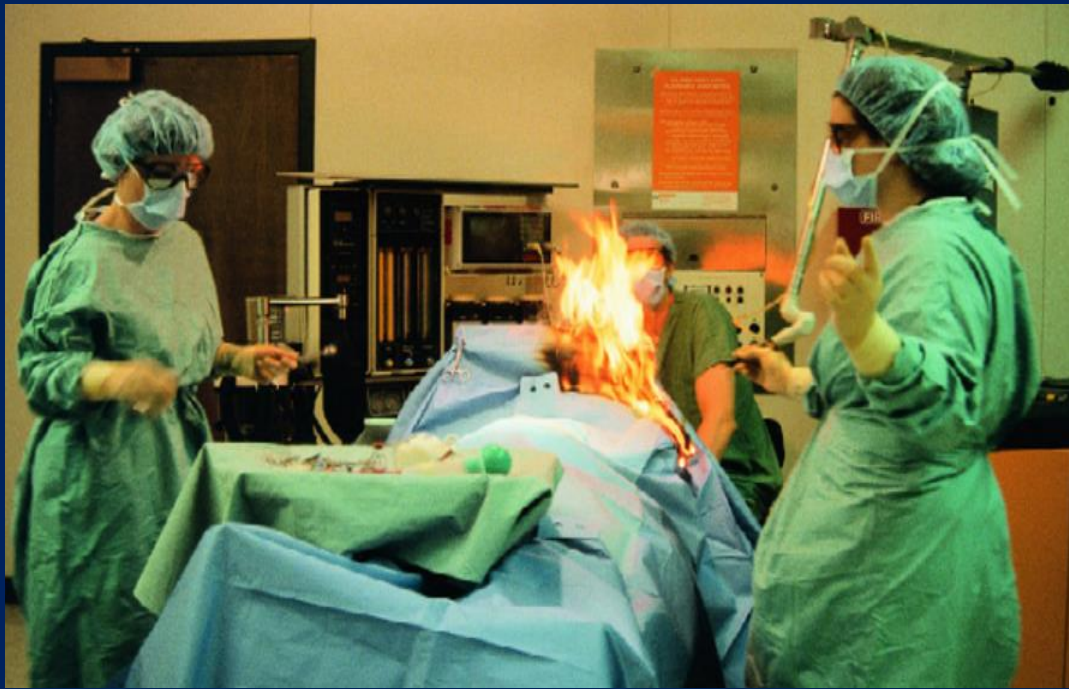


Drone footage of snow across a San Antonio neighborhood. (Photo by Jesus Soliz)

Colonial Pipeline ransomware attack



Attacking medical devices



Israeli Hospitals Under Barrage of Ransomware Attacks, Hillel Yaffe Paralyzed

By **David Israel** - 11 Heshvan 5782 - October 17, 2021

0



Attack on gas infrastructure in Saudi Arabia



Water infrastructure

May 2020 – Massive Attack on industrial control systems in Israel water supply facilities including chlorine facilities

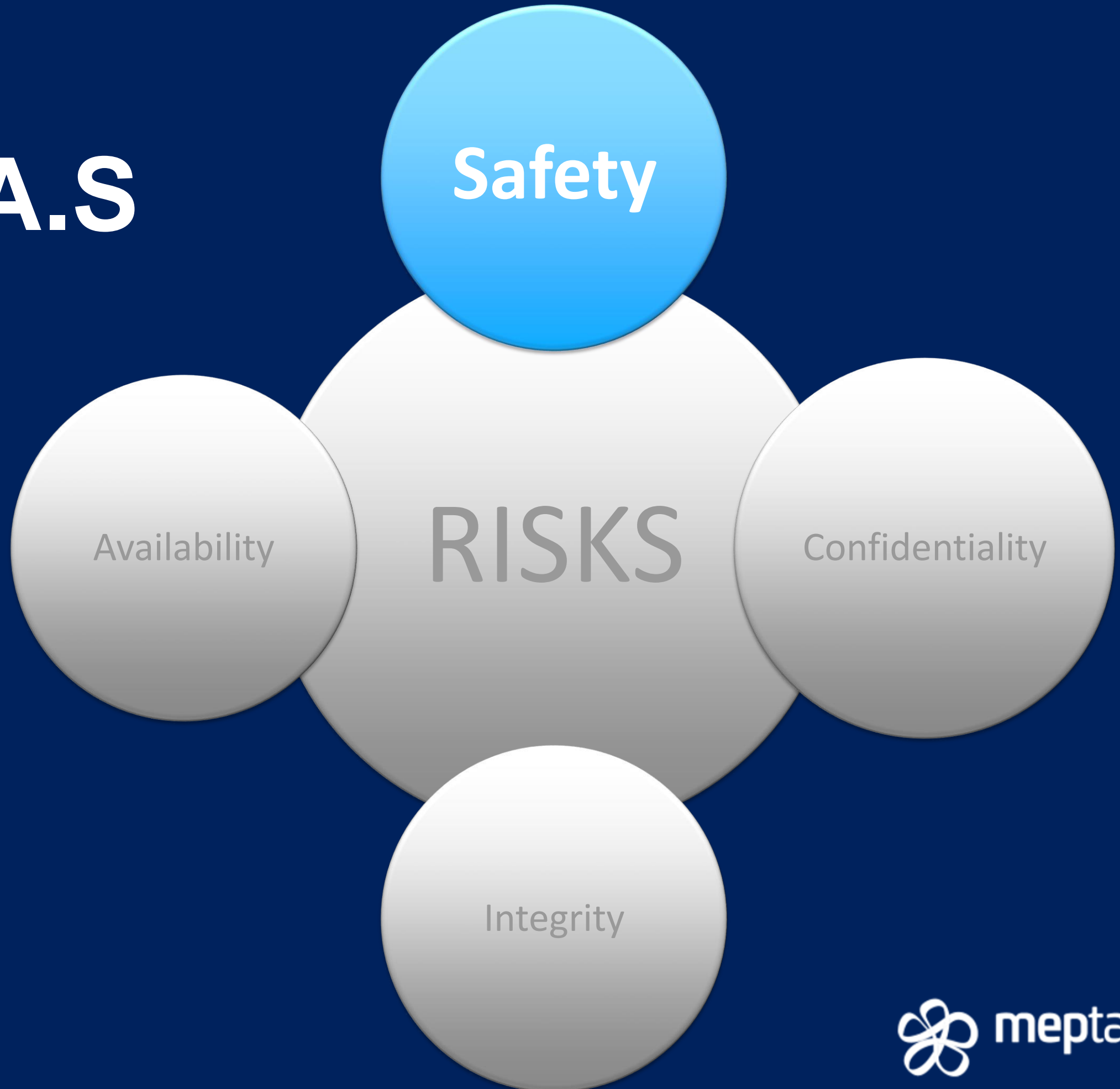
Hacker tries to poison water supply of Florida city

