

# Digital Ship

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Field CISO Fortinet

A large container ship is docked at a port, with its deck stacked high with colorful shipping containers in shades of blue, red, and yellow. In the background, several port cranes are visible against a cloudy sky. The ship's hull is dark blue, and the water in the foreground is calm.

**Navigating the Future of  
Cybersecurity and Technology  
Integration in Maritime Sector**



# Risk Horizon

# Targeted Systems

## Shipboard Systems

- Ship Operations
- Access Control & Security Systems
- Communication Systems
- Crew Internet Access

## Critical Control Systems

- Cargo Control Room & Its Equipment
- Level indication
- Valve Remote Control
- Water Ingress Alarm
- Ballast Water
- Gas Liquefaction
- Fire Suppression System
- Engine Governor
- Power Management
- Alarm System
- Emergency Response System

## GPS, Navigation Systems Satellite Communication

### Bridge Systems

TGPS

ECDIS

DP

AIS

GMDSS

Radar

VDRs

Satellite

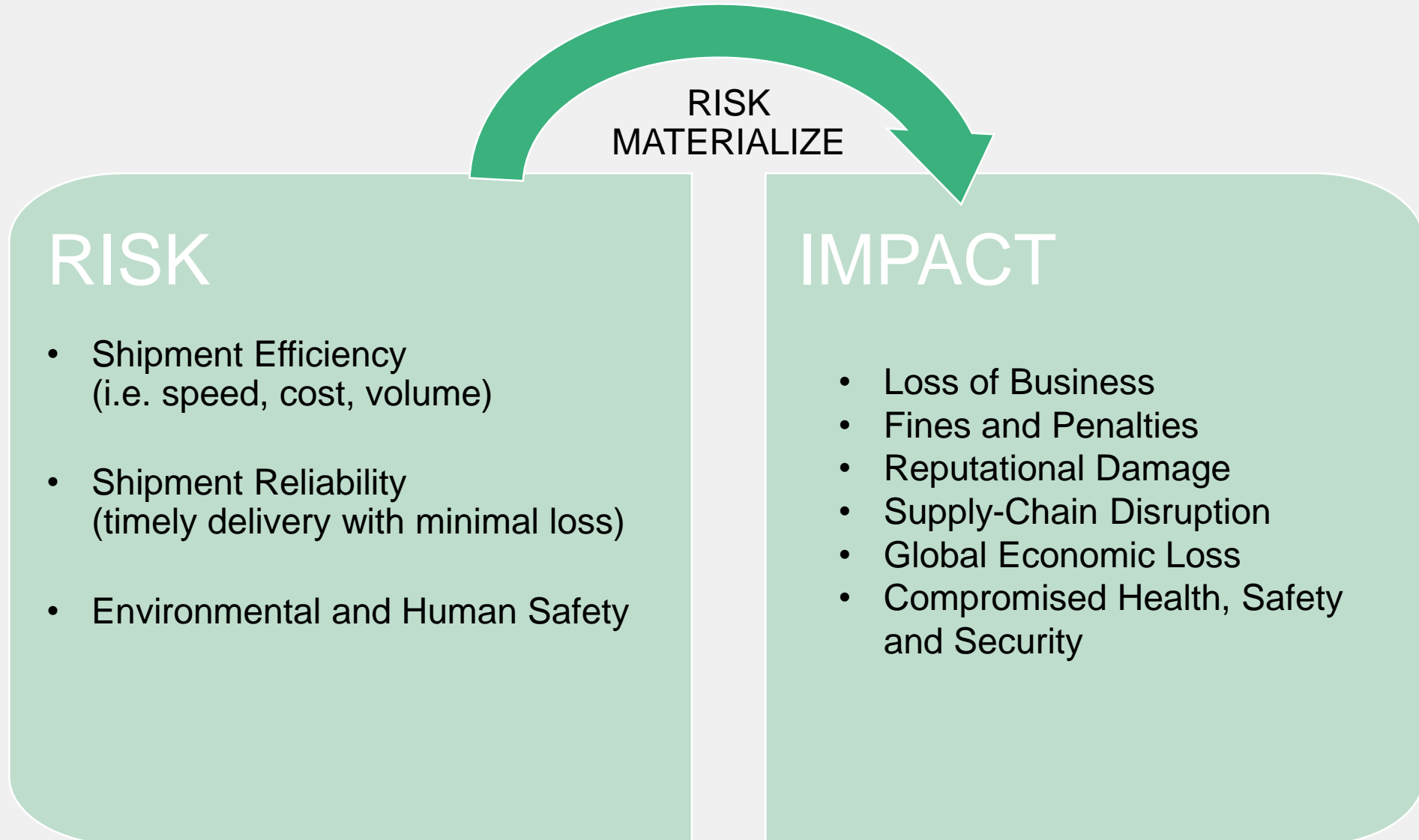
Uplink

Transponders

Downlink



# What Are the Risk Materialization Impact?



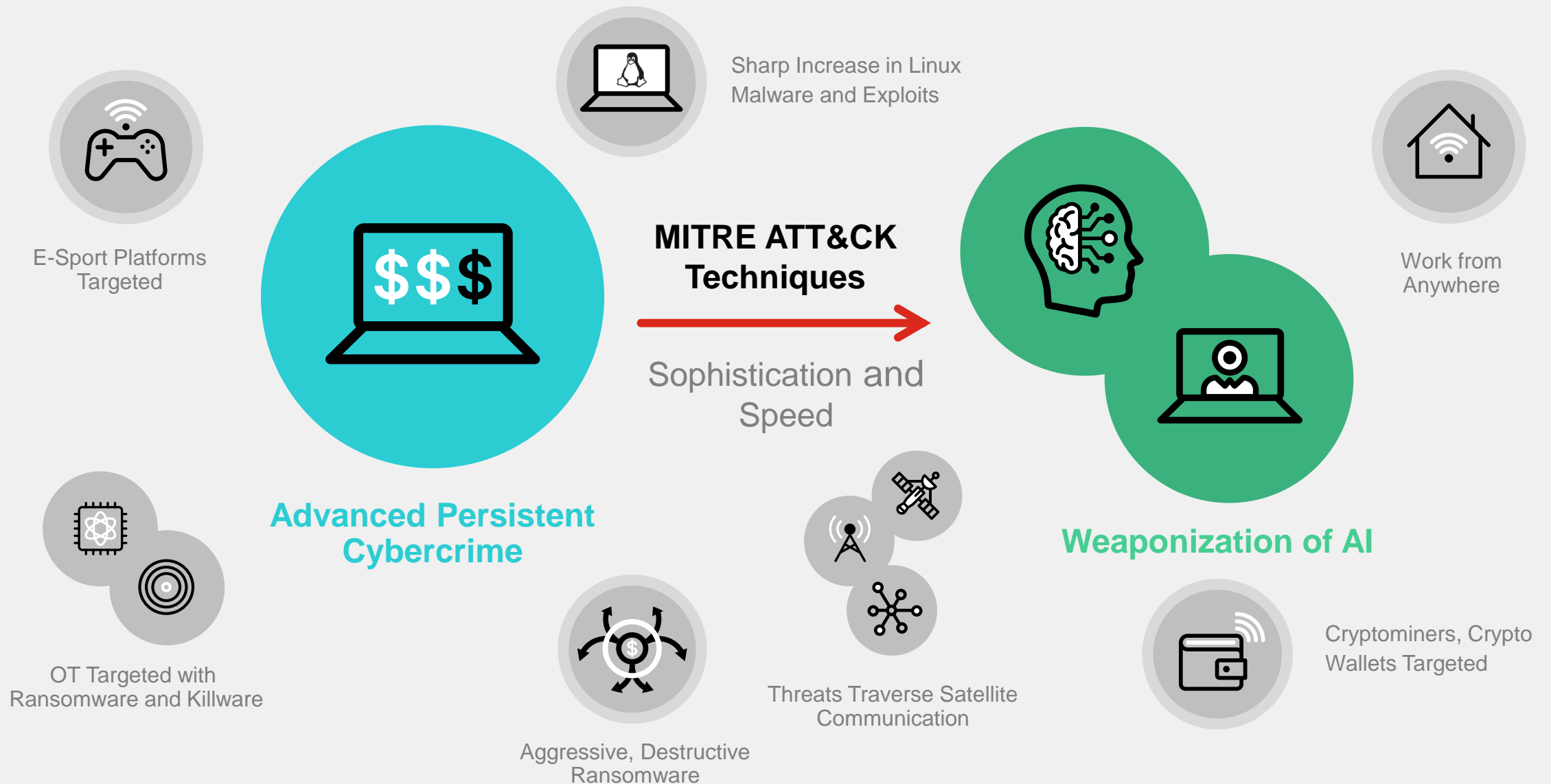


# Threat Landscape Influencing the Maritime Risk Horizon



# Organizations are under attack more than ever

## Perforated Attack Surface



# MITRE ATT&CK Techniques Employed as Part of Intrusion (Average Execution Time: 4 hours)

Initial Access	Persistence	Privilege Escalation	Defense Evasion	Discovery	Lateral Movement	Command and Control	Impact
Domain Accounts	Domain Accounts	Domain Accounts	Domain Accounts	Service Discovery	Windows Remote Management	External Proxy	Service Stop
				Information Discovery	Remote Desktop Protocol	Ingress Tool Transfer	Data Encrypted for Impact
				System Discovery		Web Protocols	

