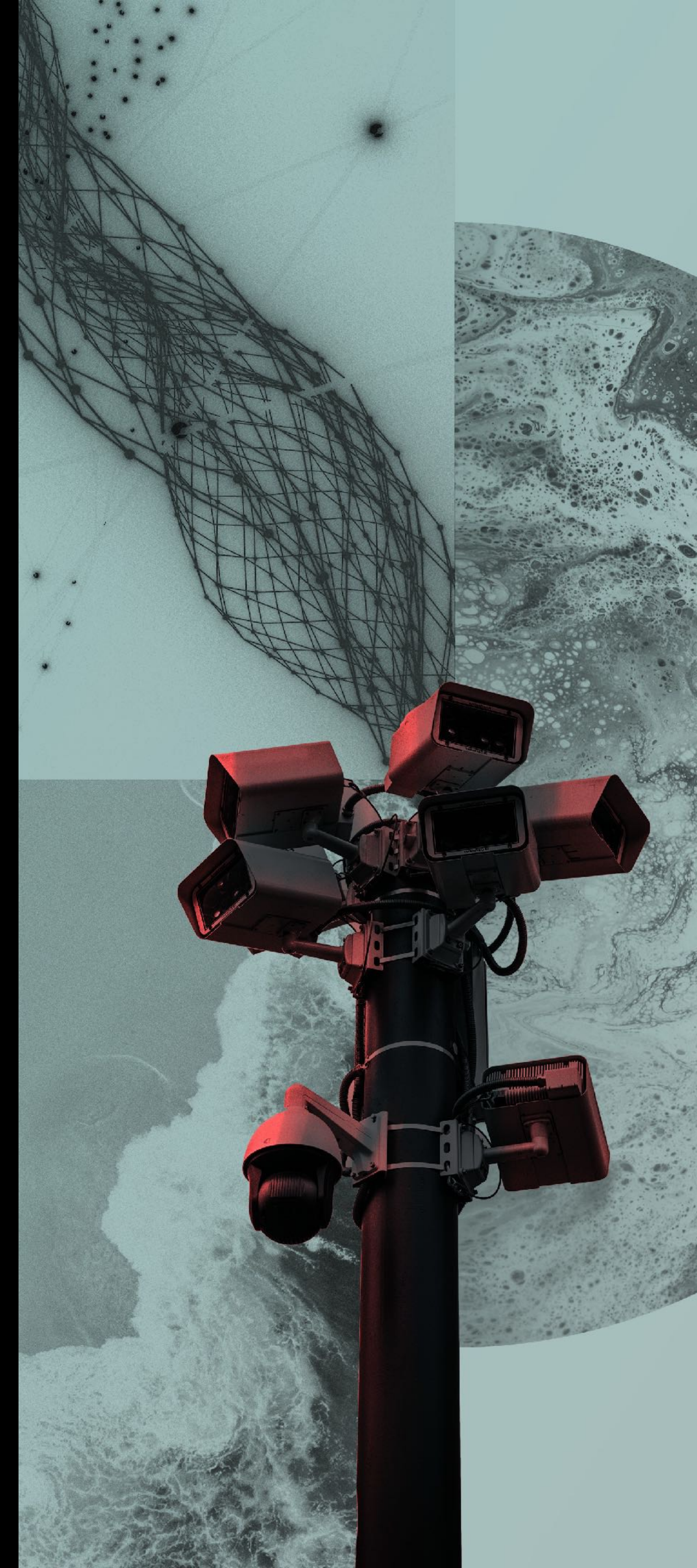# Multi-Domain Integrations: Case Finland
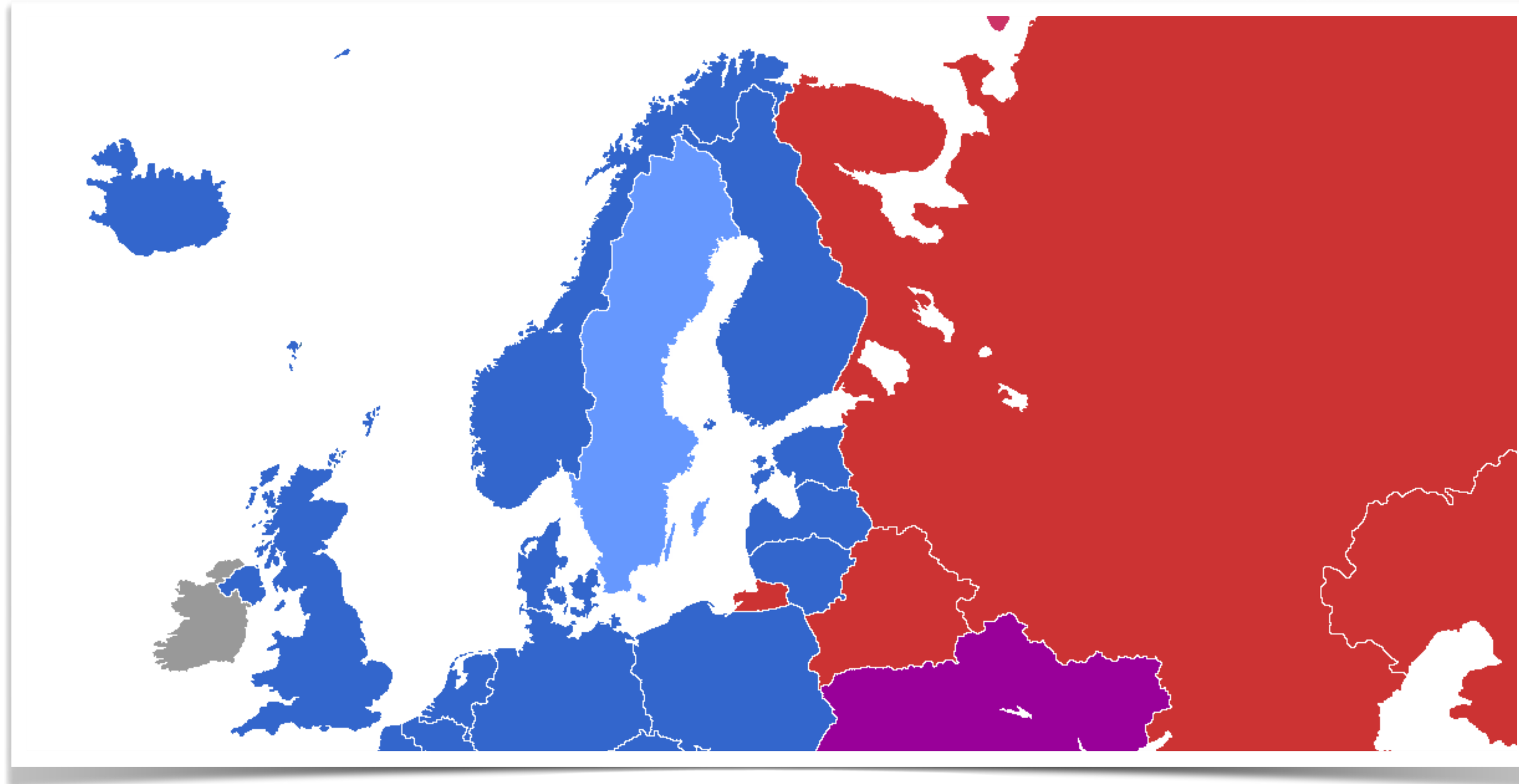
Leo Heng
Chief Strategy Officer