8 February 2021

<https://www.bbc.com/news/world-us-canada-55989843>



C.I.A.S



Me being prepared for 2023



2023

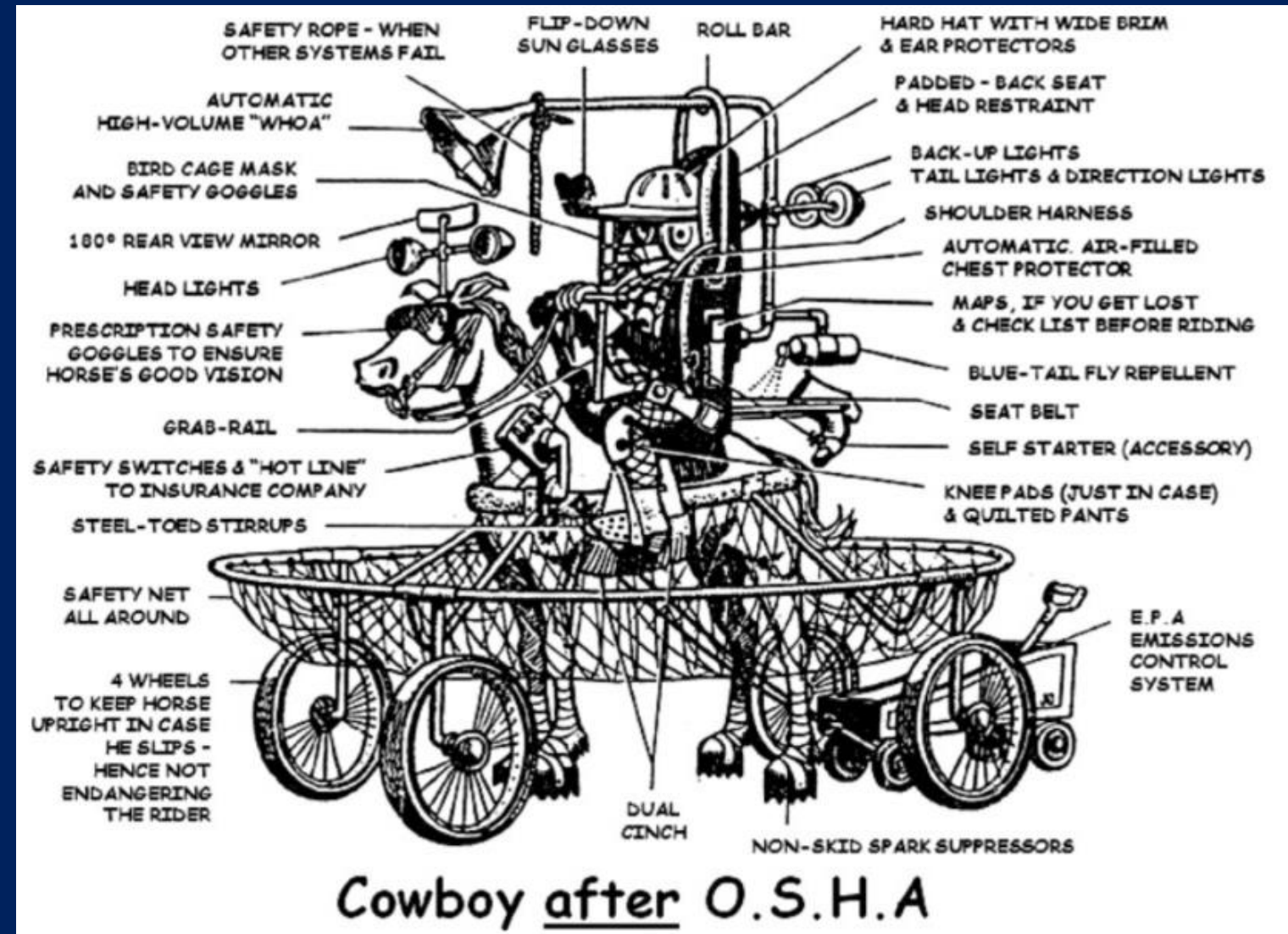
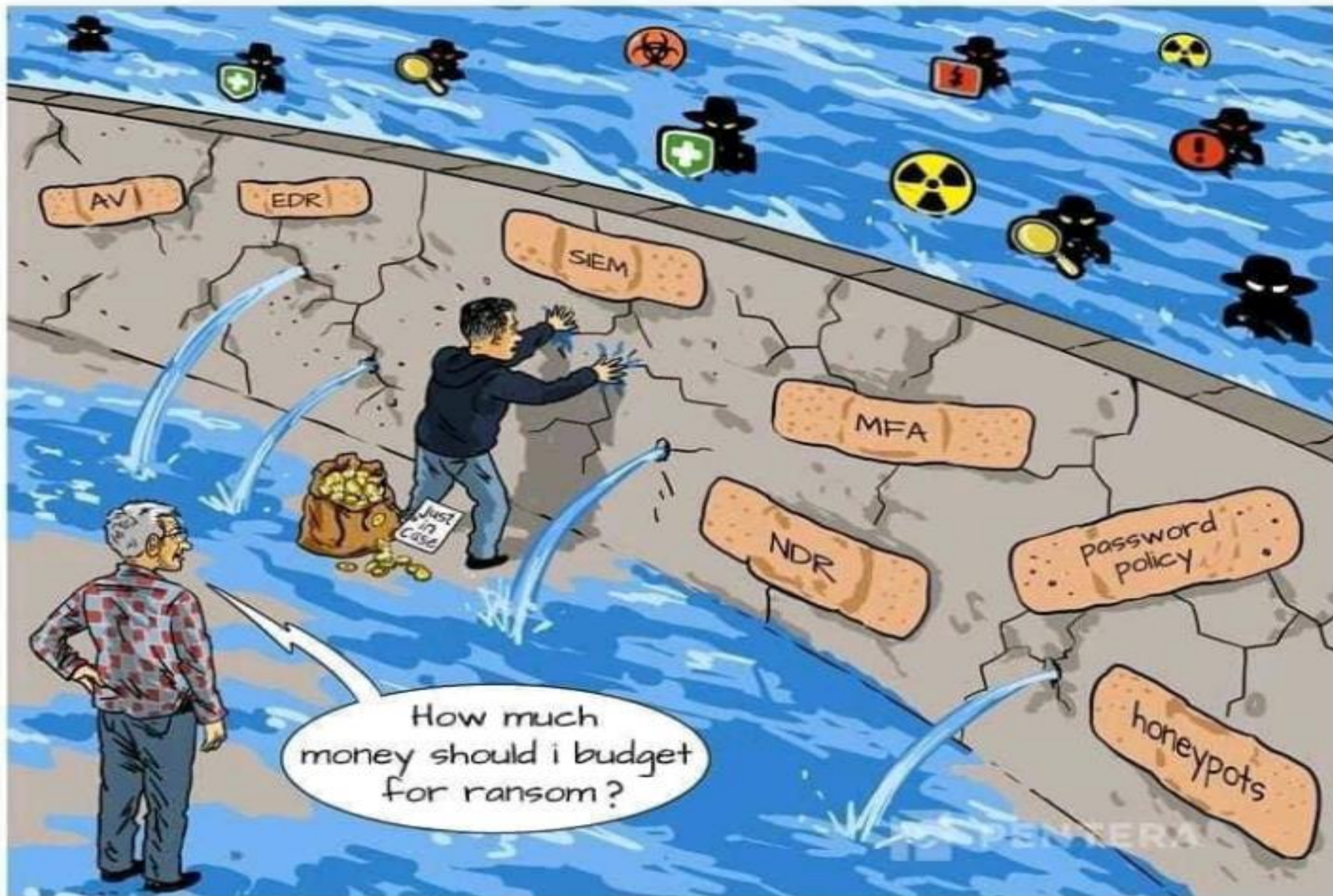


Figure 1.4 The "OSHA Cowboy" as first depicted by J.N. Devin in 1972.

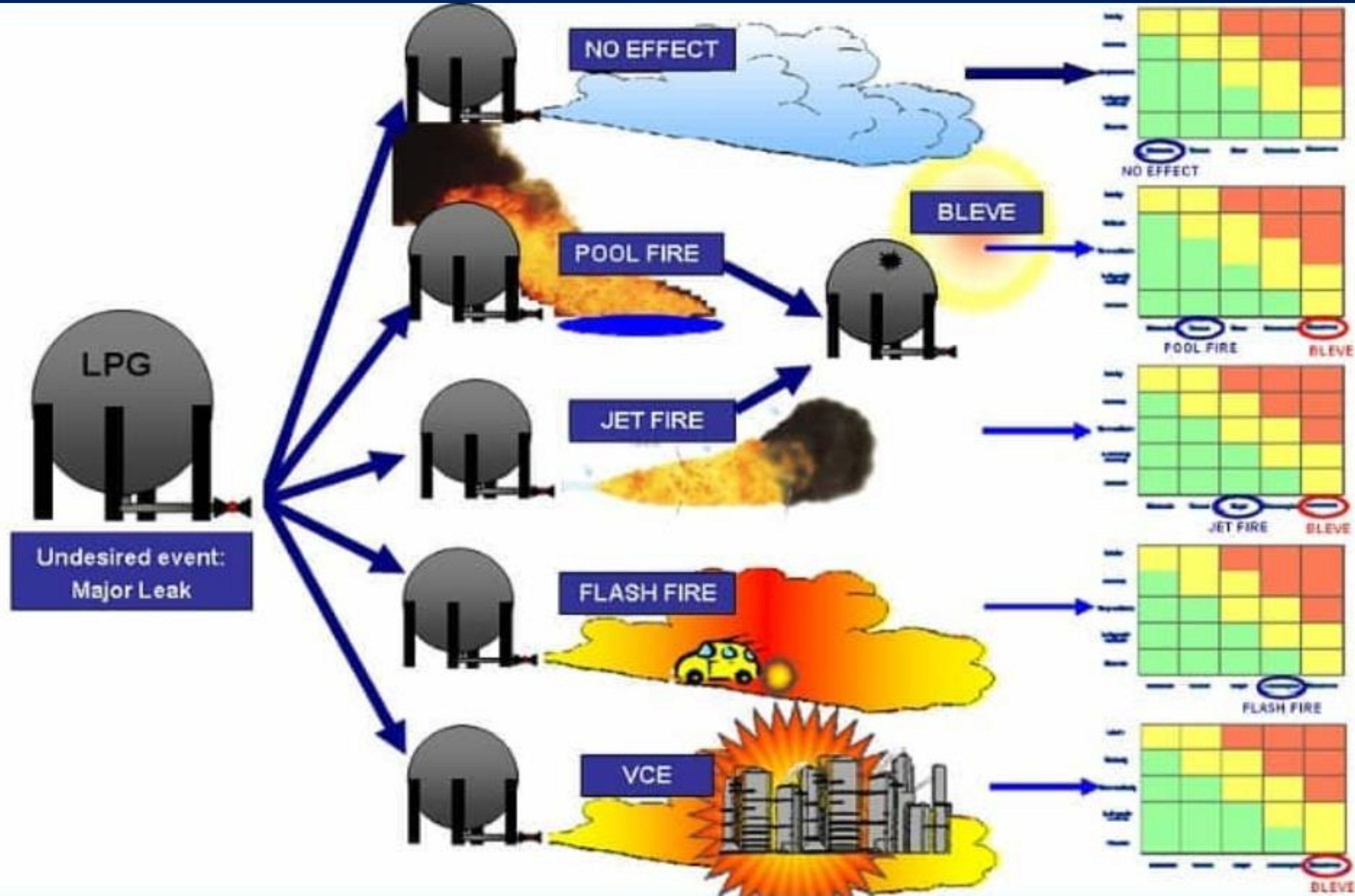


A supply chain event



Shredded boxes and packages are seen at a section of the Union Pacific train tracks in downtown Los Angeles Friday, Jan. 14, 2022. (AP Photo/Ringo H.W. Chiu)