FortiLabs: Global Threats Landscape 2H 2022



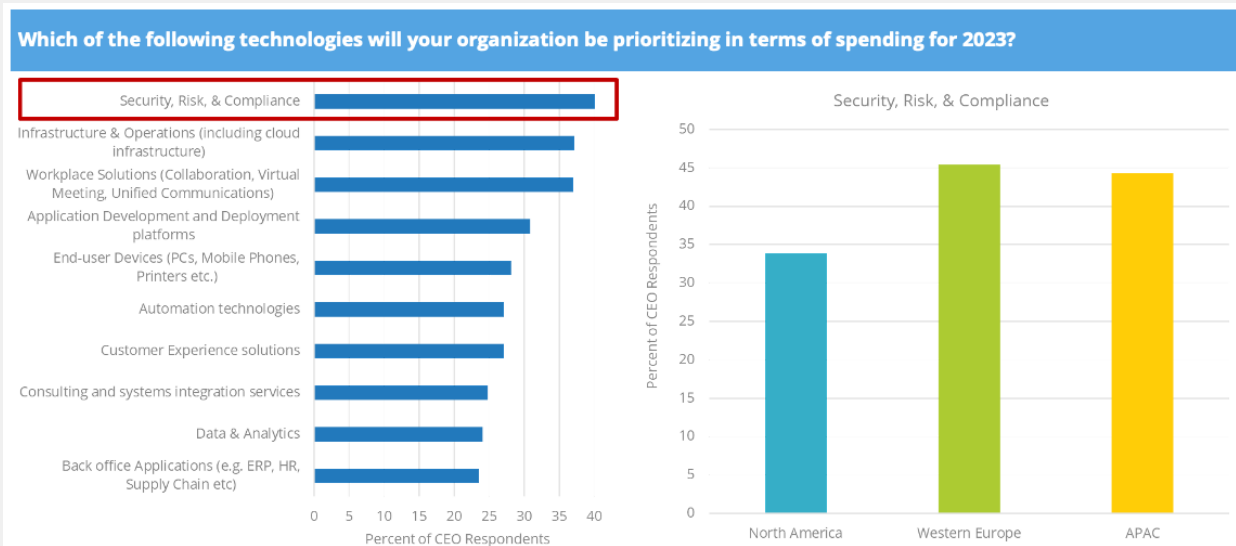


# Spending Priorities 2023





# How are CEOs Prioritizing Spending in 2023?



IDC #US50645223 (May 2023)  
Source: CEO Survey, IDC, January, 2023, N = 305

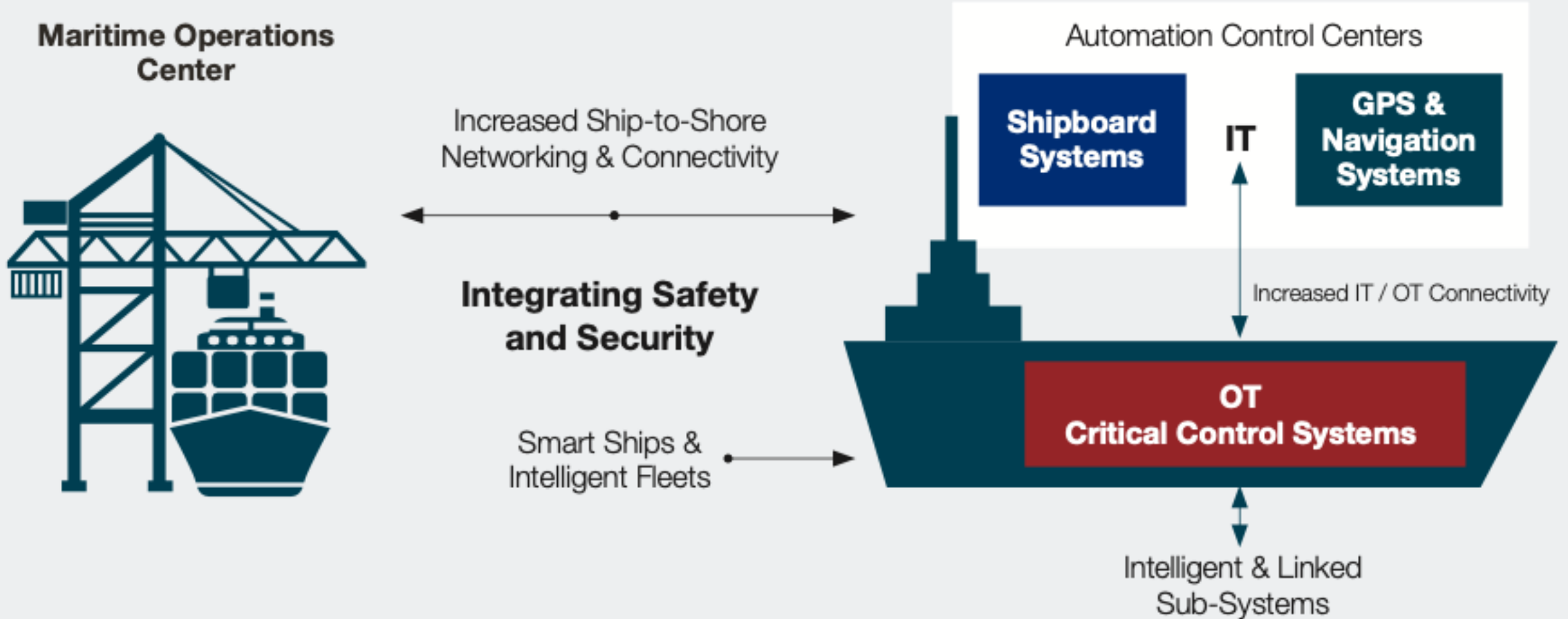
- The **threat landscape** continues to worsen as threat actors become increasingly sophisticated
- **Digital sovereignty** is just the latest in privacy regulations, resulting in **loss over data, innovation capabilities** and ability to shape the digital environment
- **The rise in importance in Asia Pacific** is not surprising. The rise in ransomware incident rates in Asia Pacific has made cybersecurity threats an even more pressing board level topic there as compared to Europe and North America



