

Luxembourg Defence Technology and Innovation Community – Activities 2023 and Outlook 2024

Luxembourg, 12 December 2023



LUXINNOVATION

#MakingInnovationHappen



LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère des Affaires étrangères
et européennes, de la Défense, de la
Coopération et du Commerce extérieur

Direction de la défense

Welcome



Benjamin Questier
Director R&D and Innovation
Support & Digital Transformation
- Luxinnovation

Luxembourg Defence Technology and Innovation Community - Activities



Alexander LINK

Defence Technology and
Innovation Coordinator -
Luxinnovation

Agenda

10:00 – 11:30

10' Luxembourg Defence Technology and Innovation Community Activities - Alexander Link

40' Joint Defence Call Initiative - Rebecca Damotte

European Defence Agency - Julien Silverio

European Defence Fund - Aziliz Guérin

NATO Innovation Accelerator and NATO Innovation Fund - François Koch

10' Outlook on 2024 activities – Alexander Link

20' Q&A



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Direction de la défense

Luxembourg Directorate of Defence – Luxinnovation Collaboration

- **Creation (and animation) of a Luxembourg Defence Technology and Innovation Community**
- **Integration of Luxembourg Industry and Research into European Defence Value Chain (within EU and NATO)**
- **Promotion of Luxembourg Industry & Research Defence Capabilities at international level**

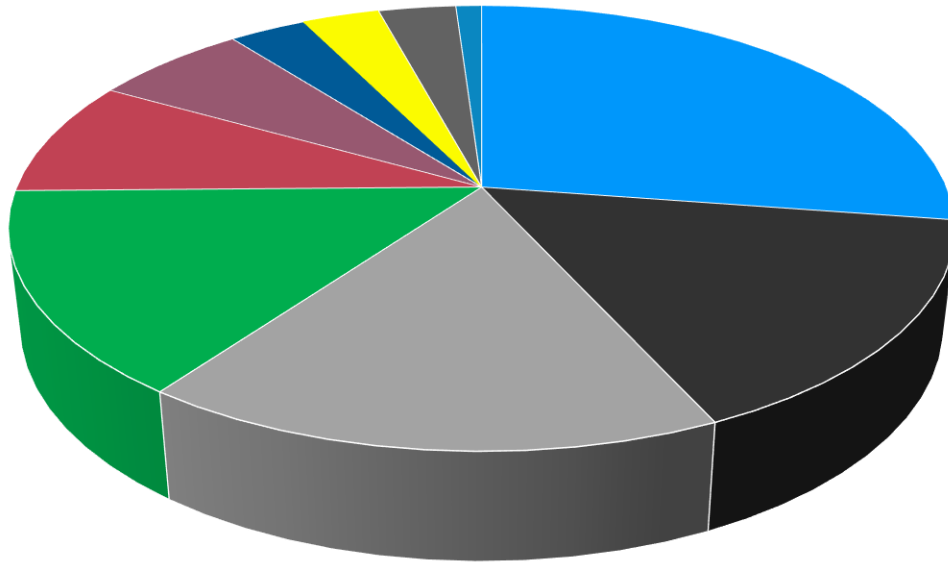


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Direction de la défense

Luxembourg Defence Technology and Innovation Community

- Close to 100 companies and research organisations from Luxembourg
- More than 45 are implicated in national, European or International (NATO) R&D and Innovation Defence Initiatives (including R&D)



[Luxembourg Defence Capabilities: industry and research \(Catalogue 2023\)*](#)

*To be updated in 2024

■ Space ■ Cyber ■ Materials ■ Energy&Environment ■ Land ■ Simulation ■ Information ■ Air ■ Optronics ■ CBRN

Integration of Luxembourg Industry and Research into European defence value chain (within EU and NATO)

➤ **Stream 1:** via national, EU and NATO initiatives



National Joint Defence Call initiative:

development of **dual-use technologies** that meet the needs of **European Security and Defence** in **priority domains** of the Luxembourg **Directorate of Defence**



European Defence Agency (EDA): Capability Technology Working Group ("CapTech" in charge of developing jointly **EU future Defence Capability Technologies**, supported financially by **Ministries of Defence**

European Defence Fund: 8 Billion EUR fund of the **European Commission** to finance collaborative **defence flagship projects** targeting **operational use in 2028**



NATO Defence Innovation accelerator for development of **dual-use technologies** in Defence
- 10+ accelerators across the Alliance, with more planned over the coming years
- 90+ test centres (with more planned)



NATO Innovation Fund: EUR 1 billion **venture capital fund** supporting **dual-use** technology start-up and SMEs in emerging and disruptive technologies such as **artificial intelligence (AI)**, **biotechnology**, **energy & propulsion**, **manufacturing**, and **space**.

Stream 2 via international industry partnerships (bilateral, multilateral) in view of R&D collaborations



Supporting the creation of collaborations between LU and **Partner Country industry** in view of EDA and EDF R&T and Capability Development projects as well as raising the awareness of Luxembourg Industry Capabilities at EU Prime contractors from relevant countries



*20 June 2023: Luxinnovation, the Belgium Security and Defence Industry (BSDi) Association and the Netherlands Industries for Defence and Security (NiDV) Association sign a **joint declaration on collaboration in defence** (Space, Cyber and Novel Materials)*



Promotion of Luxembourg Industry & Research Defence Capabilities at international level

➤ **Stream 1:** fairs with large LU Pavilions enabling delegation visits



MARCH 2024, LILLE

CYBER - LHC, LXI and Chamber of Commerce



JUNE 2024, PARIS

all domains – LU DoD, LXI and Chamber of Commerce



JUNE 2025, PARIS

SPACE & AIR – MECO, LSA, LXI and Chamber of Commerce



SEPTEMBER 2025, LONDON

all domains - LU DoD, LXI and Chamber of Commerce

➤ **Stream 2:** symposiums and defence innovation days in the frame of the European Defence Agency (Small to medium-sized LU Pavilions coordinated by National Defence Industry Associations of EDA Member States)

Joint Defence Call Initiative



Rebecca DAMOTTE

Defence Innovation &
Technology Advisor -
Luxinnovation

Joint Defence Call Initiative

Background

Why a Joint Defence Call initiative?