Integrated EHS & Cyber risk assessment



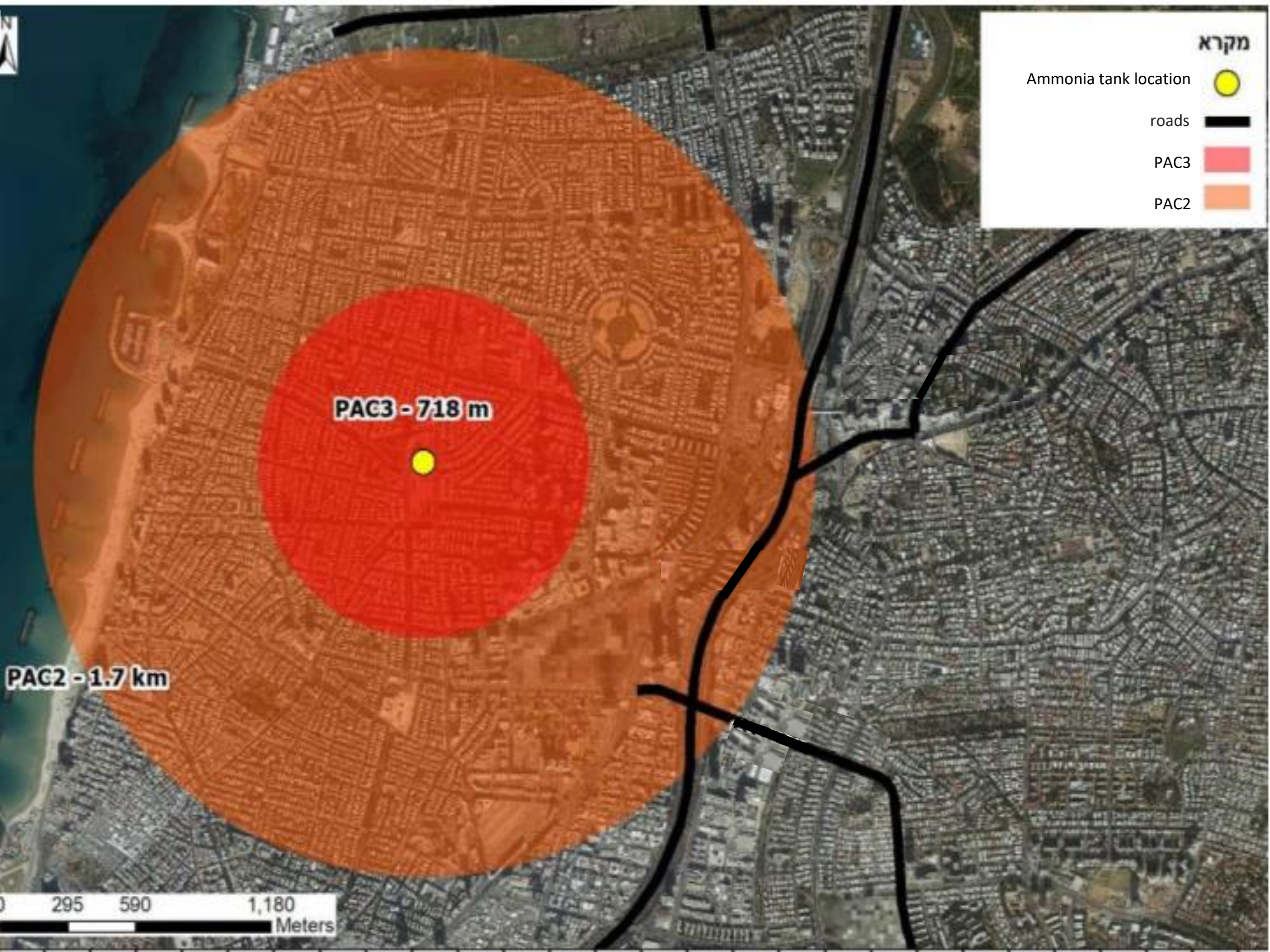


European
Commission

Major Accident Hazards

from disasters to success





Production involving HAZMAT and/or HAZMAT storage & transport

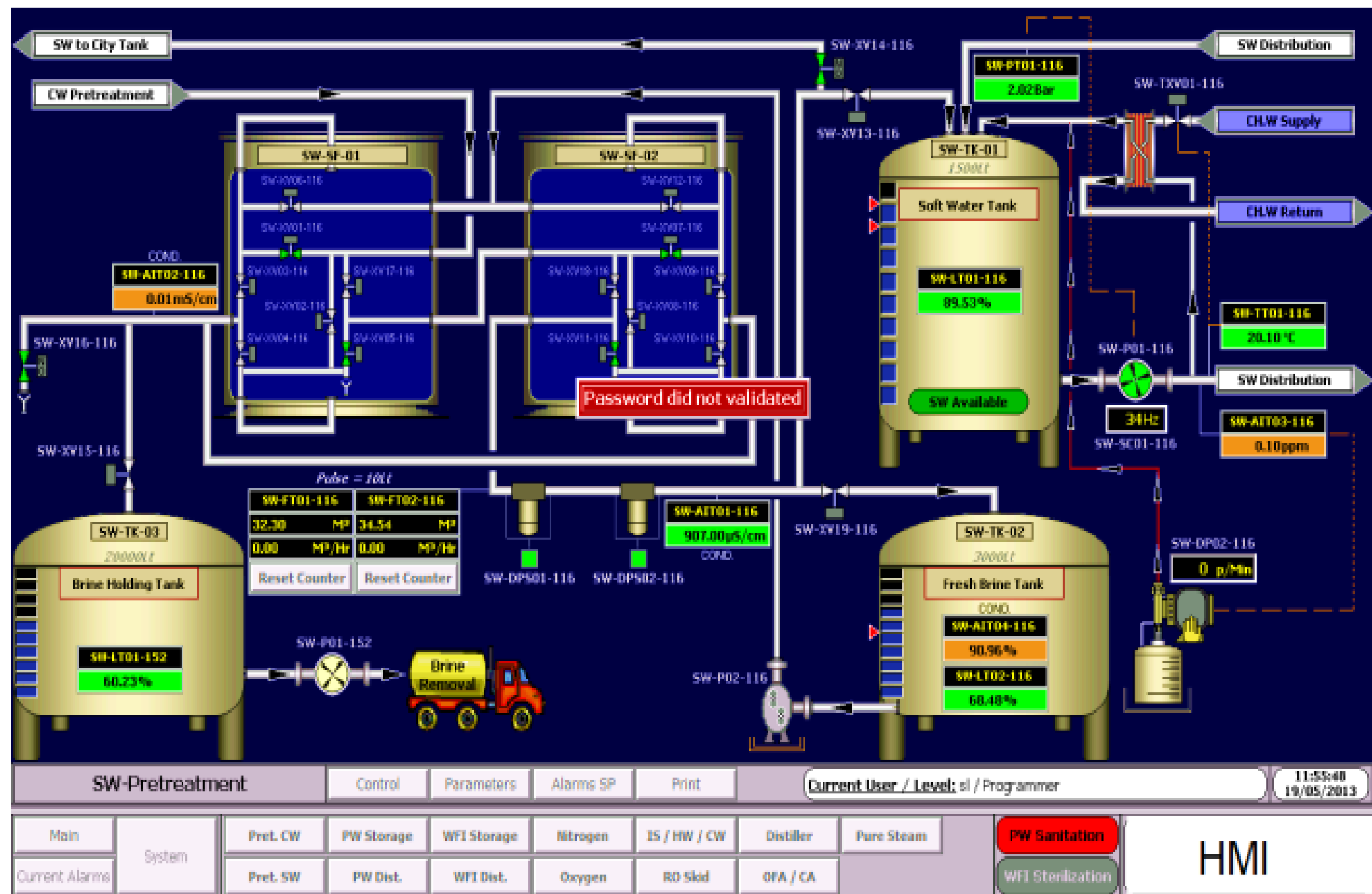


Hazardous Materials

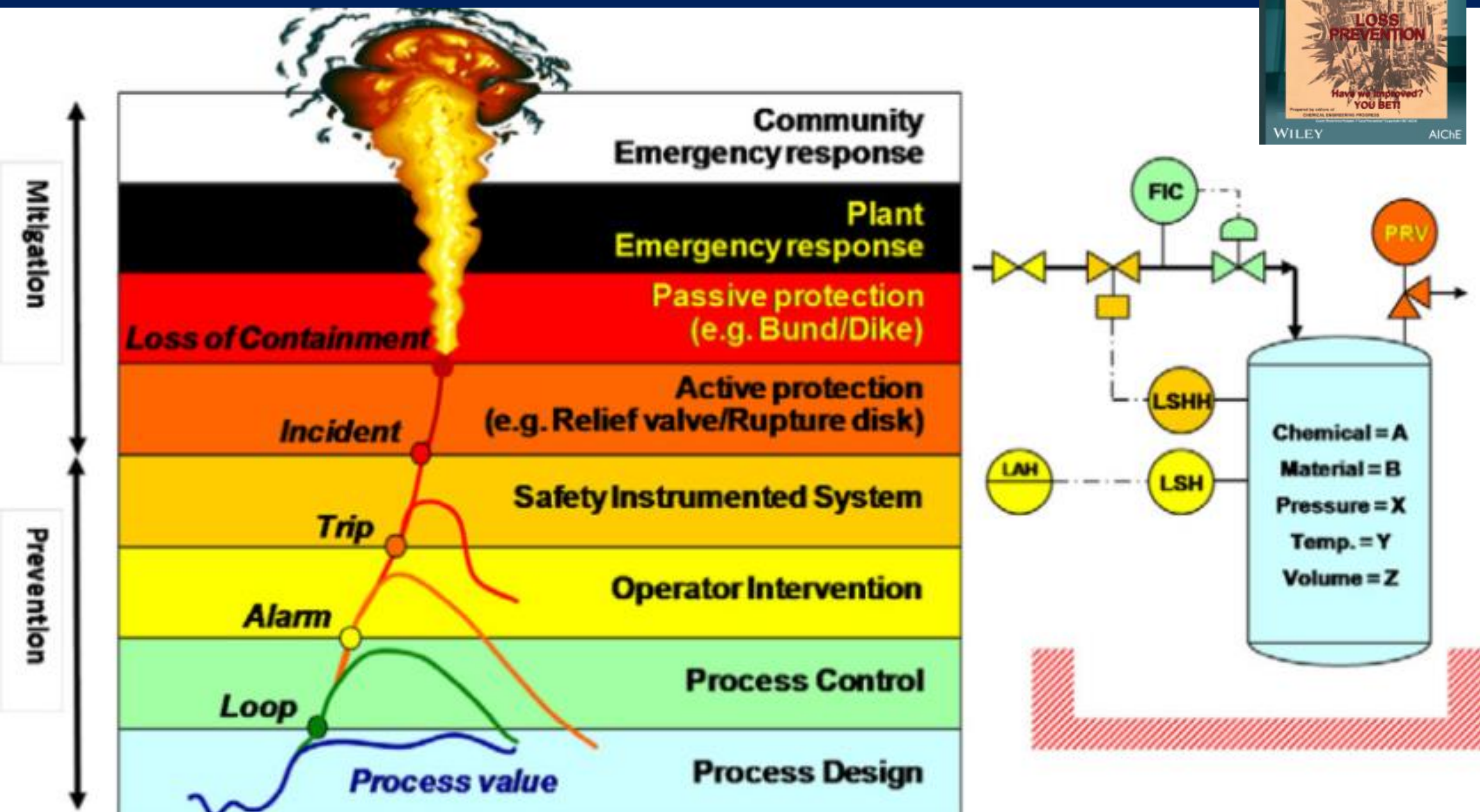
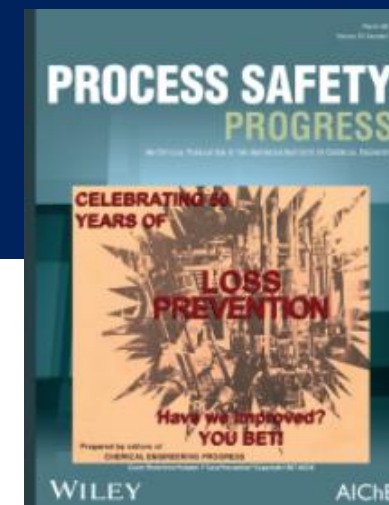


ספ עליון כמות השווה או העולה על (טון)	ספ תחתון כמות השווה או העולה על (טון)	מספר CAS \ משפטי סיכון (H) (הערה 0)	חומר	
			עם תכונות סיכון לבריאות (H), מקטגוריות הסיכון הבאות:	
70	5	H300, H310, H330	H1 ACUTE TOXIC - Category 1, all exposure routes	
200	50	H300, H310, H330 H331	H2 ACUTE TOXIC - Category 2, all exposure routes - Category 3, inhalation exposure route (הערה 7)	
200	50	H370	H3 STOT SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE STOT SE Category 1	
			עם תכונות סיכון פיזיקאליות (P), מקטגוריות הסיכון הבאות:	