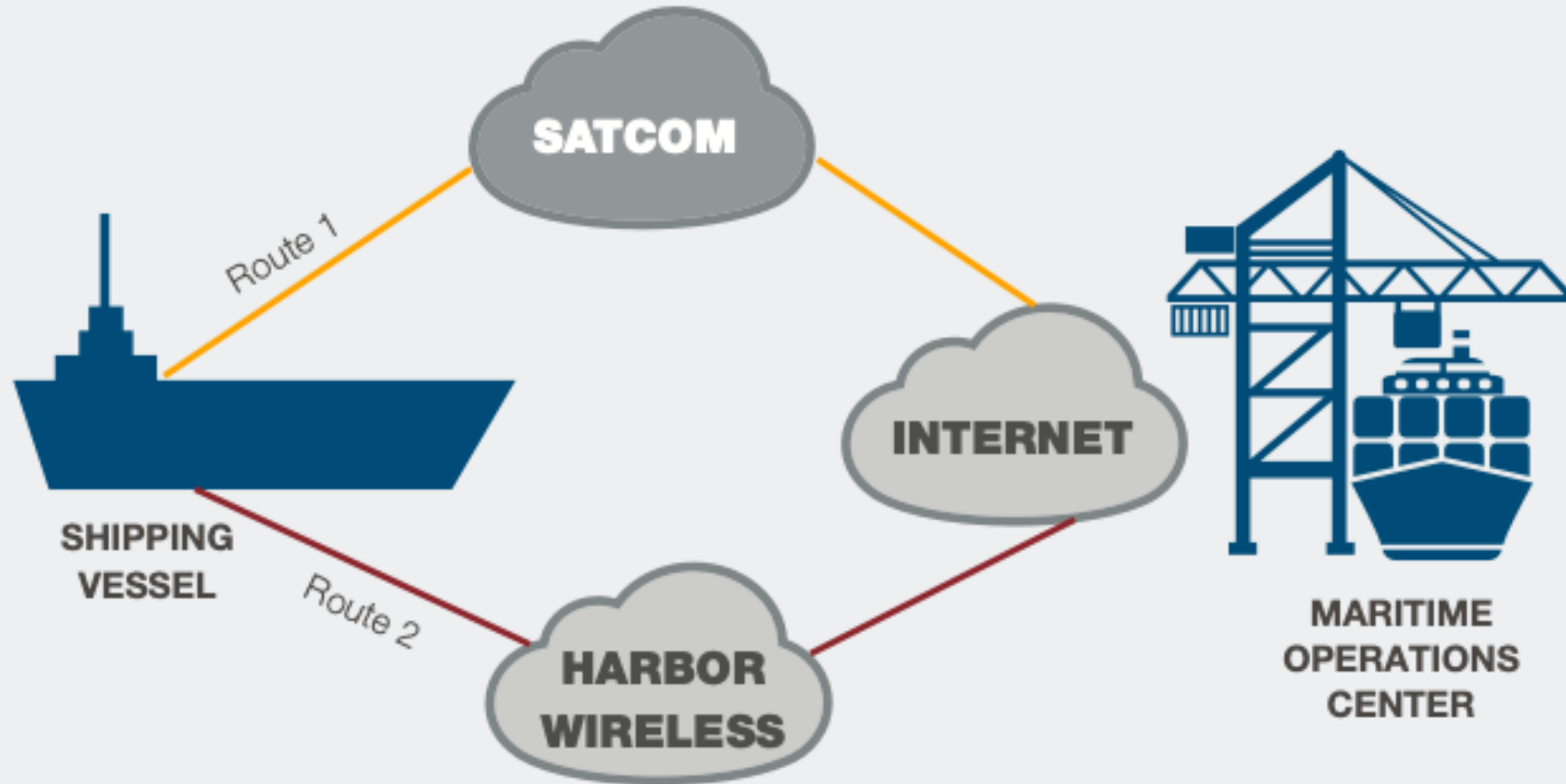


# The Technology Ecosystem

# Maritime Ecosystem



# Communication Exchange Ecosystem



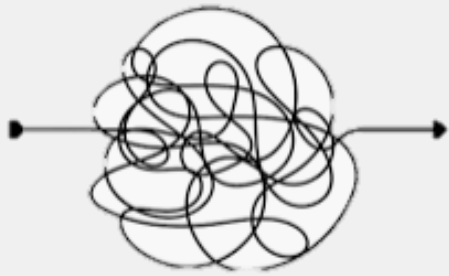


# Developing Synergies While Taking Risk-Adjusted Decisions



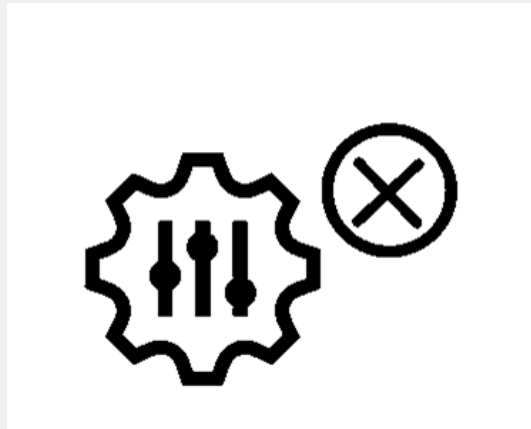
# Strengthen the Synergies to Capitalize on Advanced Technology

In other words: lack of foundation in delivering centralized