- EU Member States have to invest 2% of their defence efforts into R&D
- Cooperation between Directorate of Defence (DoD)– Ministry of the Economy, Ministry of Higher Education and Research – National Research Fund – Luxinnovation
- Call for proposals will help the DoD
 - to get closer to the budgetary objectives
 - to offer national actors a possibility to acquire a first experience in the defence domain

Defence Policy Orientations

- Support the development of dual-use technologies
- Defence efforts: benefits at national level
- Stimulate research in new technologies:
 - Spill-over effect on the civil sector
 - Green transition
 - Strategic positioning of economy and research in the defence value chain

Joint Defence Call 2022

Background

[Link to past edition](#)

Recall on key elements

- Targeted research domains: **Space** and **Materials**
- Targeted public:
 - National companies
 - National research organisations
- Allocated budget by Luxembourg Defence to the Joint Defence Call: **9,5M€** (2022-2024)
 - 4,5M€ Fonds de l'innovation
 - 5M€ Fonds national de la Recherche
- Funding of retained project for maximum 3 years

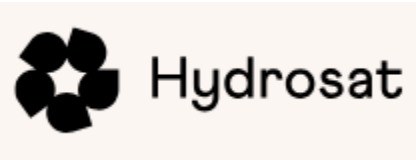
Results of the JDC 2022

- Phase 1: 60 project idea proposals
 - 16 proposals in SPACE
 - 44 proposals in MATERIALS
- Phase 2: 22 projects retained for evaluation by independent expert panel
- **13 projects** retained for funding:
 - 5 projects in MATERIALS
 - 8 projects in SPACE

Joint Defence Call 2022 -Winners

Background

Space

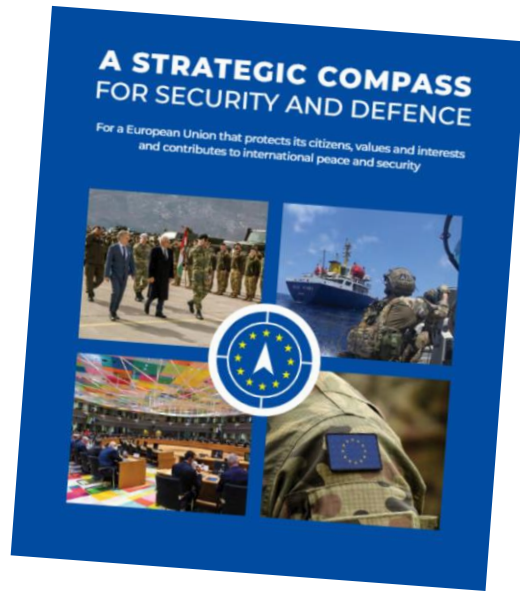


Materials



Major Developments since 2022

EU Defence and NATO



Strategic Compass for the European Union (Security and Defence) - 2022
– *European External Action Service*
(derived EU strategies for Climate Change, Space, Cyber, Critical Infrastructure in Defence)



EU-NATO Cooperation - Joint Declaration 2023 - NATO & European Union
on **military mobility, resilience & protection of critical infrastructures, emerging and disruptive technologies, security implications of climate change, space, foreign information manipulation and interference**



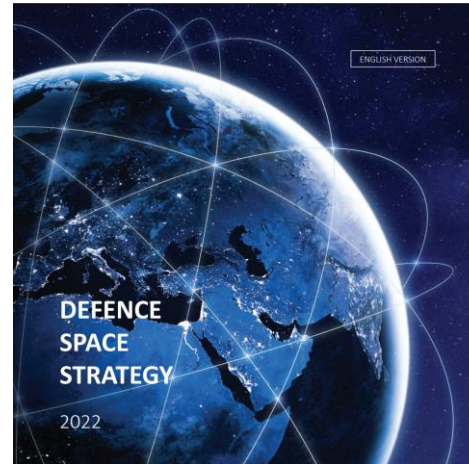
EU Capability Development Priorities - 2023 - European Defence Agency
on **LAND, AIR, SPACE and CYBER** as well as strategic enablers and force multipliers **Military Mobility, Critical Infrastructure Protection & Energy Security, Persistent & Resilient C4ISR**

Luxembourg Defence Strategies 2021 - 2023

Background



2021



2022



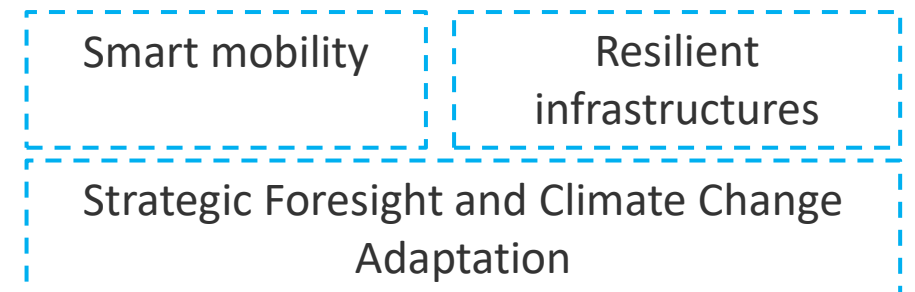
2023

Relevant to Luxembourg **Economy and Research Priorities** related to **Space, Cyber, Automobility , Materials and CleanTech Sectors**

Joint Defence Call 2024

- Announced during the [Press conference](#) by François Bausch (Minister of Defence), Claude Meisch (Minister of Higher Education and Research) and Franz Fayot (Minister of Economy) 20 July 2023

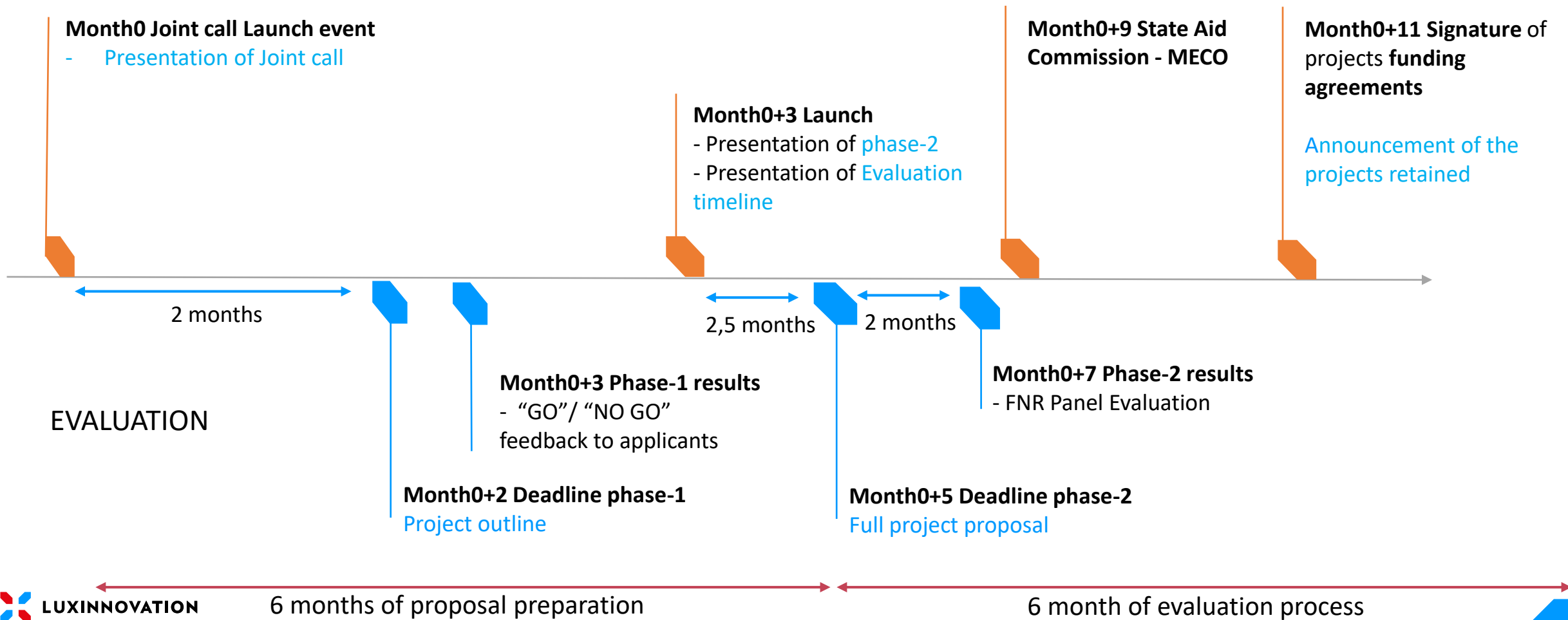
- 2nd edition
- **13,8 Mio EUR** for R&D in Dual-technologies for Defence
- Joint Initiative MECO, MESR, FNR, LUXINNOVATION and Luxembourg DoD
- National only (public-private partnerships)
- Targeted Domains in SPACE, CYBER, LAND and AIR