50	10	H200, H201, H202, H203, H205	P1a EXPLOSIVES (8 הערה) - Unstable explosives or - Explosives, Division 1.1, 1.2, 1.3, 1.5 or 1.6, or - Substances or mixtures having explosive properties and do not belong to the hazard classes Organic peroxides or Self-reactive substances and mixtures, Type C, D, E or F or organic peroxides, Type C, D, E, or F	
200	50	H204	P1b EXPLOSIVES (8 הערה) Explosives, Division 1.4	
50	10	H220, H221	P2 FLAMMABLE GASES Flammable gases, Category 1 or 2	
500	150	H222, H223, H229	P3a FLAMMABLE AEROSOLS (11.1 הערה) 'Flammable' aerosols Category 1 or 2, containing flammable gases Category 1 or 2 or flammable liquids Category 1	
50000	5000	H222, H223, H229	P3b FLAMMABLE AEROSOLS (11.1 הערה) 'Flammable' aerosols Category 1 or 2, not containing flammable gases Category 1 or 2 nor flammable liquids category 1 (11.2 הערה)	

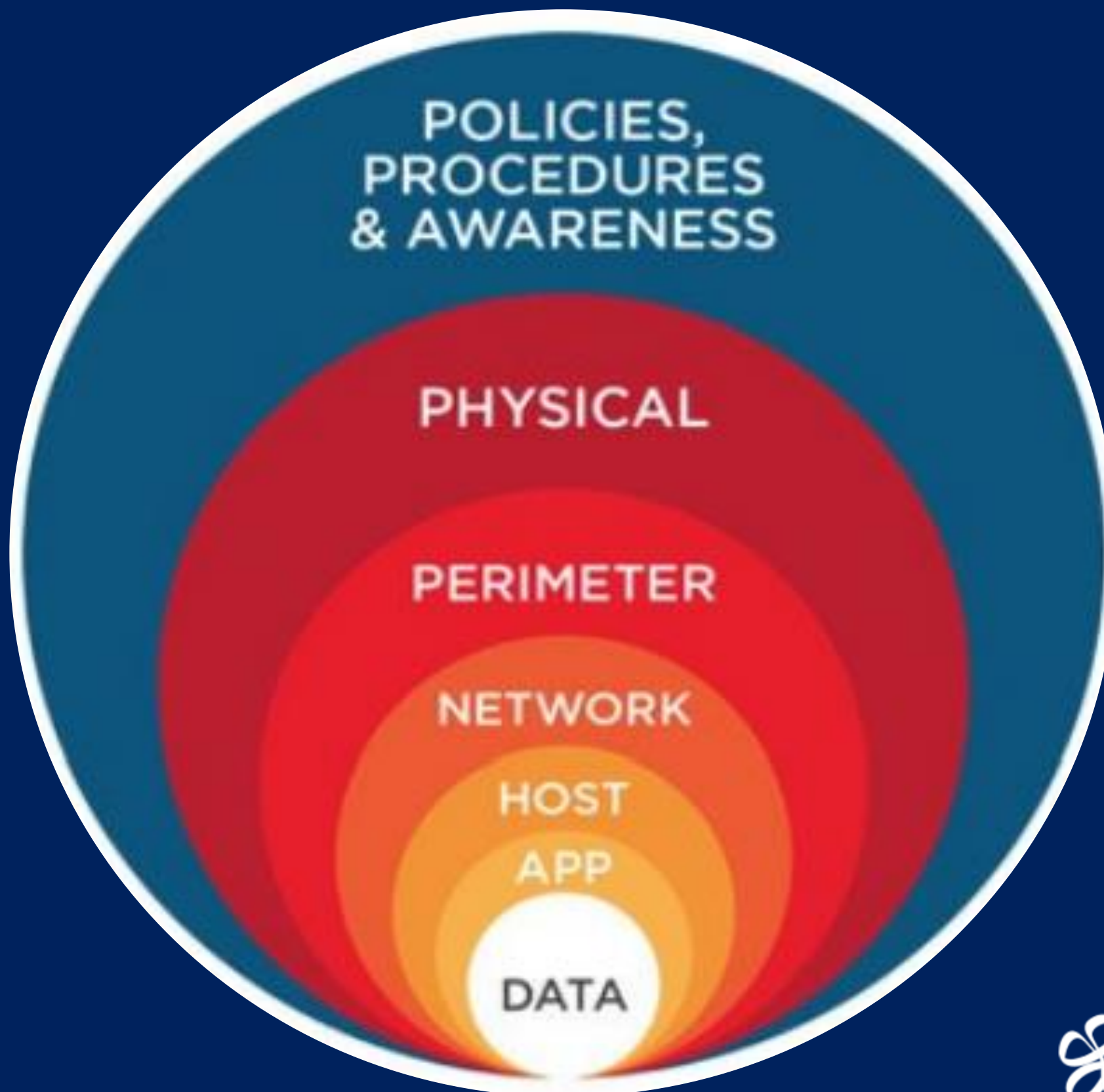
SCADA functionalities involving HAZMAT processes



Deploying EHS alerts and protection



Cyber defense layers cutaway



Cyber Security Protection Relative to Organization Size



SMB

- Minimal to no security measures
- High exposure to vulnerabilities & attacks
- Minimal or no preparedness