and automated Detection to Response at machine speed



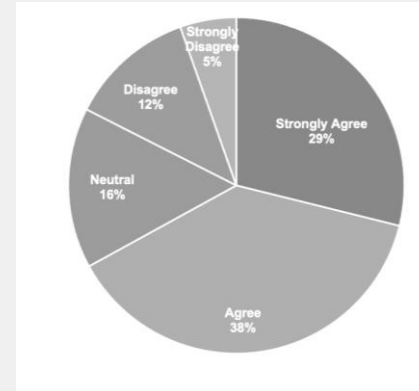
## Complexity

Security and networking Point product complexity



## Many Silver Bullet(s)

Hard to balance best of breed with integrated and synergetic security



## Silo Operations

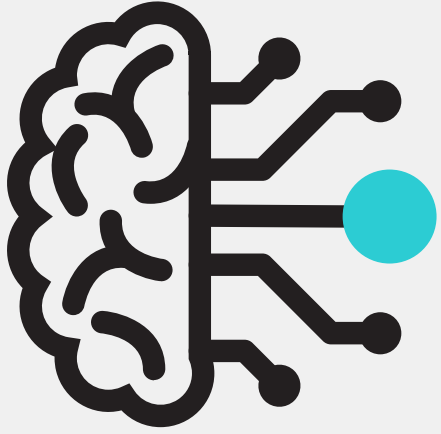
Security tools and teams that work in silos, and require manual work