Reaktor Defence & Security
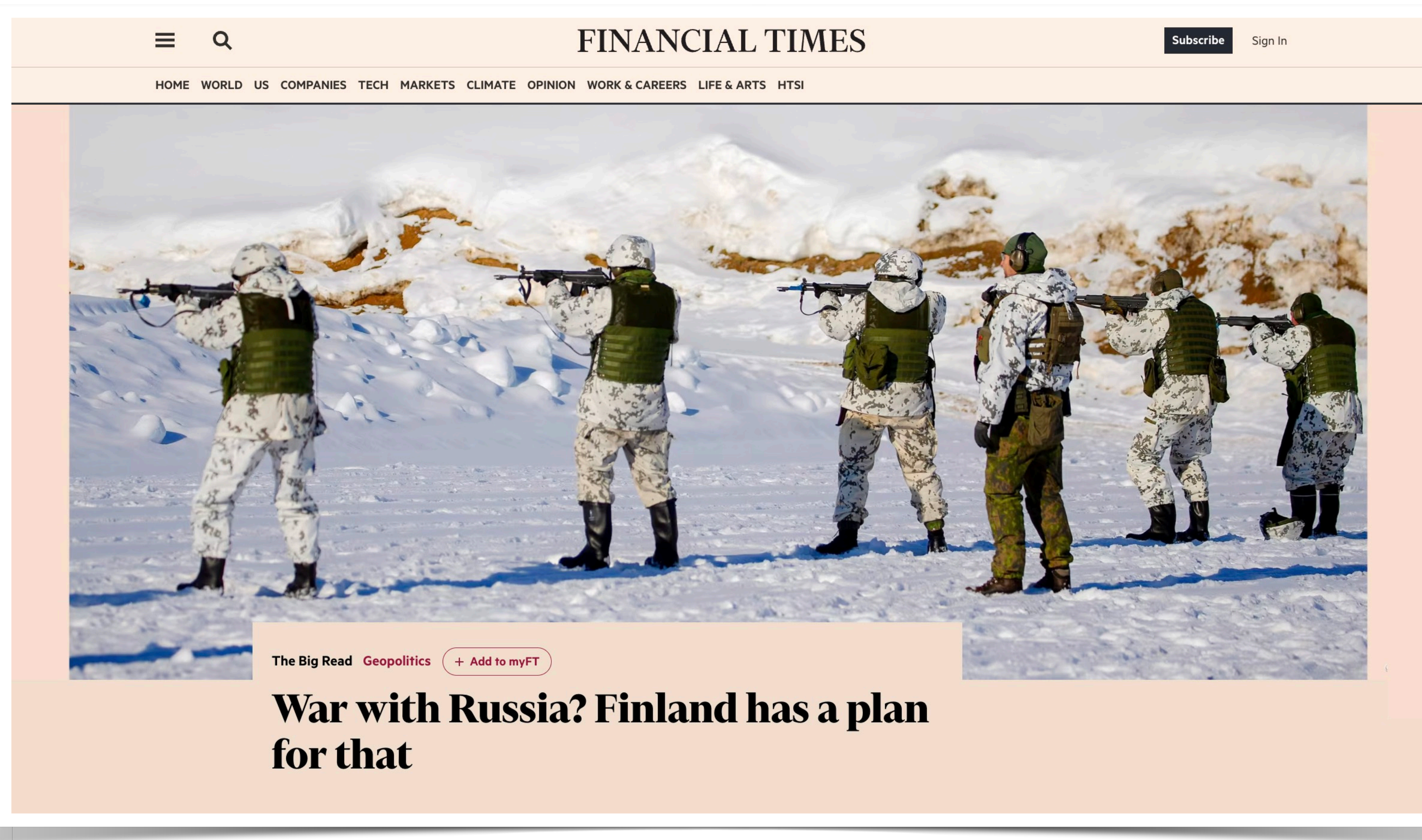
The Finnish "Unique Geopolitical Situation" and Related Solutions