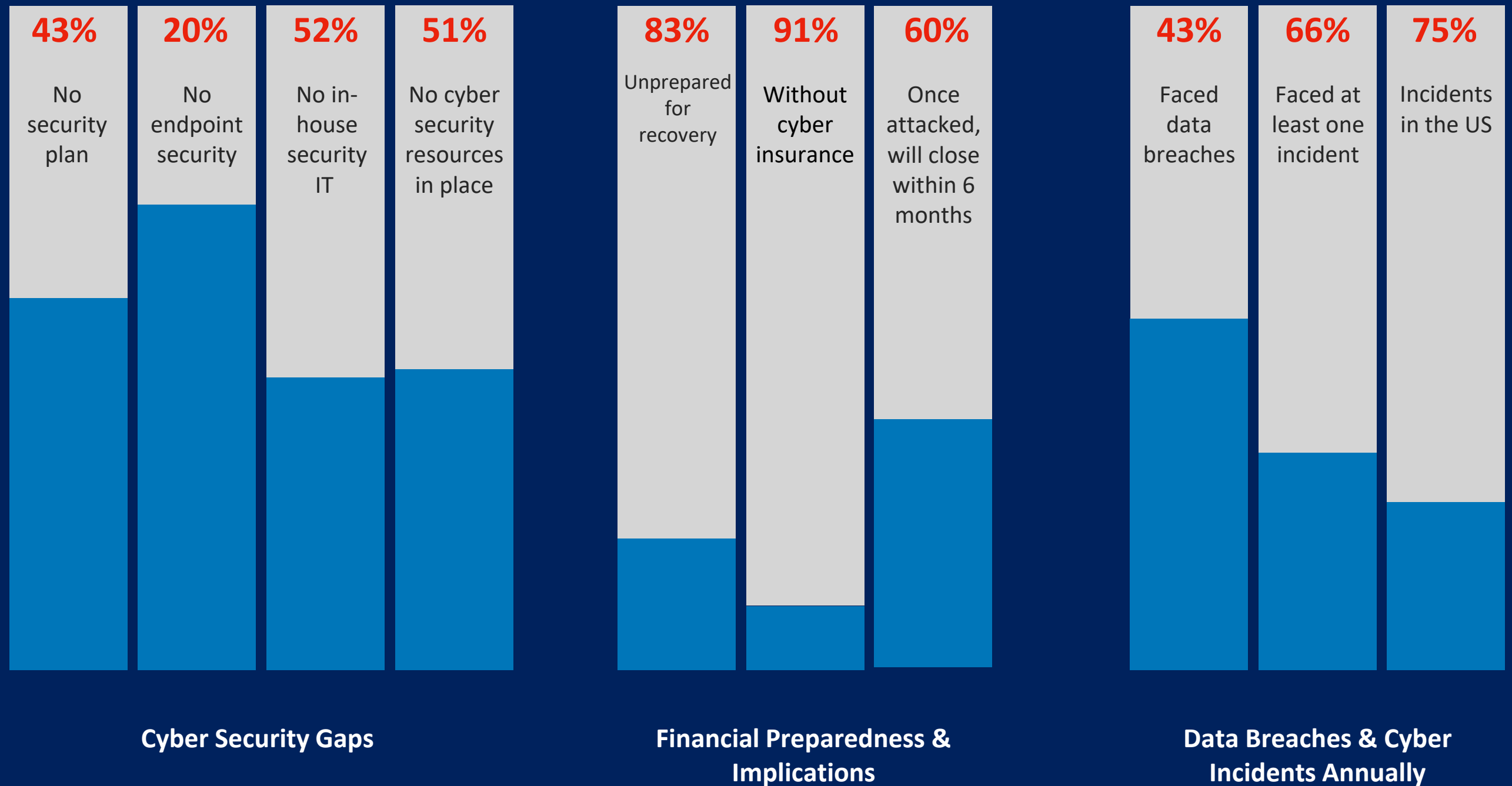
Resources
Finance
Knowledge
Human resources



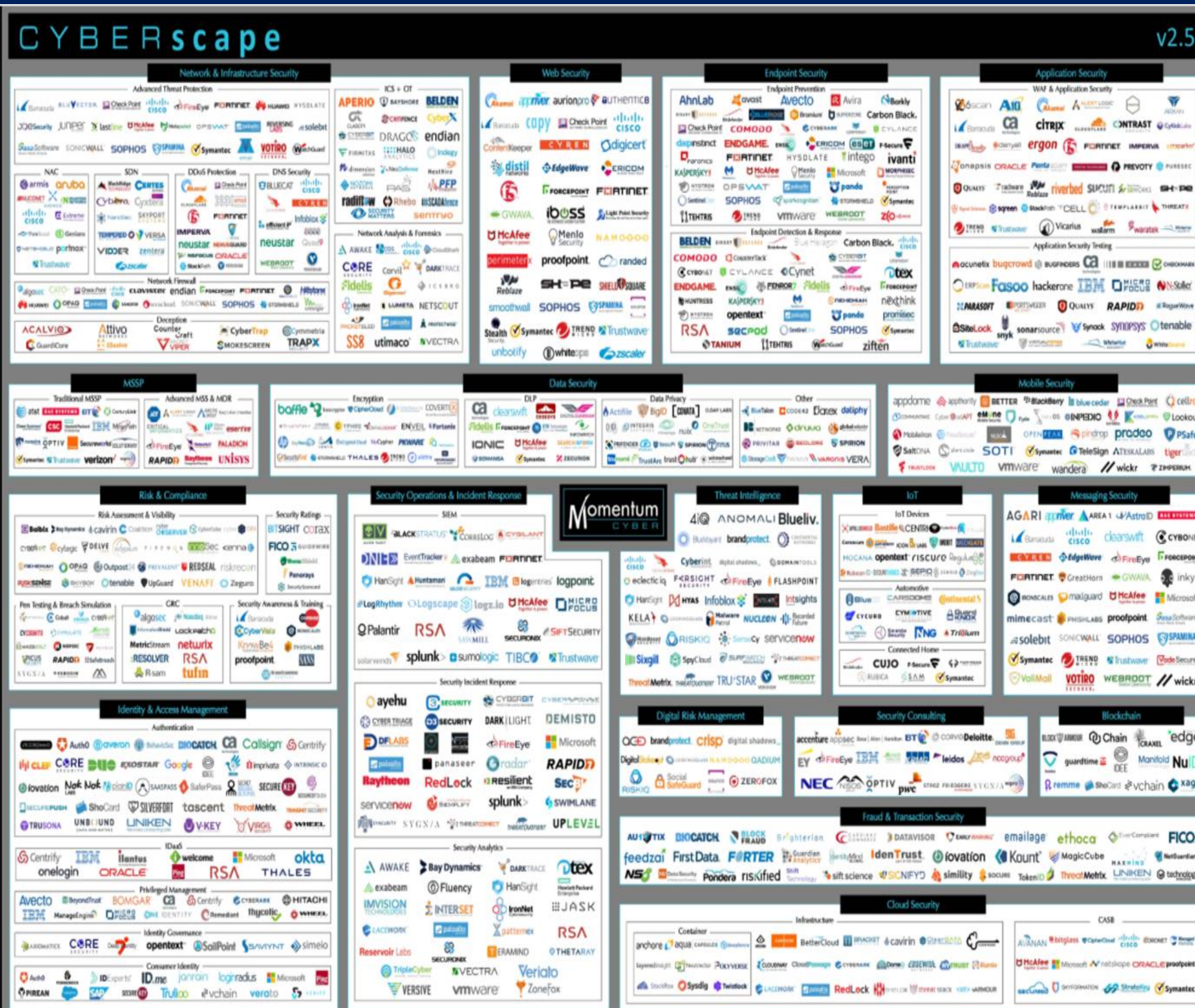
ENTERPRISE

- Risk relatively mitigated via CISO & cyber security measures
- Medium to high level of preparedness

Some SMB Cyber Security Statistics



Current Cyber Security Market

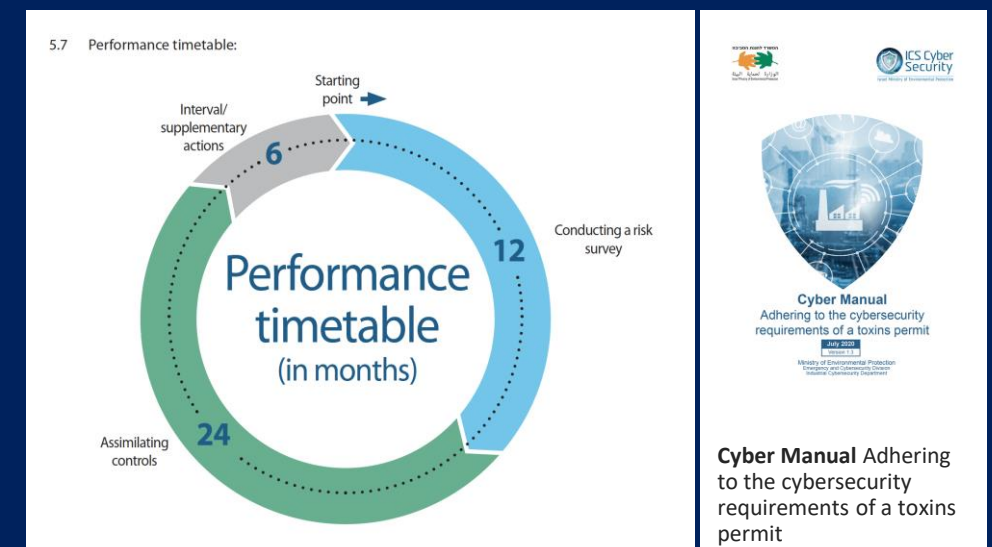
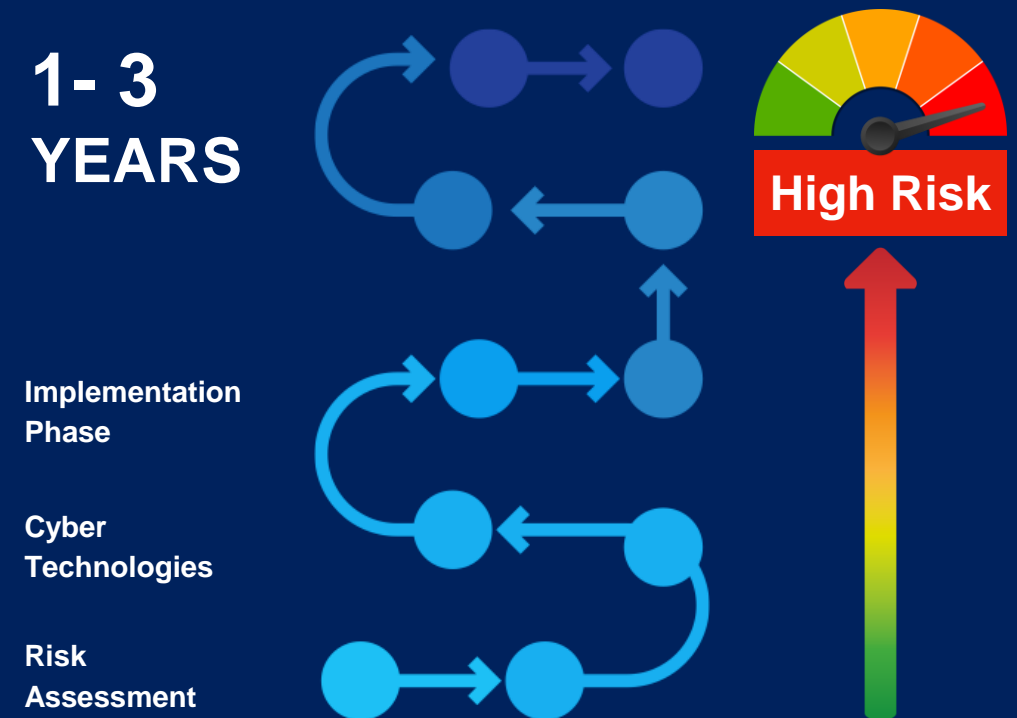