Joint Defence Call Initiative

Generic timeline

PROMOTION



European Defence Agency



Julien Silverio

Defence Capability and R&T
Manager –
Directorate of Defence

WHO WE ARE & WHAT WE DO



Intergovernmental Agency
of the Council of the European Union



Established in 2004
Based in Brussels

DESIGNED TO

1 Main intergovernmental
**prioritisation
instrument**
at EU level in support of
defence capability
development

2 Preferred
cooperation forum
for technology and
capability development

3 **Act as a
military interface**
between Member States
and EU wider policies

EDA AT A GLANCE

Only EU Agency whose Steering Board meets at ministerial level



EDA Steering Board

27 Defence Ministers

chaired by



Josep Borrell

Head of Agency, HR/VP



Chief Executive EDA



+180 staff

Connected with 2,500 experts in Member states



27 Member States

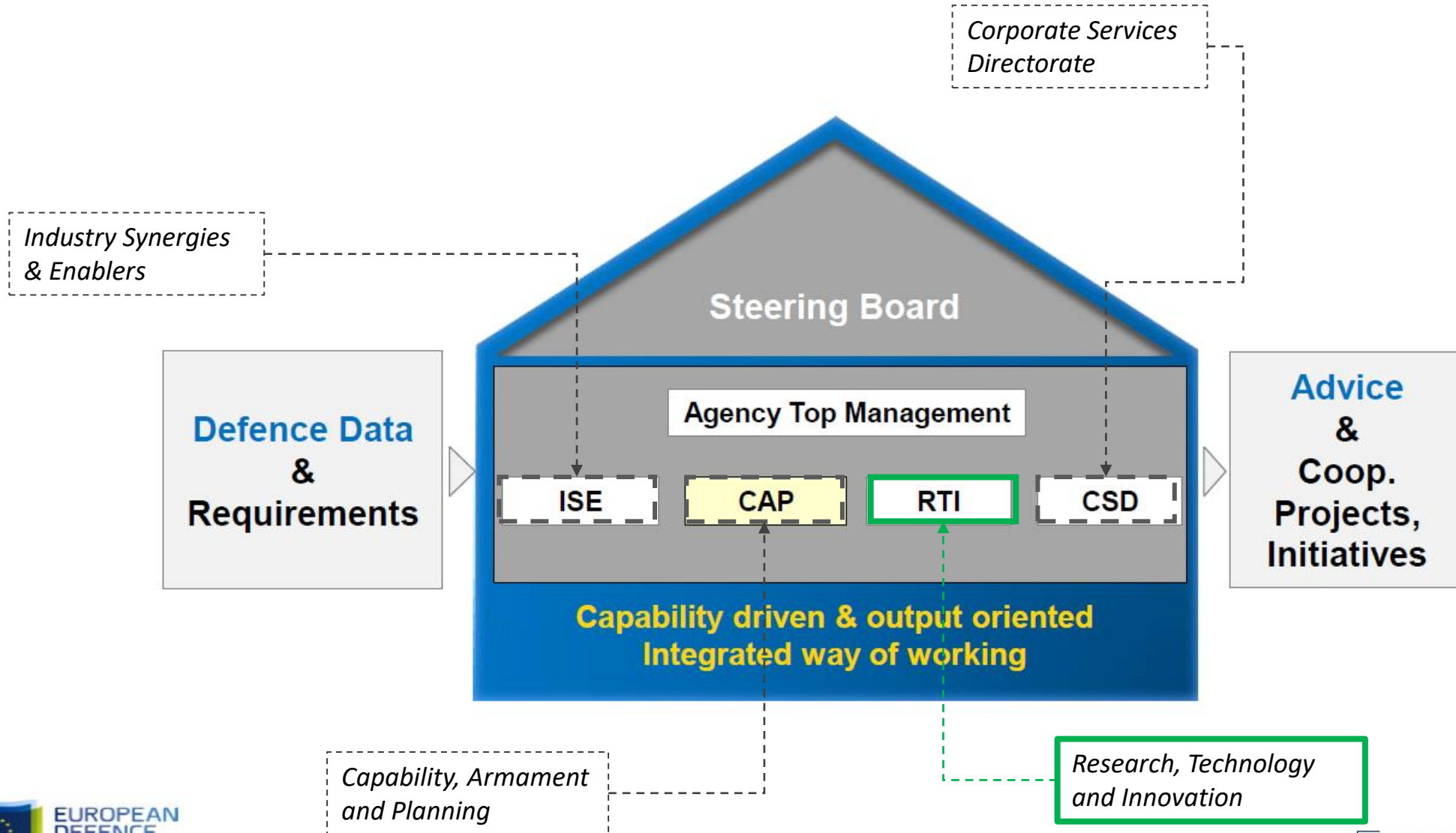
(All EU Member States except Denmark)



Administrative Arrangements

with Norway, Serbia, Switzerland and Ukraine

EUROPEAN DEFENCE AGENCY'S FUNCTION





EUROPEAN
DEFENCE
AGENCY



CapTechs



EUROPEAN
DEFENCE
AGENCY

What is a CapTech?