## Overwhelmed Humans

Skill shortage + high volume threat = overwhelmed security teams

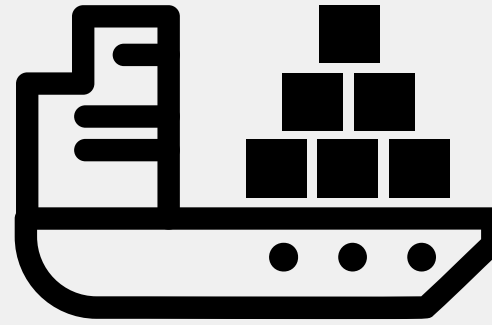
# Determine the Risk Universe in Terms of Loss



Intellectual Property Risks



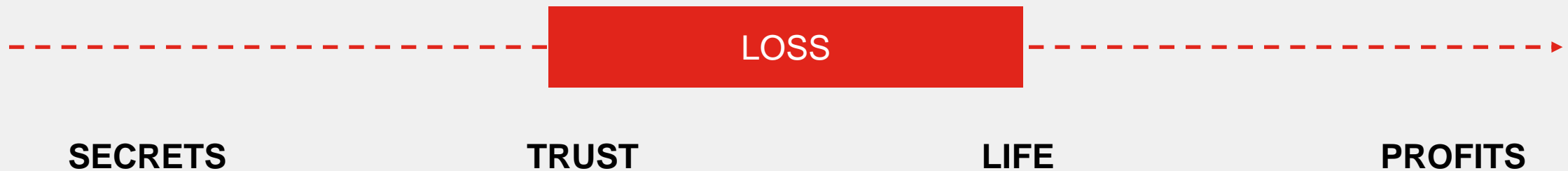
Reputation Risks



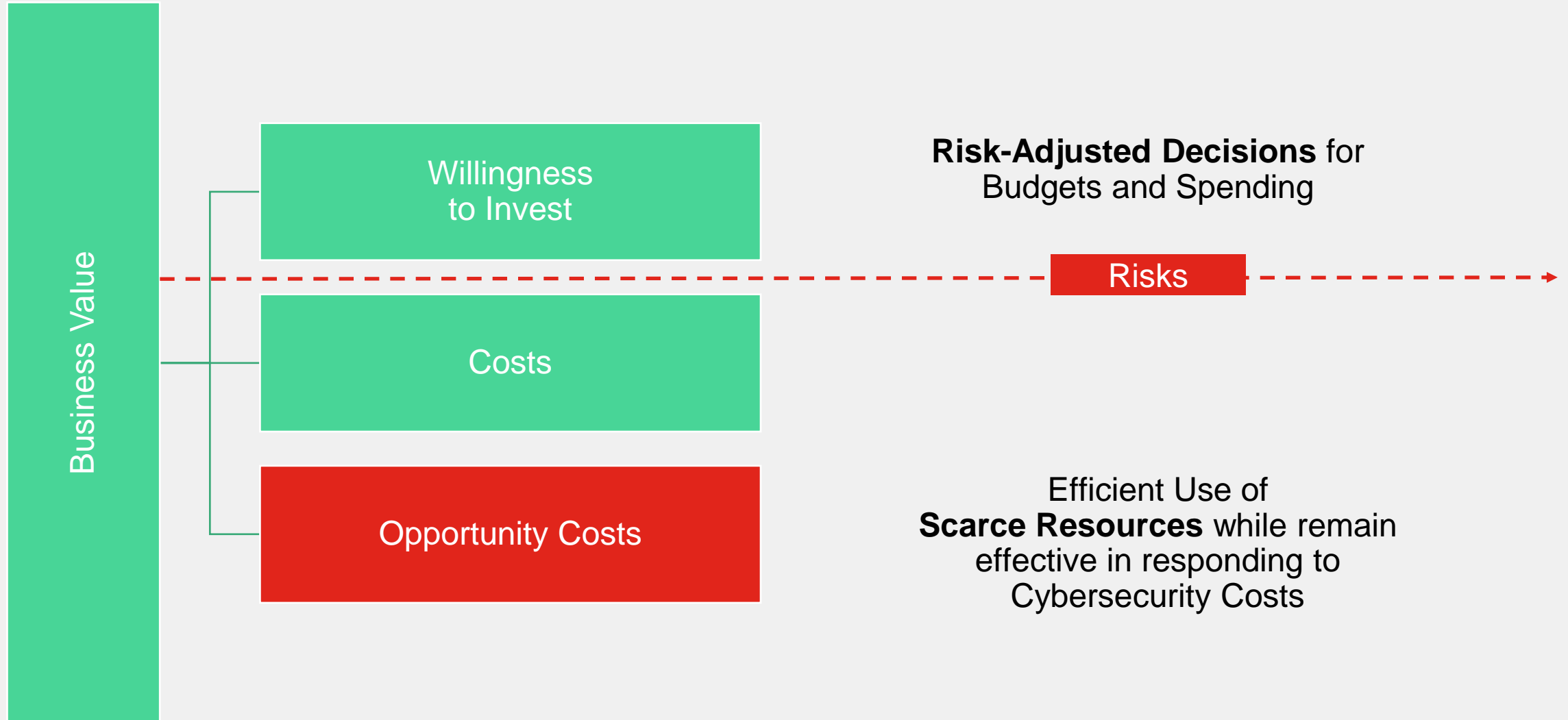
Physical Risks



Operational Risk