The Concept of Comprehensive Security

Read the article at <u>Financial Times, March 28 2022</u>

The Concept of Comprehensive Security

Leadership

International and EU activities

Defence capability

Internal security

Economy, infrastructure and security of supply

Functional capacity of the population and services

Psychological resilience

COMPREHENSIVE SECURITY

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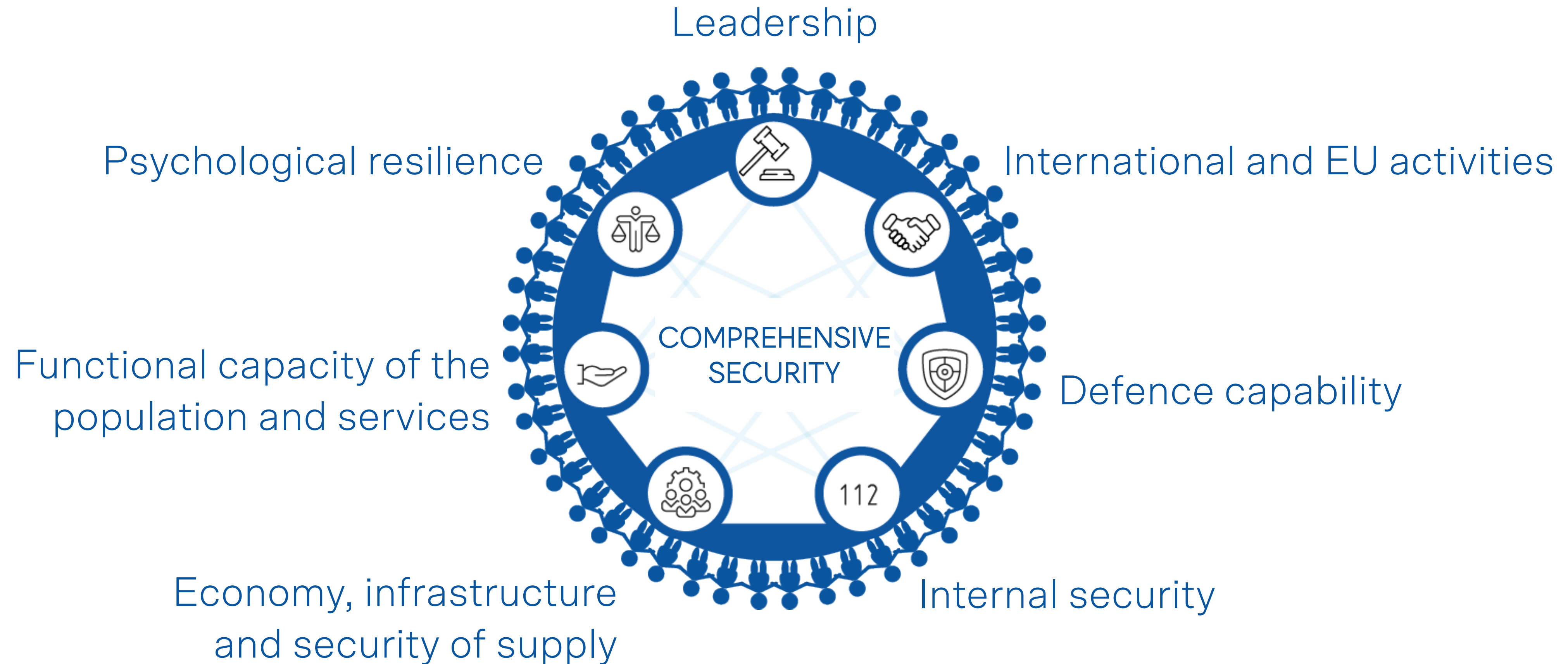