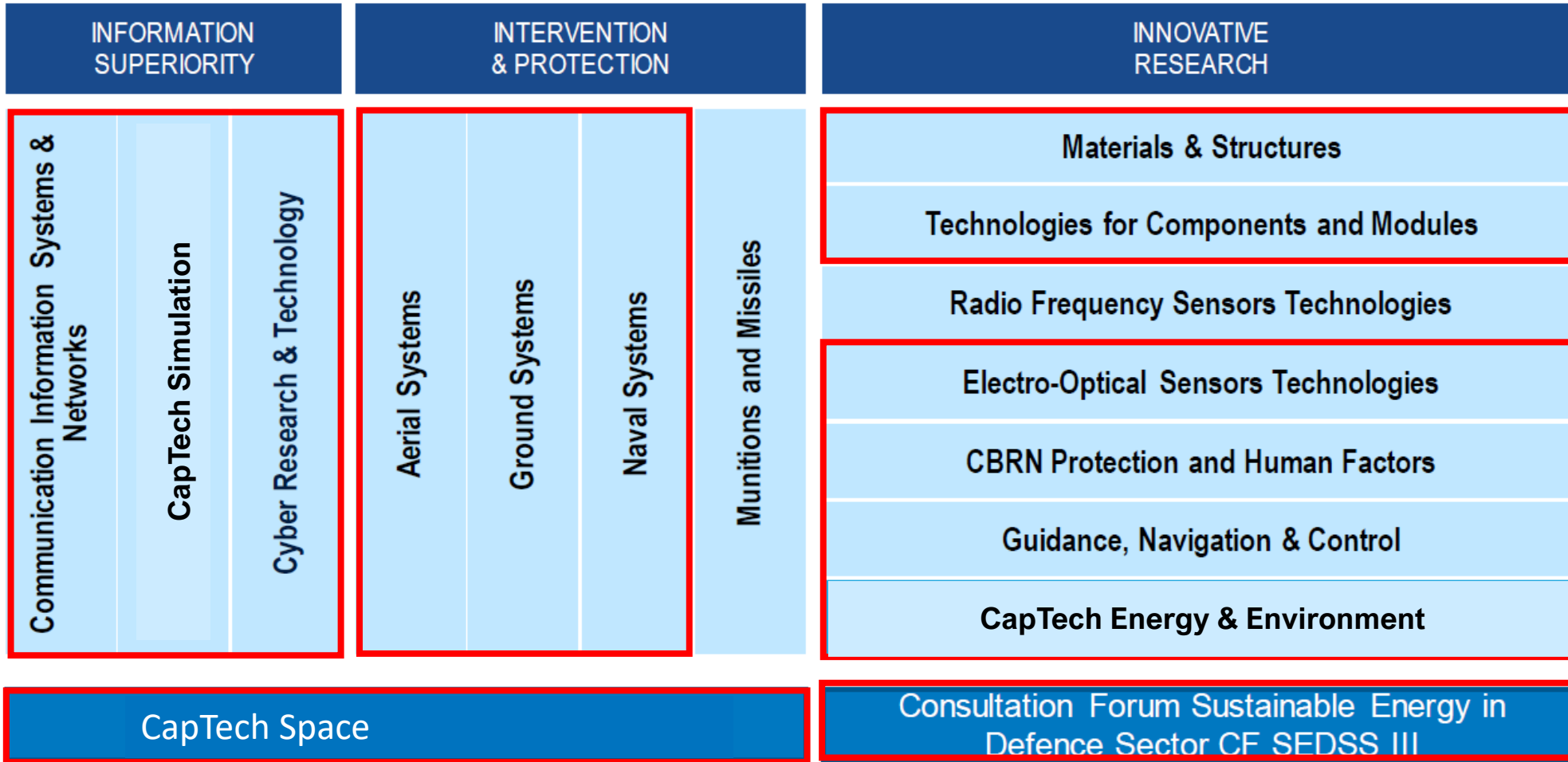
Collaboration between industries (& research) that is validated by MoDs

- Framework that enables the **creation of collaborative defence projects** ranging from appr. 1,5 -4 Mio EUR, fully funded by MoDs.
- 15 Capability Technology WG (“CapTech”): working groups, where **MoDs connect with the Defence Technology Community**, Technical experts from **EU 27 MoDs** and representatives from the **industry**.
- **Top-down** and **bottom-up approach** for proposing project proposals that meet the needs defined in the **EU Capability Development Plan**.
- Each year **15-20 projects** are endorsed with an overall value of **50-80 Mio EUR**.



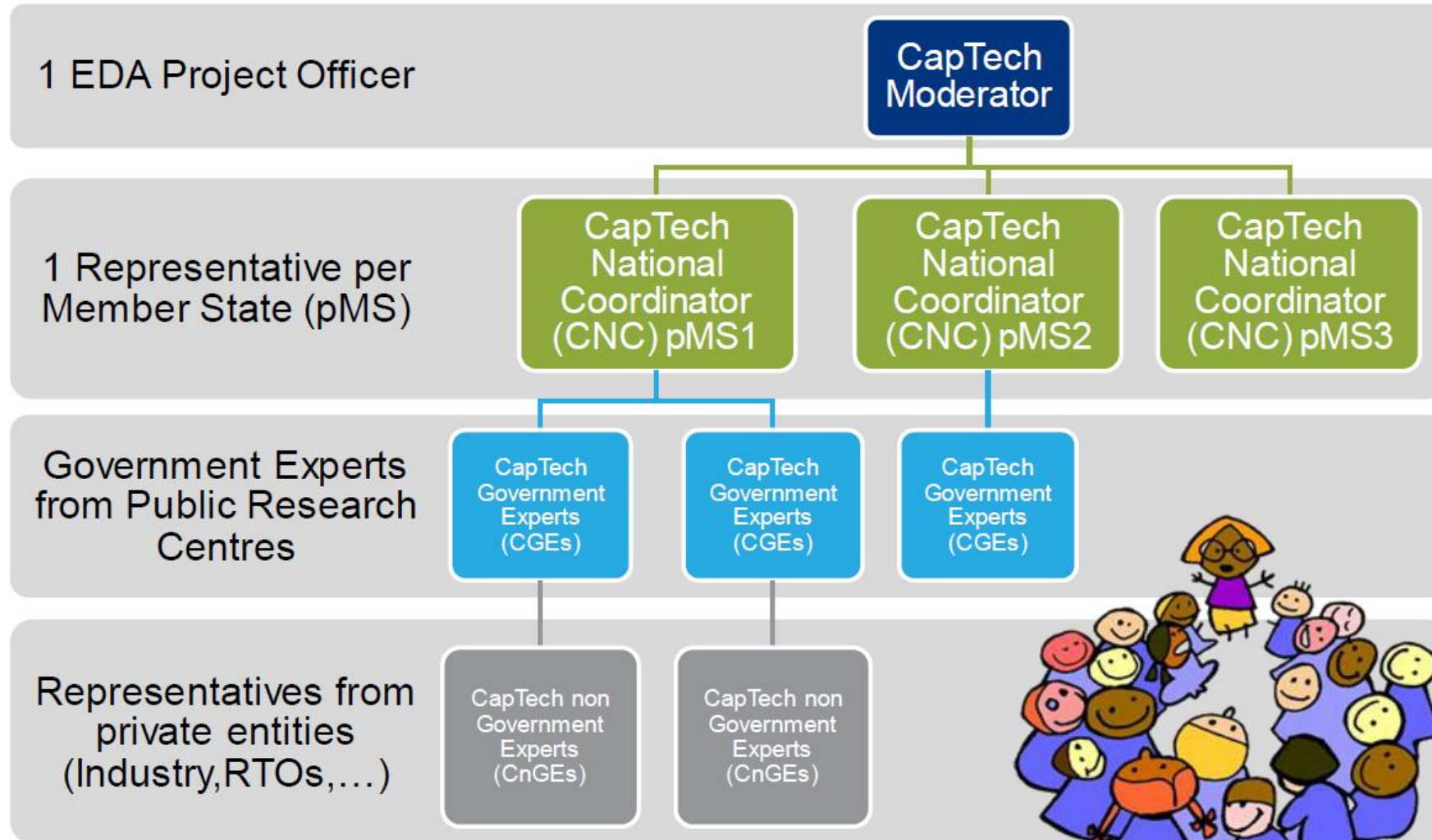
CapTechs and WG – Technology domains & networks