The Pain

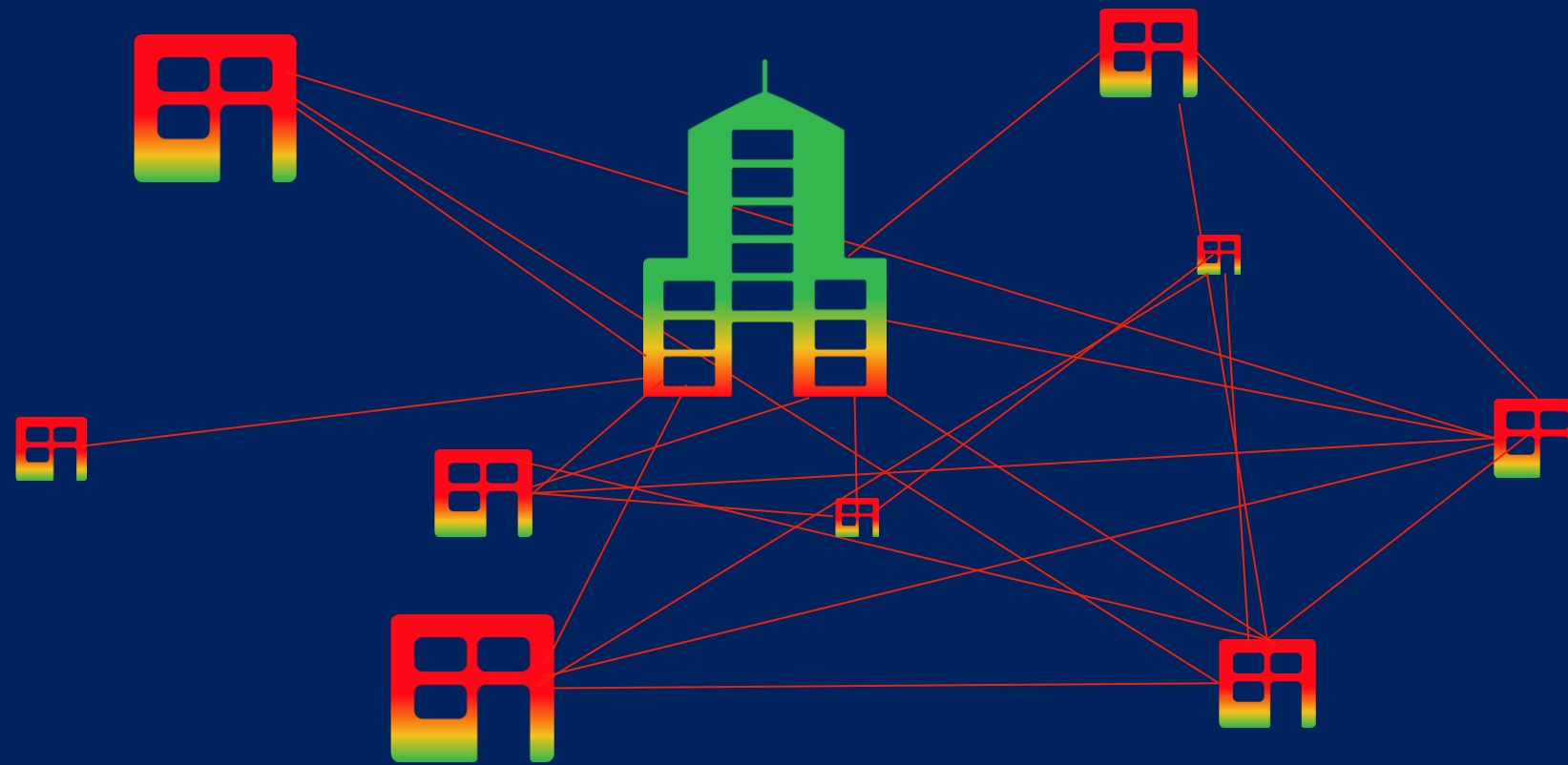


Typical Cyber Process Implementation

- Highly segmented process
- Lacking continuity
- No universal standard or structure for risk assessment & reporting processes
- One-time summary report is the outcome. Essentially “yesterday’s news”
- Following the risk assessment, SMB organizations are left on their own



The Supply Chain Weakness



Weakest link defines entire protection envelope

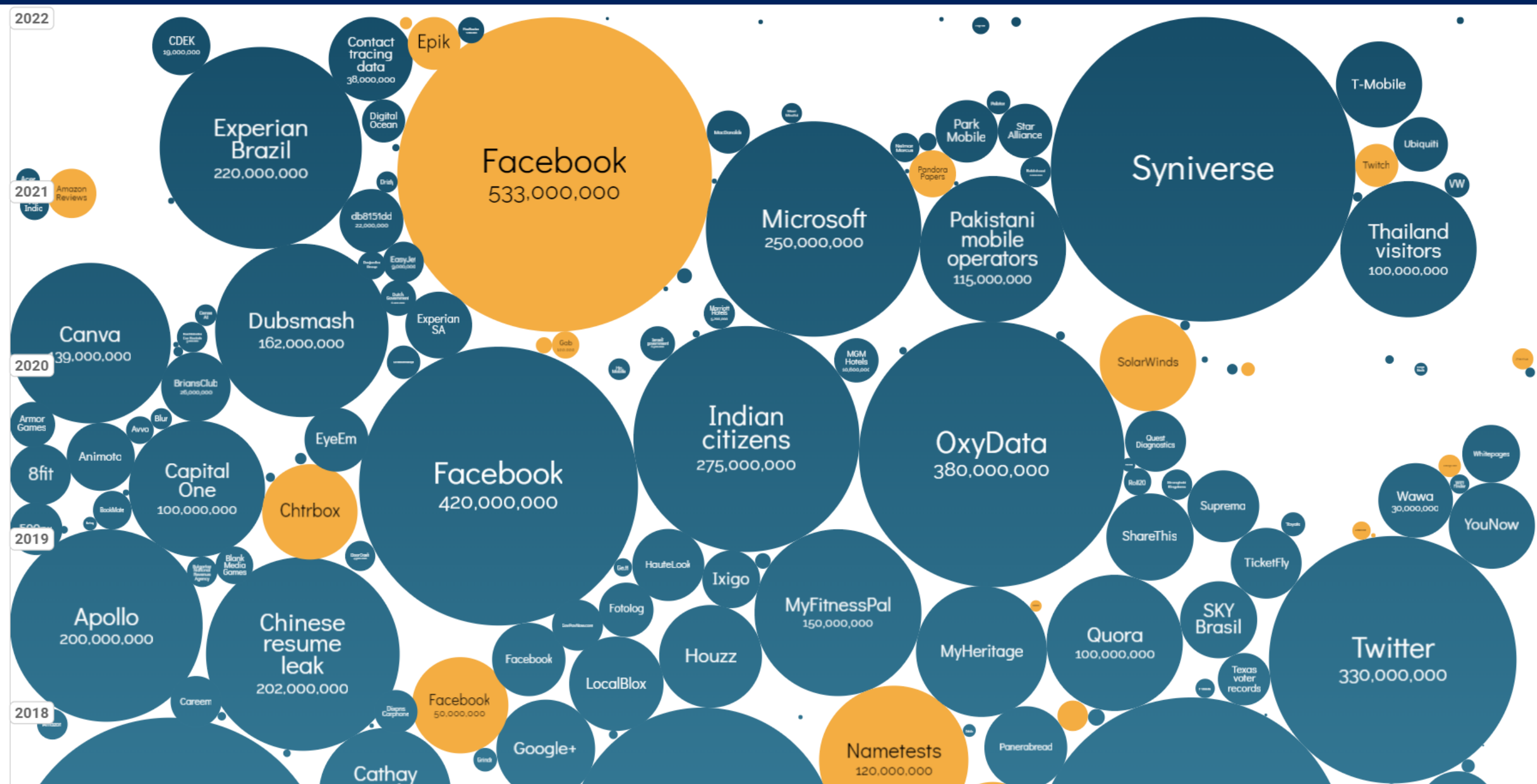


Enterprises & governments are at risk because of links to SMBs



No mapping or continuous monitoring of the supply chain

World's Biggest Data Breaches & Hacks



<https://ediscoverytoday.com//sdnert-ytirucesrebyc-skcah-dna-sehcaerb-atad-tseggib-sdlrow/2022/06/15>