Industry–Government Dialogue

One-to-One: very open capability development and active dialogue

Association of Finnish Defence and Aerospace Industries (AFDA): industry lobby

Digital Defence Ecosystem: business-driven co-operation, quick to act

Digital Office: "ecosystem" run by a single company

FDF (MoD)
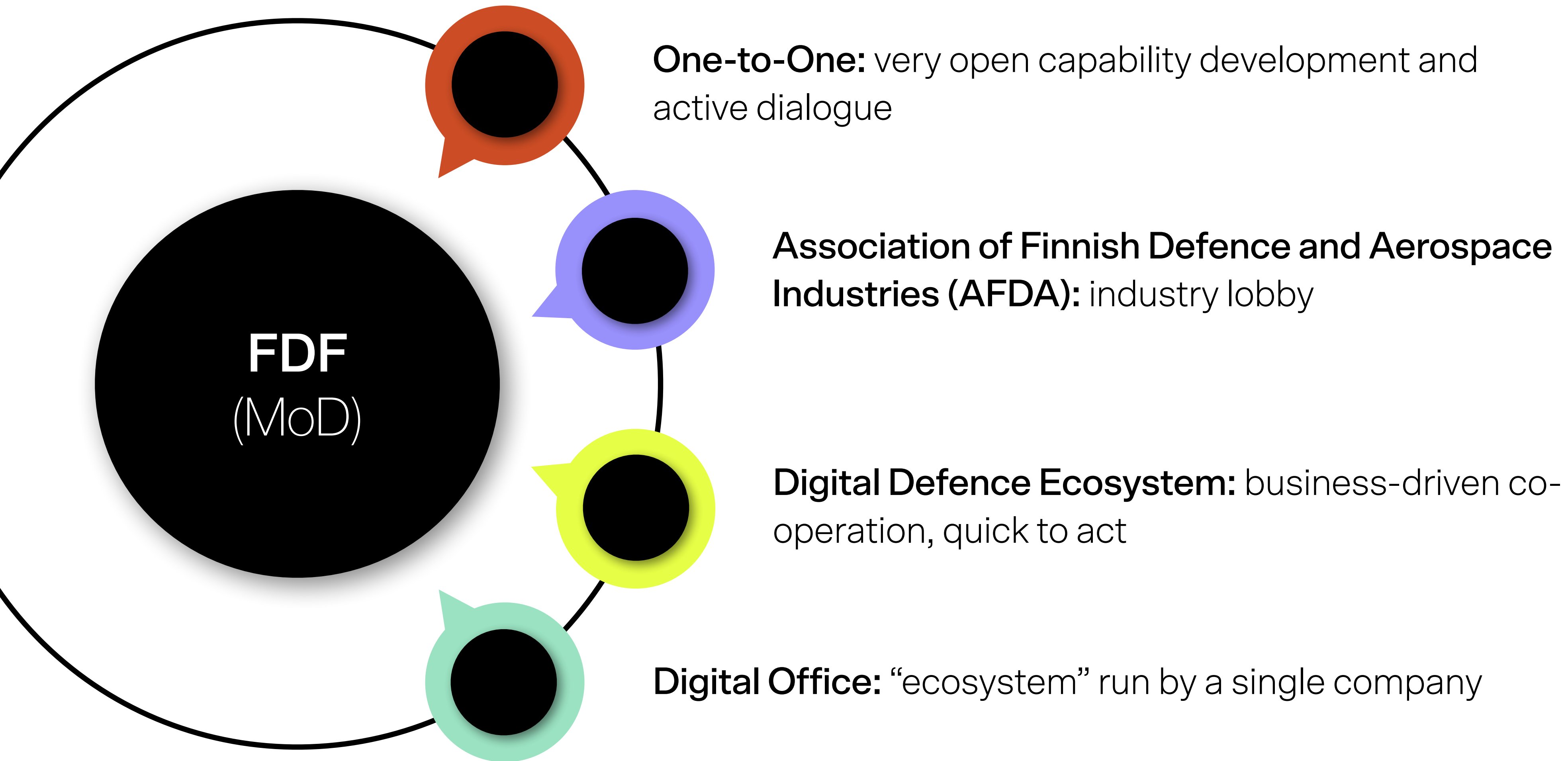
Integrations Create Capability