= LU Directorate of Defence (DoD) Priorities



The detailed technical coverage of each group is posted on www.eda.europa.eu

CapTech structure



What is a CapTech?

Principles

Particularity of CapTech

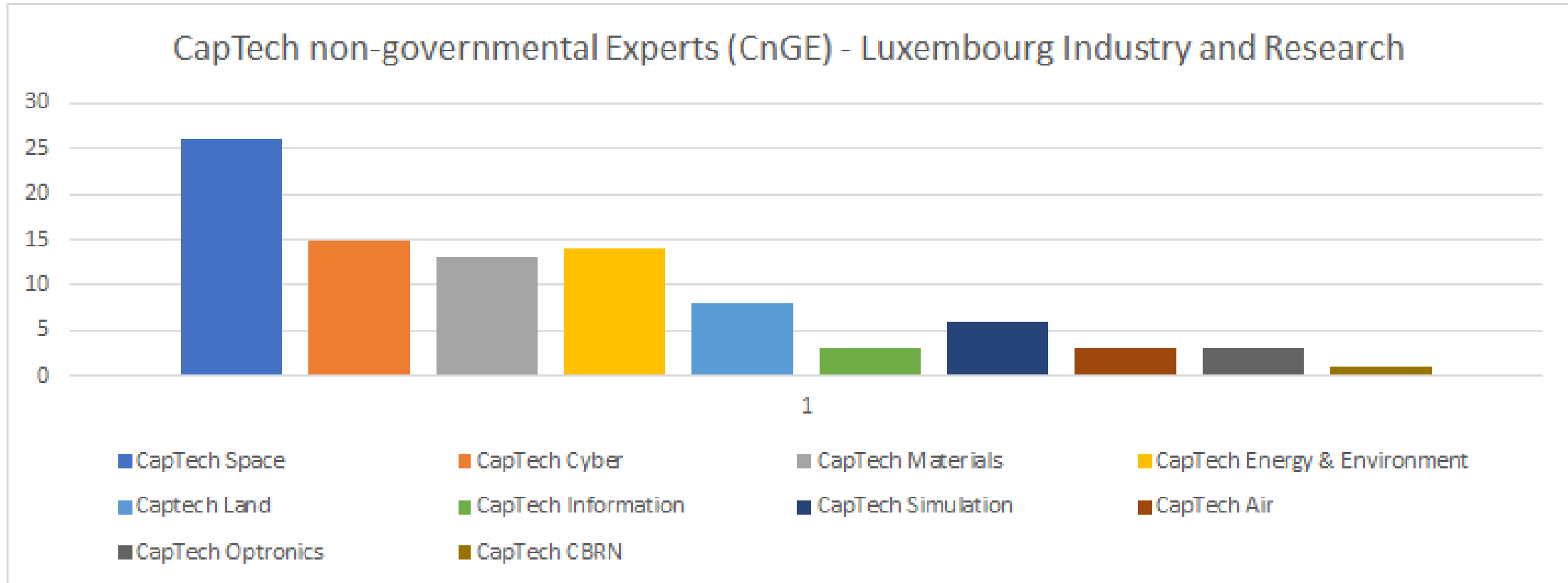
- **No competition**: once a company or research organisation has been validated as CapTech Member, the **Luxembourg DoD** - as Member State (MS) representative of the EDA - **decides who participates** to a project.
- While **2 Member states** can set-up **jointly a project** within a CapTech, the **approval** of each project goes **via the (R&T) Steering Board**.
- Direct exchange with **Prime Contractors** and **MoD representatives from EU 27**, ideal **platform** in view **European Defence Fund**

How to become a CapTech Member?

- Need to have **substance in Luxembourg – sufficient resources** (financial and human) to follow-up on defence initiatives
- **Due Diligence** by Luxinnovation
- **Technological competences** and **know-how** that are **relevant for defence**
- **Previous projects** with Luxembourg economy and research
- **Validation** by Luxembourg DoD

EDA CapTechs

Industry and Research



EDA CapTechs in Luxembourg

2 Meetings/year hosted by LU DoD – Luxinnovation – LU Industry



Ministries of Defence, Prime Contractors, Industry and Research from EU 27 - Roundtable for collaboration between industries and research validated by MoDs

- CapTech Space – June 2023
- CapTech Cyber – June 2023
- CapTech Materials – June 2024
- CapTech Energy & Environment Q4 2024
- CapTech Land - 2025 (?)
- CapTech Air – 2025 (?)