Houston, we have a problem in the supply chain

solarwinds 

2020

250+ organizations
impacted

GARMIN 

2020

Millions disconnected
from online services

 Codecov

2021

Codecov supply chain
attack - hundreds of
clients were
compromised


Kaseya®

2021

Ransom of \$70 million
to 1000+ organizations

 TOYOTA

2022

33% of global Toyota
production stopped

Schneider
Electric 

2022

Attacks against US
SCADA/ICS infrastructure

Trojan Horse
Adware

Bug
Bot

Spam

DDoS

Malware

Virus

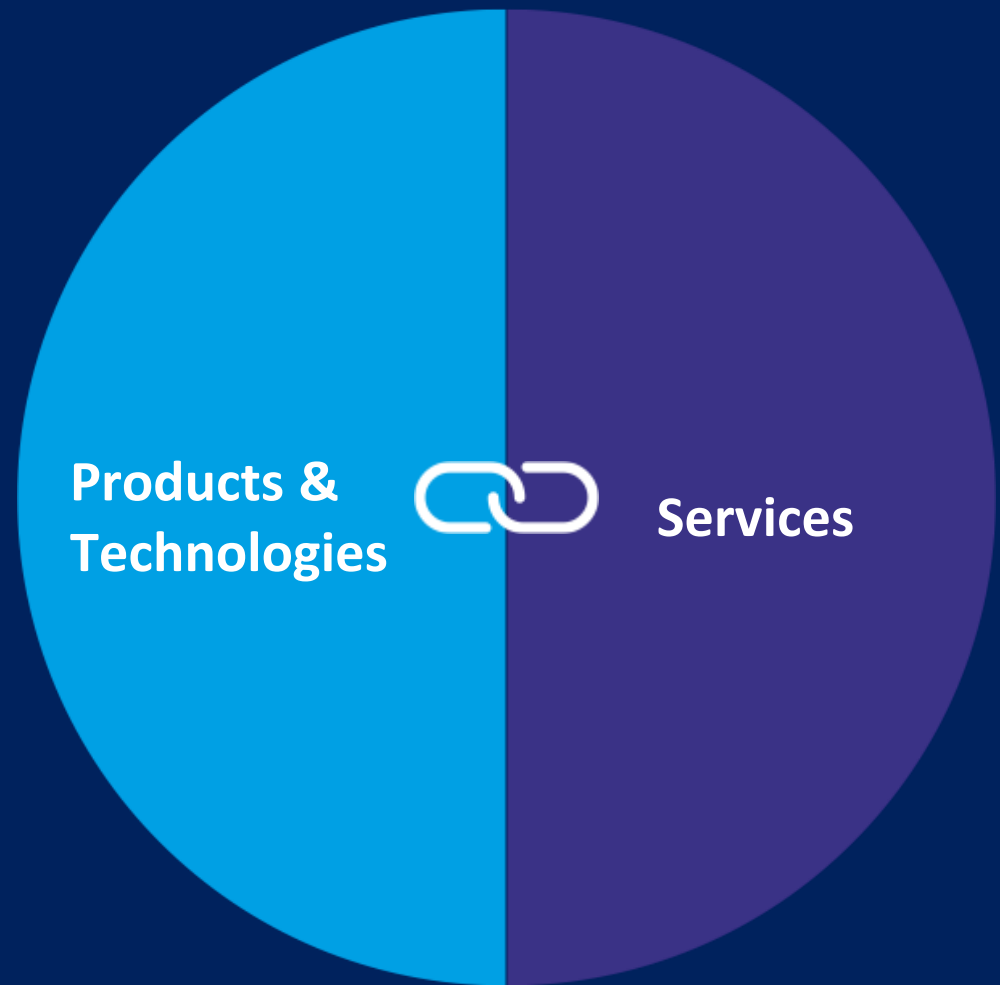
Rans

Holistic & Continuous Solution

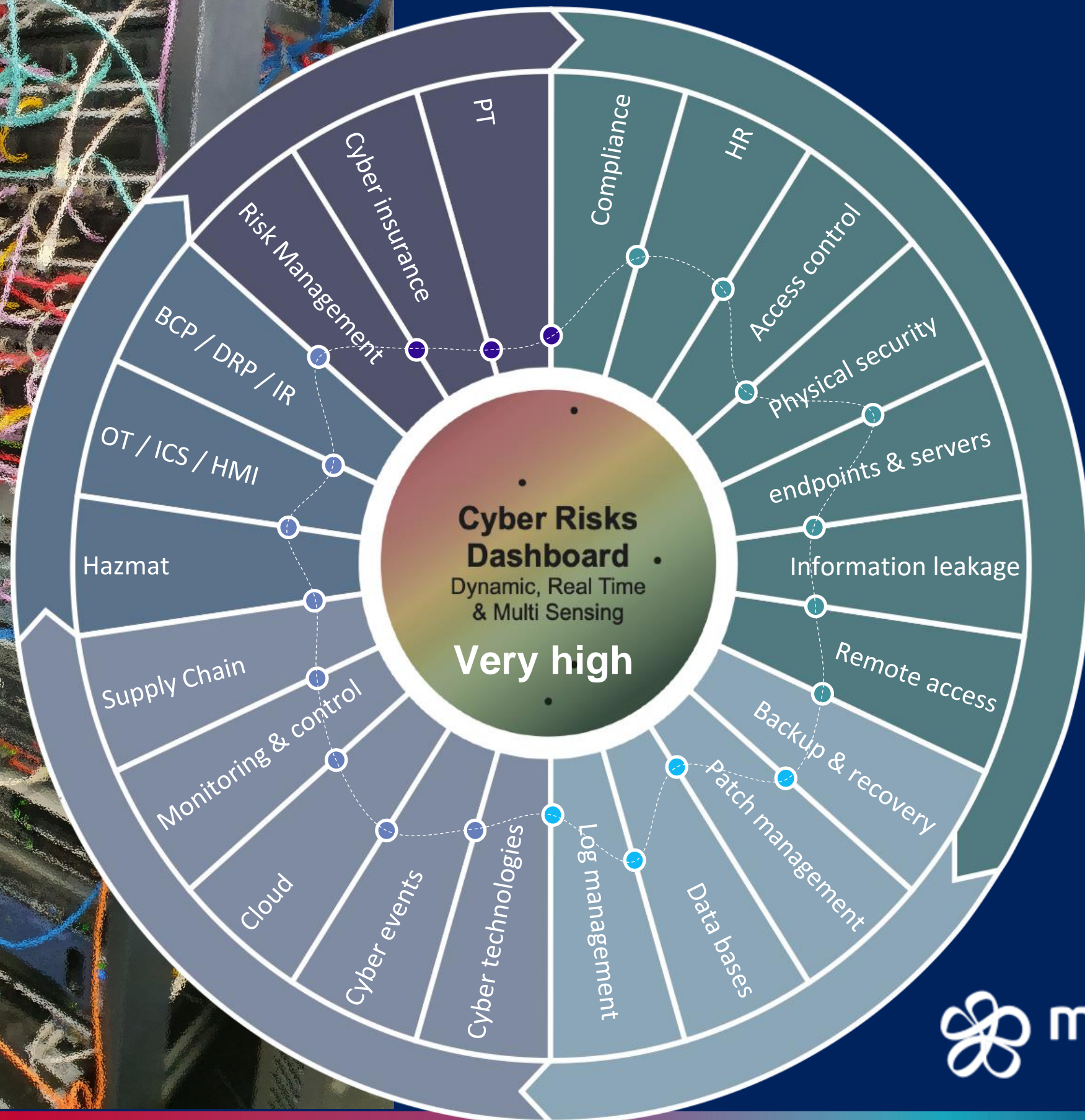
Current Situation



The requested solution



Gaps in Cybersecurity



Top Trends in Cybersecurity, 2022

Trend No. 3

Digital supply chain risk

Gartner predicts that by 2025, 45% of organizations worldwide will have experienced attacks on their software supply chains, a three-fold increase from 2021.

Trend No. 4

Vendor consolidation

Security products are converging. Vendors are consolidating security functions into single platforms and introducing pricing and licensing options to make packaged solutions more attractive.

Trend No. 6

Distributed decisions

Executive leaders need a fast and agile cybersecurity function to support digital business priorities.