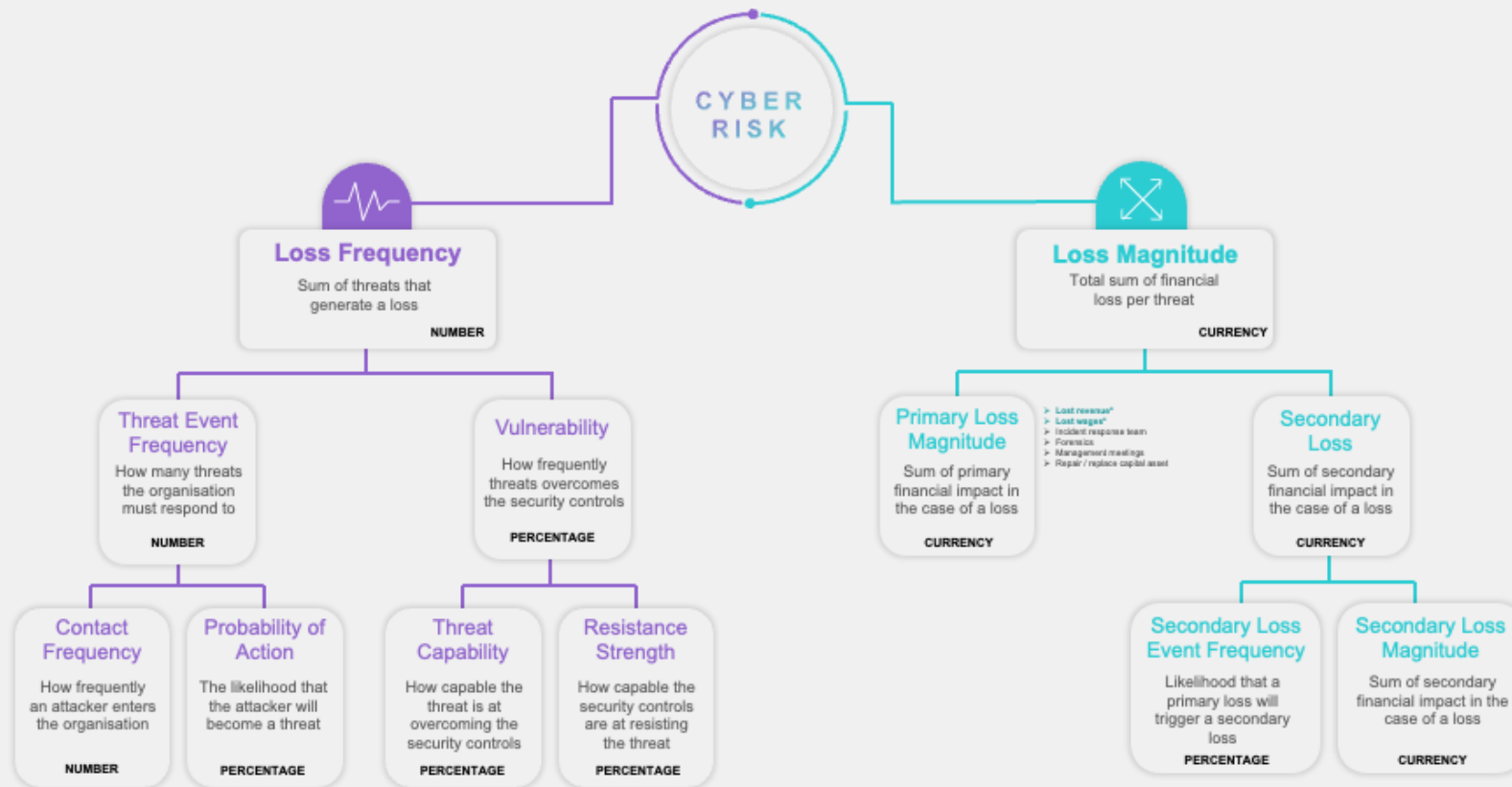


# How to Create Value in While Maintaining Adequate Cybersecurity Risk Posture





# Re-Think How Risks are Identified in the Maritime Sector



<https://www.opengroup.org/>

The Goal is to provide quantitative information that trigger **constructive discussions** about cybersecurity risks and impact on the business