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Direction de la défense

European Defence Fund



Aziliz Guérin

DoD Attaché for EDA and EU Defence Industry

-

Luxembourg Permanent Representation to the EU



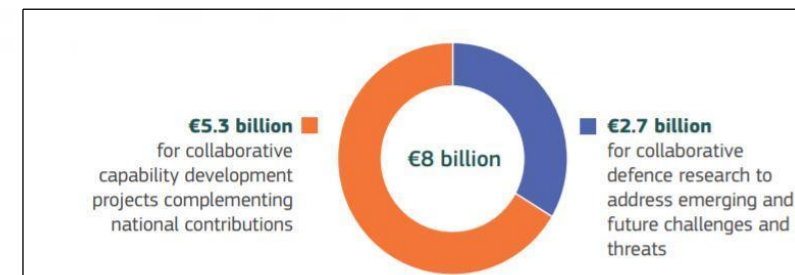
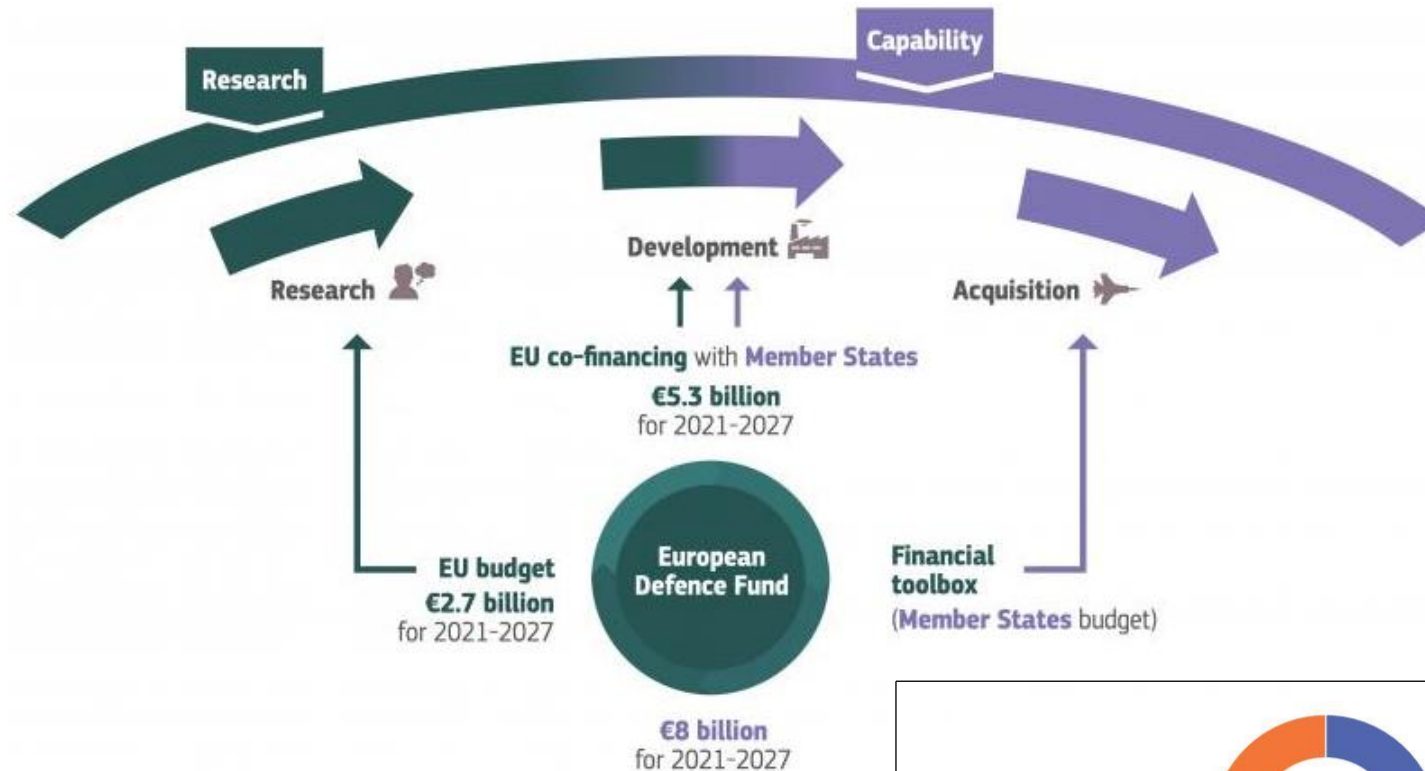
Luxembourg Defence Technology and Innovation Community

The European defence fund (EDF)

























12 December 2023

**Direction de la Défense (MAEED)
Aziliz GUÉRIN – National Delegate EDF**

1. What is it ?



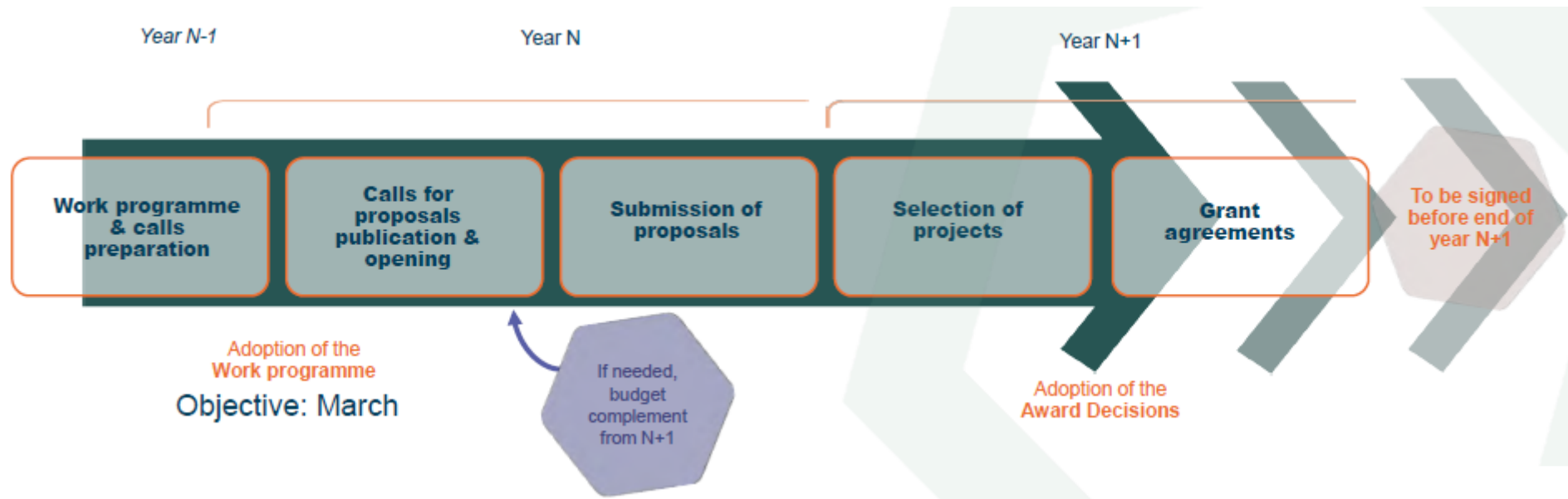
2. What's it offering ?