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Knowledge is Power

Observe

OODA
Loop

Act

Orient

Decide
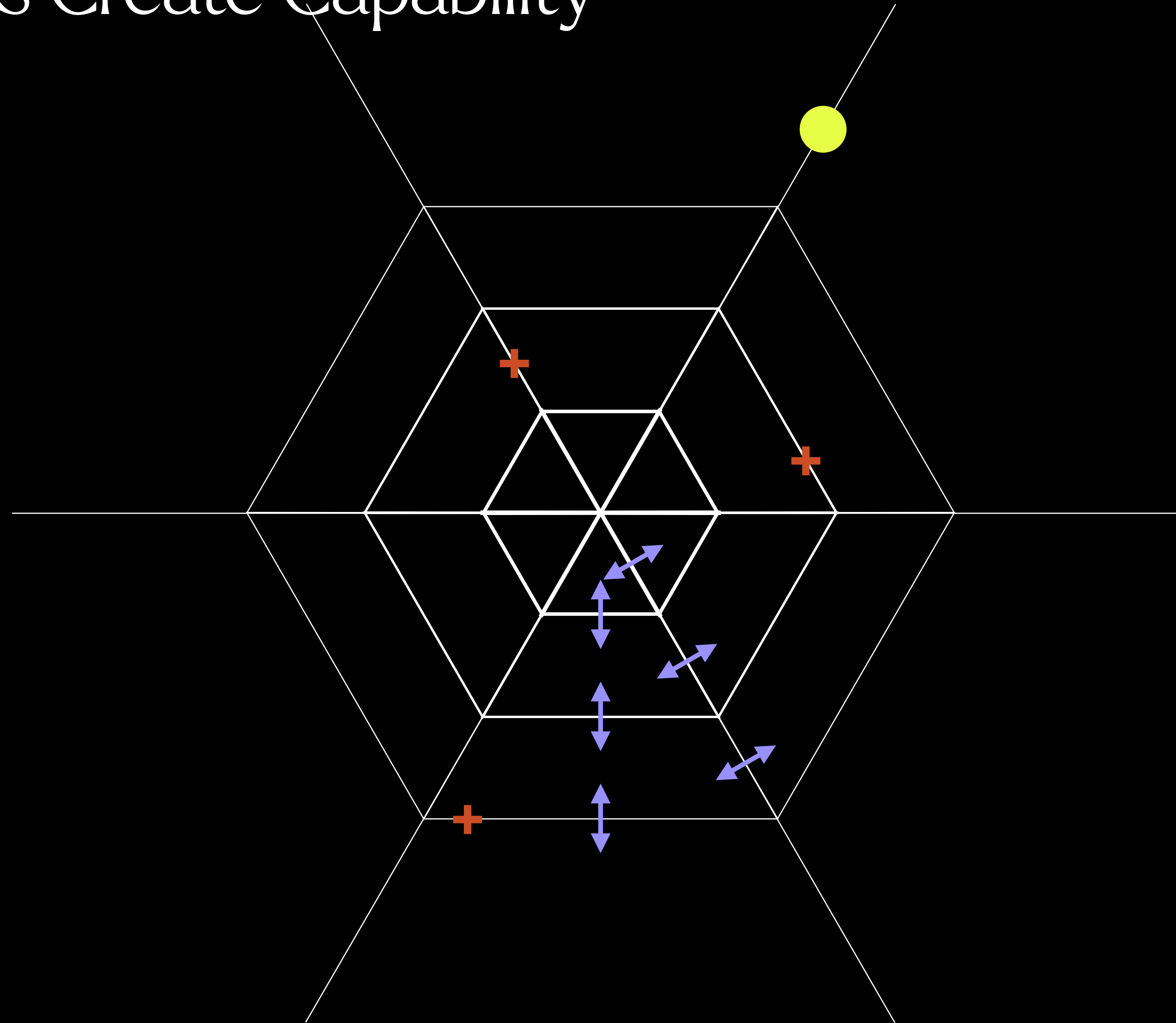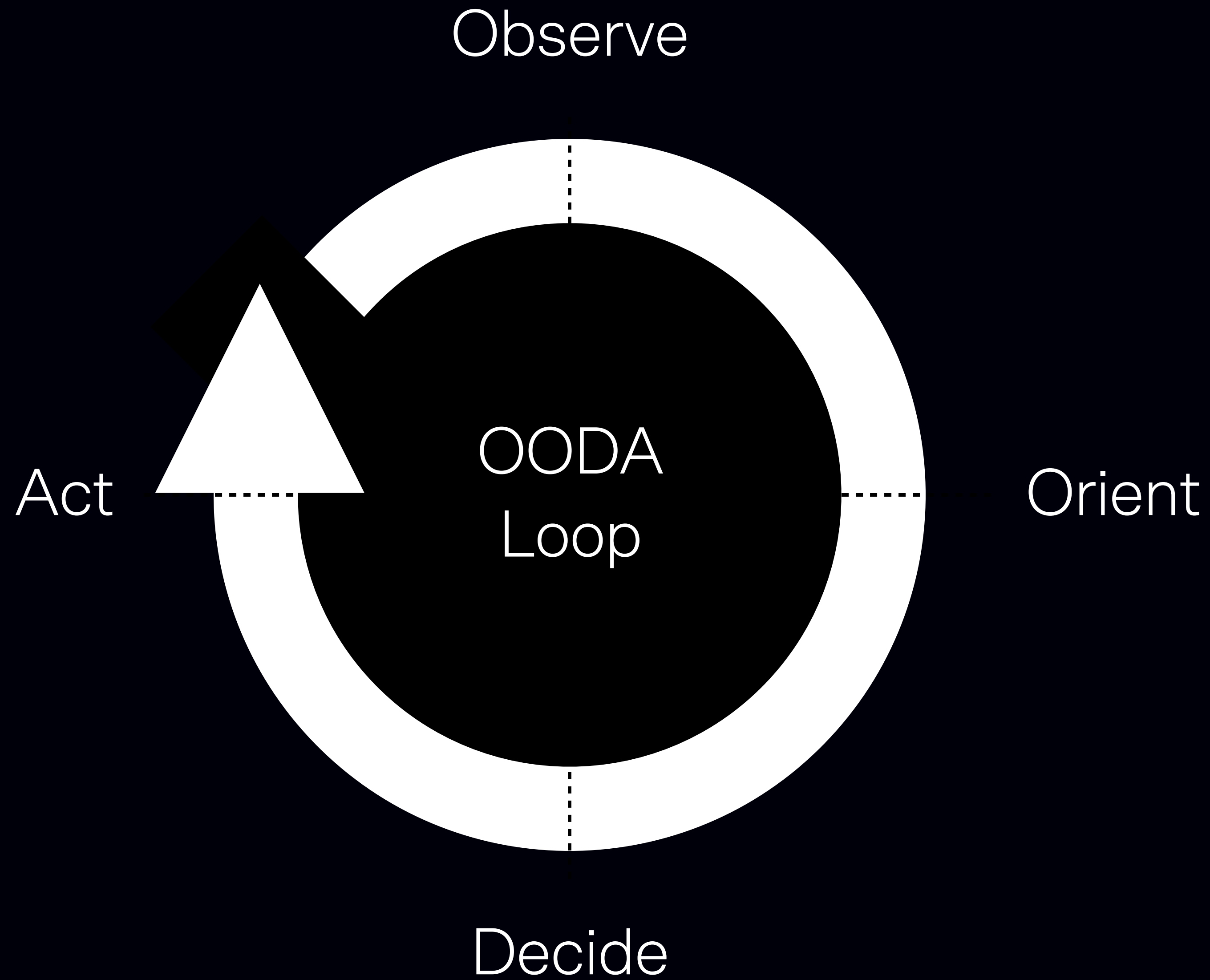
Information fusion and the Knowledge Pyramid