**Align** with CFO and other Top Executive perspective's when discussing about **investment** and its **return** on Cybersecurity

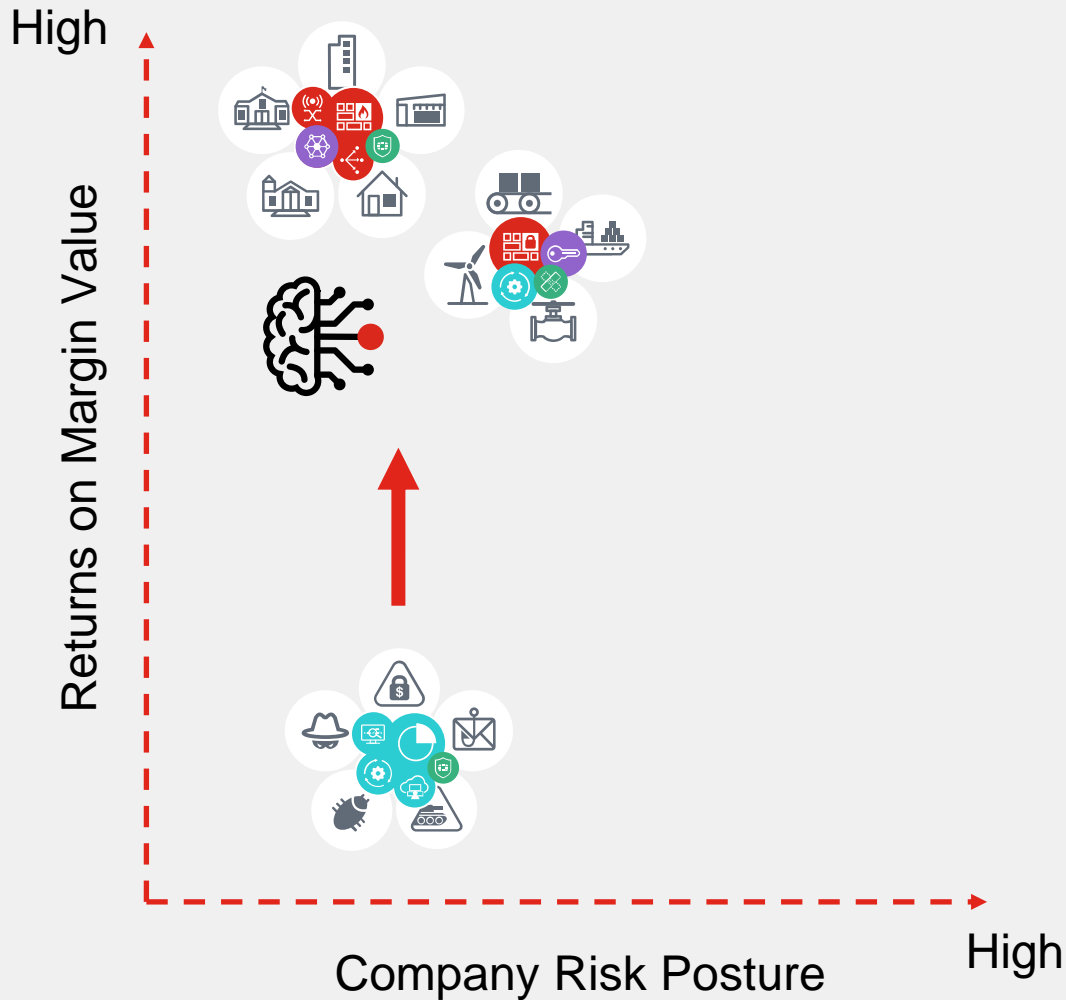


# Utilize the Opportunity Costs to Prioritize Risk Driven Decisions



1. Focus on the long-term and re-adjust in the event of major risk (i.e.: Geopolitical, Technological, Regulatory)
2. Allocate resources on the desired risk posture
3. Financial Metrics are important, cybersecurity impact also.

# Potential Investment to Prioritize on The Medium-Long Terms in The Maritime Sector



- Universal ZTNA
- Secure Access Services Edge (SASE)
- Enhanced Detection (XDR)
- Secure SD-WAN & 5G



- Converged Security Operations
- AI-Powered Services



- External Attack Surface Management
- Adversary Centric Intelligence
- Brand Protection



- SOC Augmentation Services
- Security Orchestration and Automation (SOAR)

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