		Budget allocations (M€)				Budget allocations (M€)	
	Medical Response & CBRN	<ul style="list-style-type: none"> Federating CBRN systems 1st SGA/FPA medical counter measures 	15 25		Air combat	<ul style="list-style-type: none"> Smart technologies for next generation fighter systems  Self-protection systems 	30 33
	Information superiority	<ul style="list-style-type: none"> Laser communications  Tactical RPAS Detect and avoid  	17 42 40		Air & missile defence	<ul style="list-style-type: none"> Counter-UAS Endo-atmospheric interceptor (dual sourcing/direct award) 	43 80
	Sensors	<ul style="list-style-type: none"> Electromagnetic signal propagation Optronics detector Sensor grid 	22 20 27		Ground combat	<ul style="list-style-type: none"> Main battle tank  Long range indirect fire support  	20 27
	Cyber	<ul style="list-style-type: none"> Automation of security penetration tests Cyber situational awareness Deployable Autonomous AI Agent 	14 20 26		Protection & Mobility	<ul style="list-style-type: none"> Defeating unexploded explosive ordnances and IEDs Strategic air transport for oversized cargo 	25 20
	Space	<ul style="list-style-type: none"> Threats surveillance and protection of space assets Space situational awareness  	25 100		Naval combat	<ul style="list-style-type: none"> Modular and multirole patrol corvette  	154.5
	Digital transformation	<ul style="list-style-type: none"> Dedicated hardware architectures for energy-efficient AI Human language technologies (challenge, 2 topics) 	20 25		Underwater warfare	<ul style="list-style-type: none"> Unmanned ant-submarine and seabed warfare Mine countermeasures 	45 45
	Energy & Environment	<ul style="list-style-type: none"> Innovative propulsion systems 	25		Simulation and training	Not addressed in 2023	
	Materials & Components	<ul style="list-style-type: none"> High-performance materials Maintenance, joining and repair 	20 30		Disruptive technologies	<ul style="list-style-type: none"> Laser directed energy weapons Non-thematic topic 	25 16
	SMEs	<ul style="list-style-type: none"> Non-thematic call for research actions Non-thematic call for development actions 	36 36				



Legend: ■ Research ■ Development
 Topics linked to large-scale capabilities
★ Topics contributing to EUDIS

3. How's it working ?



4. What's it funding ?

Research actions

Activity type	EU funding rate
Generating knowledge	100%
Integrating knowledge	100%
Studies	100%
Design	100%

No member-state co-funding

Development actions

Activity type	EU baseline funding rate	EU maximum funding rate
Integrating knowledge	65%	100%
Studies	90%	100%
Design	65%	100%
Prototyping	20%	55%
Testing	45%	80%
Qualification	70%	80%
Certification	70%	80%
Increasing efficiency	65%	100%

Bonuses



Member state co-funding for the amount **not** covered by EU funding

Example

EDF funding 83%
Remaining 17% by MS or Consortia



5. Why should you participate ? ~8 billion reasons !

Boost your innovation capacity

Benefit from eased administrative burden (bigger consortia)

Engage with large companies in your domain (SME bonus)

Develop (new) skills and diversify activities

Create your cross-border partnerships

Build/extend your network

Team up with foreign research-teams

Improve national and international image/recognition

Be part of EU-wide projects with potential follow-ons

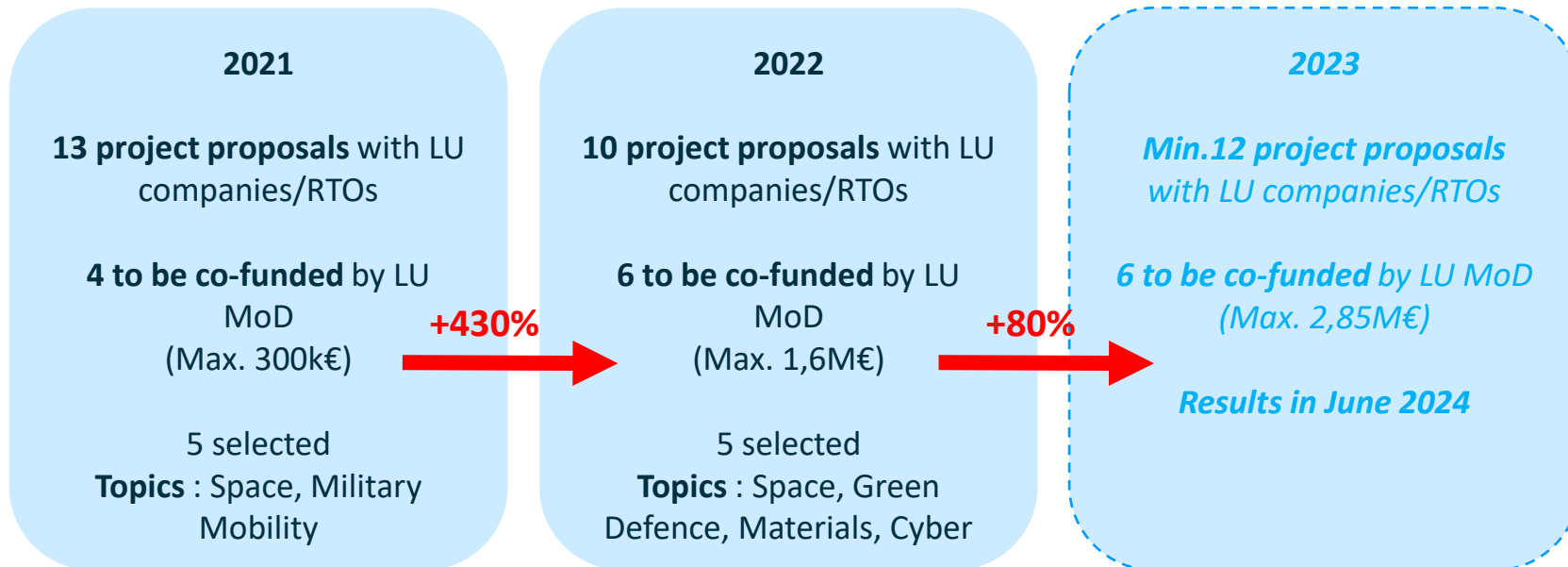
Discover a challenging environment

Secure additional funding (national+ international)

Benefit from personalized SME-coaching by the Commission

Work with the LUX and EU public sector

6. Luxembourg's results in EDF 2021-2022



2021



2022





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Direction de la défense

LU  **EMBOURG**
LET'S MAKE IT HAPPEN

Thank you !