Wisdom	Situational understanding
Knowledge	Situational awareness
Information	Common situational picture
Data	Sensor data
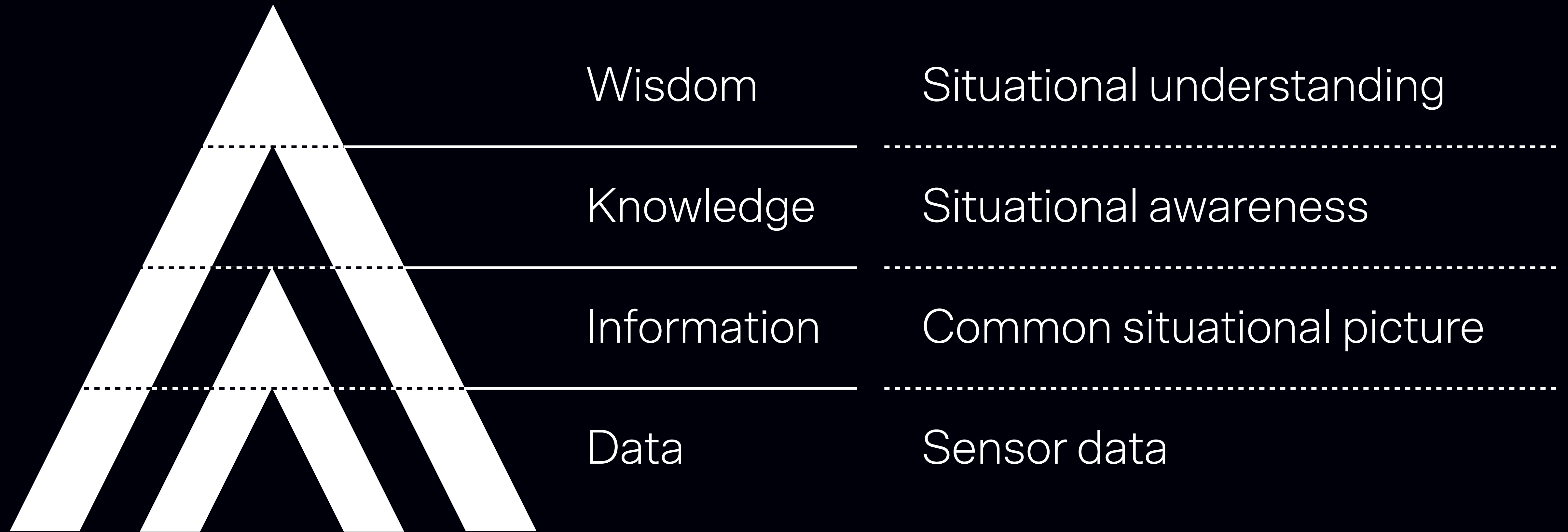
Technology and Connectivity

Finland is capitalising on NATO Federated Mission Networking (FMN), Coalition Shared Data (CSD) and Cross-Domain API Gateways.

FMN solutions enable the FDF to share information both with allies and between all services, creating any sensor to any shooter capability. With the upcoming F-35 adoption, starting in 2026, the net effect will be even greater.

The intelligence requirement management, collection management and tasking are also being handled in a unified way and through a single interface both with allies and between all services, creating a transparent process of searching and requesting information. This streamlines utilising the information already available, and makes it equally easy to use any assets available, own or foreign, for gathering new data.

Requests and data resources are directly linked at the speed of relevance, again, in a fully transparent way. This tightens the OODA loop considerably.

System integrations are created through Cross-Domain API Gateways, facilitating machine-speed interactions between systems and eliminating the need for human involvement.

Data storage solutions for all the necessary information must handle petabytes of data at an extreme volume in secure on-premise implementations.