01



Attack surface
expansion

02



Identity system
defense

03



Digital supply
chain risk

04



Vendor
consolidation

05



Cybersecurity
mesh

06



Distributed
decisions

07



Beyond
awareness

The Requested Solution

A Comprehensive
Ongoing Cyber
Security
Management
Platform



The Eco-System

SMB & Company Undergoing Review

SMB organization required to undergo cyber security risk assessment

ENTERPRISE

Super clients require cyber security risk assessment to conduct business with suppliers, insurance providers & market rating organization

Pen Testing, Security Testing & Rating

Ongoing reviews, maintenance, reporting & taring

Cyber Security Risk Assessors

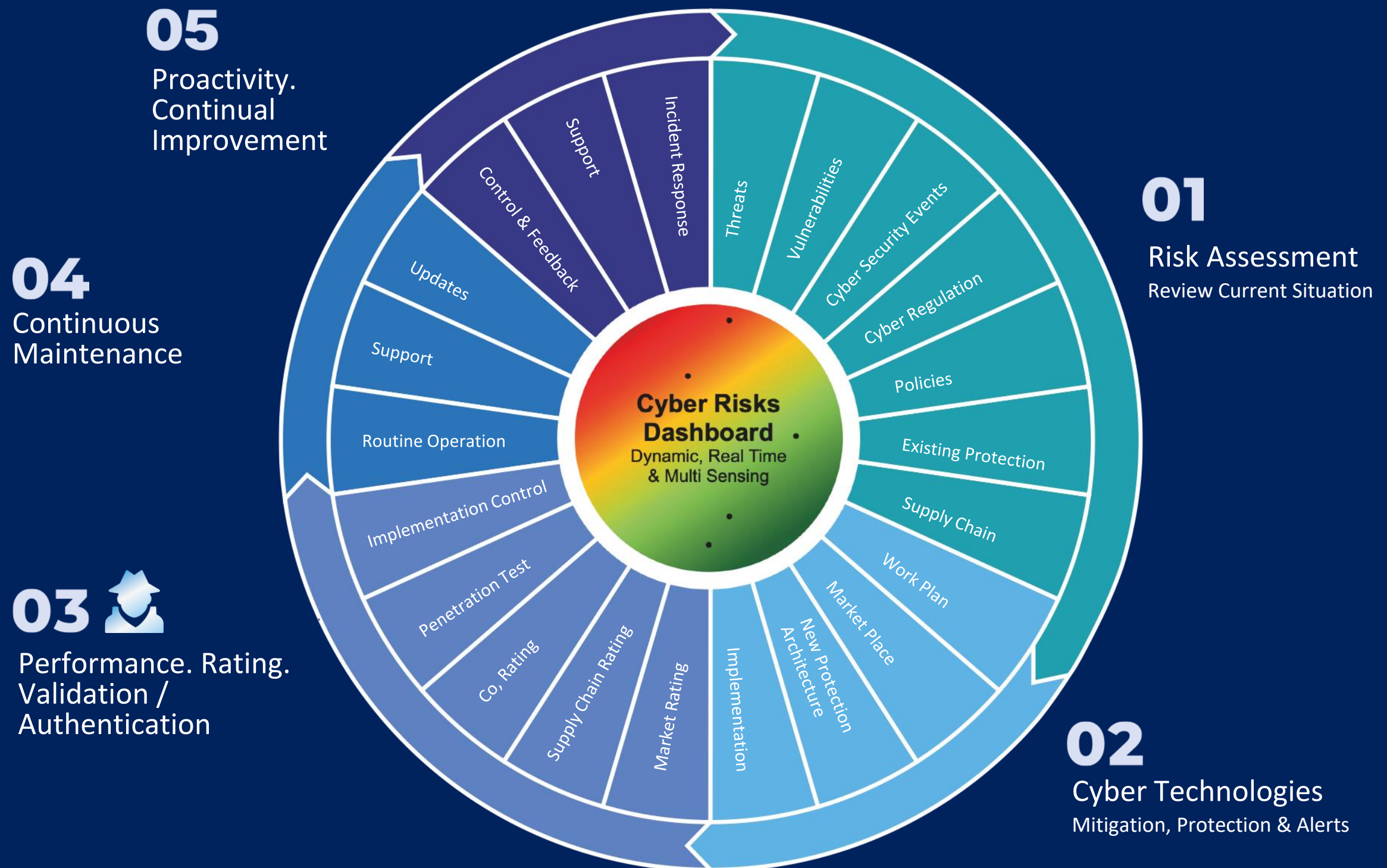
Internal/external function providing one time & ongoing security review

Cyber Security Technologies & Vendors

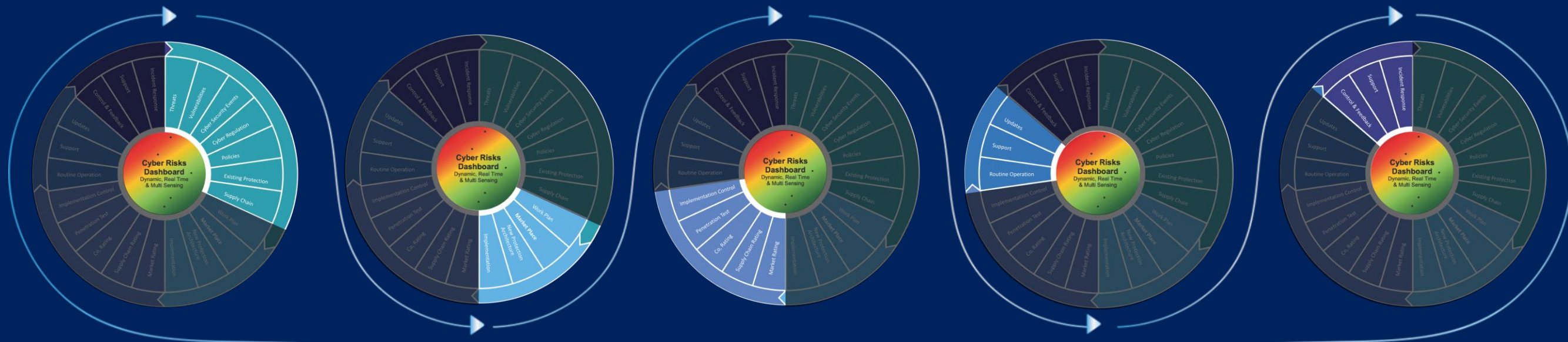
Technologies manufacturers & integrators providing solutions based on risk assessment outcome



Management Control Platform



Management Control Platform



01

Risk Assessment
Review Current
Situation

02

**Cyber
Technologies
Mitigation,
Protection & Alerts**

03

**Performance.
Rating. Validation /
Authentication**

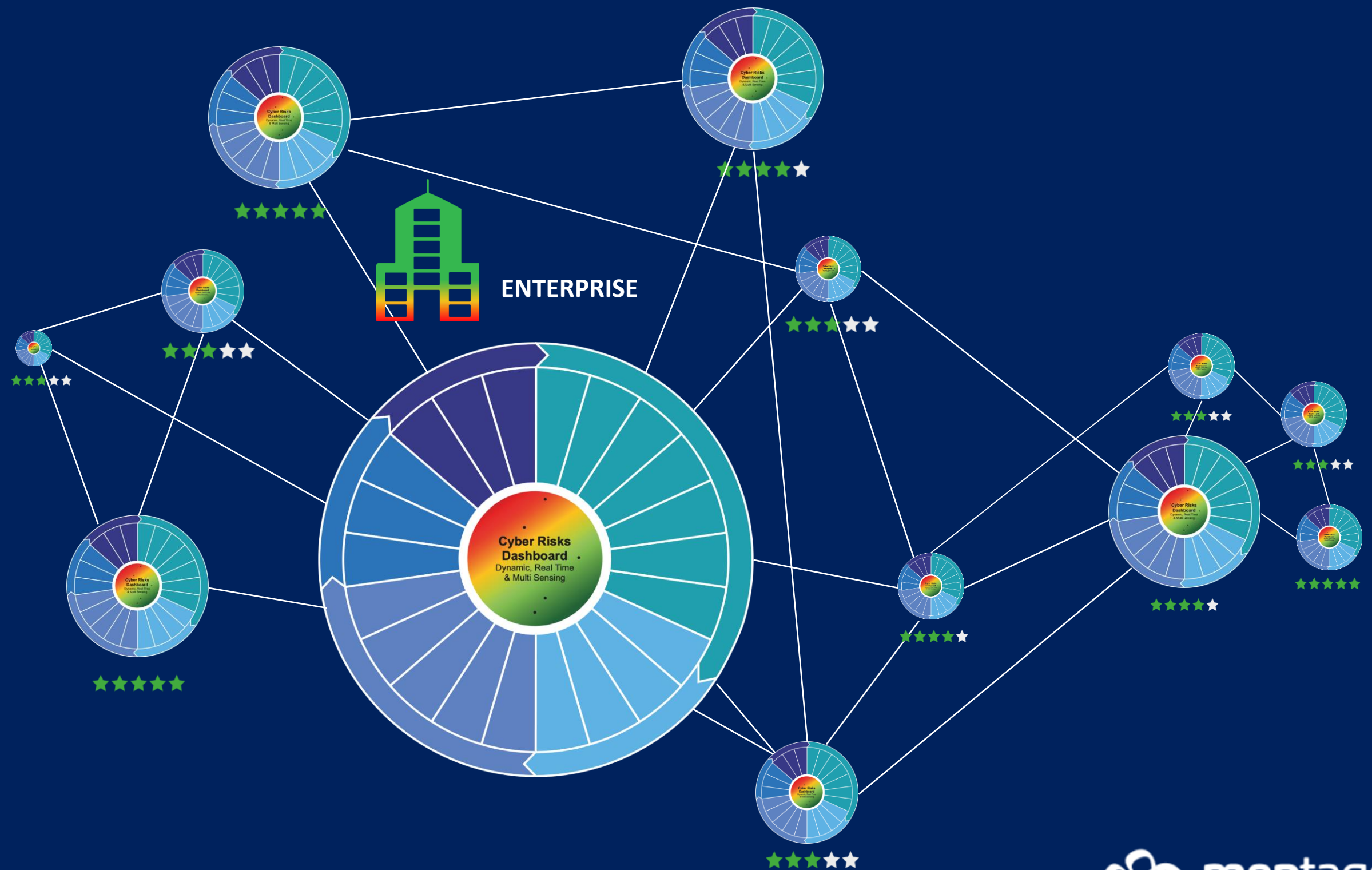
04

**Continuous
Maintenance**

05

**Proactivity.
Continual
Improvement**

The Solution for the Supply Chain





Thank You