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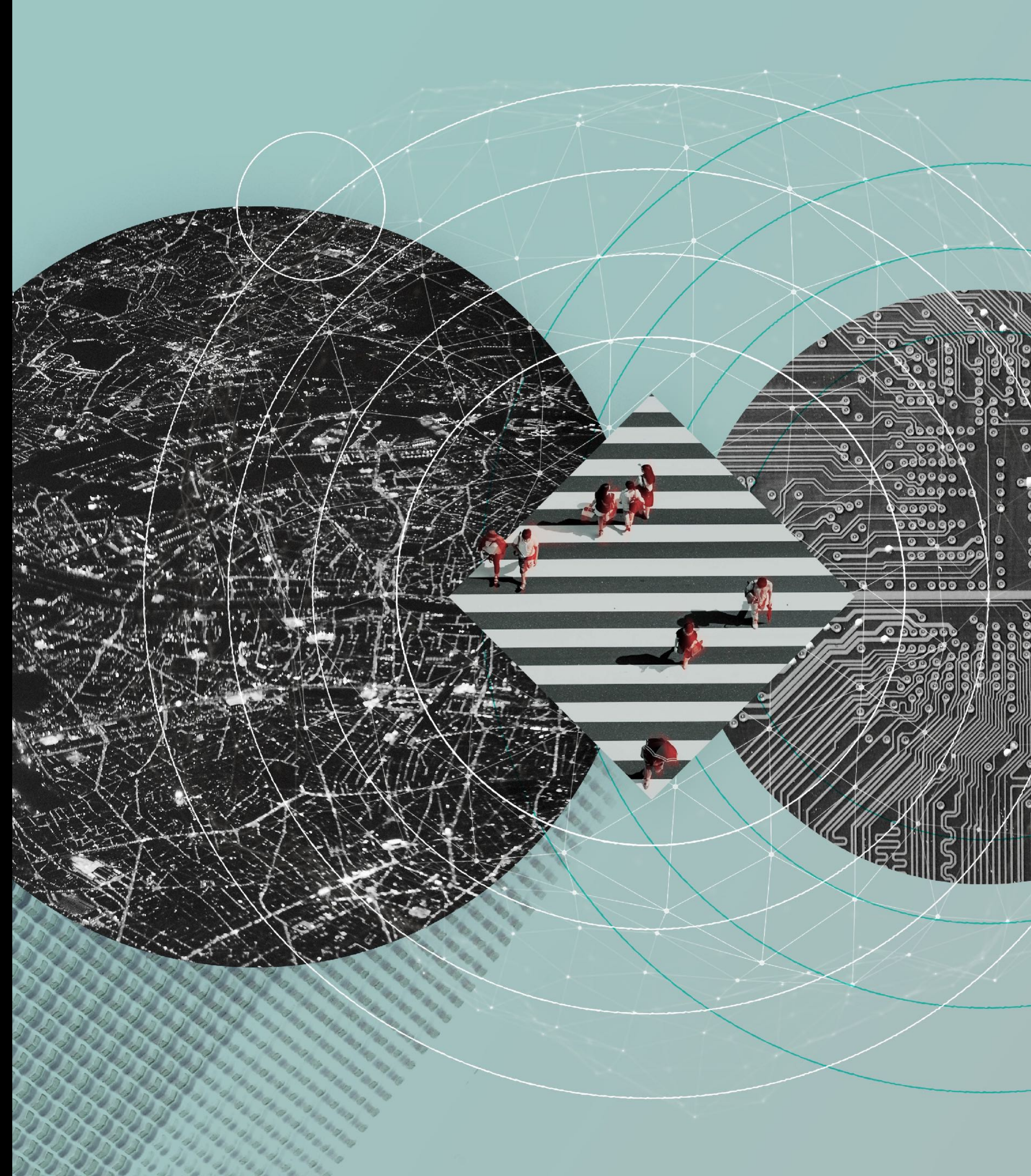
Processing and Processes

Usability is capability, for both humans and Artificial Intelligence.

Technical access to all the data in the world doesn't do any good, unless it's presented in an understandable way. The cognitive process of building situational awareness and understanding is most efficient when coupled with state-of-the-art visualisation and both human and AI processing. It's important to understand the context and requirements of the users.

The context often necessitates information from all the domains, own resources, the enemy, and the surrounding environment. All of this should be available in one place as a coherent whole – and since there's so much data, AI processing is quickly becoming indispensable.

Knowing the requirements means knowing the users, both as individuals and organisations. Building technological systems and solutions is easy, but it's far harder to change the way people and organisations behave.

Utilising the latest B2C user-centered methods in the defence and security domain, agile development and working together in a close partnership give an advantage in leveraging the digital tools.

Questions, Answers & Contacts

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