Luxembourg Defence Technology and Innovation Community

THE EUROPEAN DEFENCE FUND (EDF)

12 December 2023

**Direction de la Défense (MAEED)
Aziliz GUÉRIN – National Delegate EDF**

NATO Defence Innovation Accelerator for the North Atlantic / NATO Innovation Fund



François Koch

Defence Counsellor

—

Luxembourg

Permanent Representation to NATO

INNOVATION AT NATO

DIANA & NATO INNOVATION FUND



NATO TECH INITIATIVES

FOCUS ON 9 PRIORITIES

FOCUS ON TRL 3-6

FOCUS ON DUAL USE

Artificial
Intelligence

Autonomy

Quantum
Technologies

Biotech

Hypersonic

New Space
Technologies

Novel
Materials &
Manufacturing

Energy &
Propulsion

Next Gen
Comms

Core Features DIANA x NIF

DIANA

- Novel, Deep Tech Focused Pipeline
- Startup Accelerator Network
- Deep Tech Test Centres
- Rapid Adoption Service
- Participation @ 31 (All Allies)

Allied Capital
Community

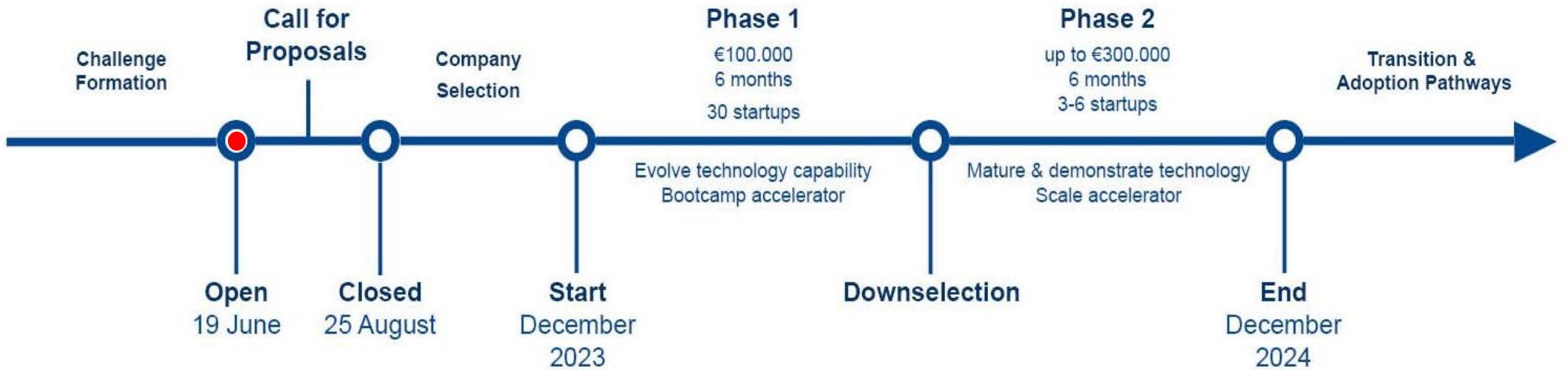
NIF

- 1B EUR Multi -Sovereign VC Fund
- Top Tier Commercial Investment Team
- Operates Under Market Principles
- Direct investments into deep tech startups; Indirect into deep tech funds
- Participation @ 23 (NATO Allies)

DIANA Challenge Cycle



DIANA Challenge Timeline



DIANA 2023 Challenge Topics



Sensing & Surveillance:

Sensing the Coastal
Undersea Environment



Energy Resilience:

Harnessing Microgrid
Technologies for
Disaster and Conflict
Recovery



Secure Information Sharing:

Truly Reliable and
Unquestionably Secure
Technology

- **1303 applications – 44 companies selected : 3,3% selection rate**
- **Process for selected companies is starting this December and will last about 1 year**
- **Companies not selected will get feedback and can reapply in the future**

DIANA Strategic Direction 2024 and Beyond

DIANA team is holding workshops to develop focus areas.

Draft 24-25 Strategic Direction for approval to BoD in early 2024.

The next round of challenges – five – launched next year.

Once full operating capability achieved in 25, up to ten challenges per year.

NIF Objectives

Allied Adoption

Support commercial deep tech that address NATO's security challenges



Commercial Success

Create long term financial value and mission impact

Capacity Building

Foster deep tech innovation ecosystems

THE NIF in a Nutshell

- 1 Billion EUR Multi-Sovereign Venture Capital Fund
- Following market principles
- Privately managed (Managing partner Andrea Traversone, previously Amadeus Capital)
- Domiciled in Luxembourg
- Initial runtime of 15 years
- Deeptech focus (transformative technologies with societal impact)
- Balance between Direct Investments in deep tech companies & Indirect investments in VC funds
- Early stage investments & follow on if necessary
- Balanced geography

So what's the difference?

DIANA is a Product-focused Accelerator

NIF is a Innovator-focused VC Fund

So what's the connection?

- Start-ups in the Fund's portfolio may produce solutions to Challenge Programs within DIANA
- Startups in DIANA's Challenge Programs may be attractive for investment from the Fund.



How to apply?

DIANA

- Register your interest with LuxInnovation and myself (as BoD POC) to stay updated
- Apply when challenge is launched
- Registration timeline about 1 month
- Next challenges spring 24

NIF

- Register your interest with LuxInnovation and myself (as NIF REP) to stay updated
- No formal process but rather introduction to the team through national NIF REP
- In active screening phase
- Register now

Contact

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alexander.link@luxinnovation.lu

Websites

<https://www.diana.nato.int/>

<https://www.nif.fund/>

Outlook on 2024 activities

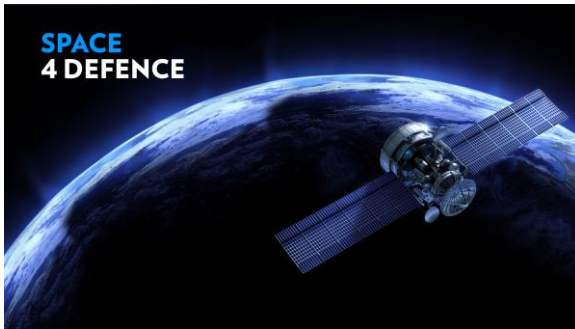


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Rebecca DAMOTTE
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Defence In Space Week - February



19.02.2024, Brussels

BeNeLux **Space4Defence**
Industry Day

(SAVE THE DATE)



20.02.2024, Brussels

NATO Space
Reverse Industry Day

(registration deadline:
15 January 2024)



22.02.2024, Luxembourg

GovSatCom – EU Security and
Defence Conference
(registration deadline:
15 January 2024)

Cyber for Defence Week - March



GO INTERNATIONAL
Forum International de la Cybersécurité (FIC)
National pavilion
26-28 March 2024 - Lille (F)



More information about FIC - Forum International de la Cybersécurité can be found [HERE](#).

Details about the national pavilion will be available on this page soon.

Do you want to pre-register or get more information? Please contact us: tradefairs@cc.lu / [+352 42 39 39 360](tel:+352423939360).

- Luxembourg Pavilion (MECO/LHC)
- Luxembourg Industry Delegation Programme (Luxinnovation)
- BeNeLux - **Cyber4Defence**
27.03.2024 Lille (FR)
(SAVE THE DATE)



Eurosatory 2024 - June



GO INTERNATIONAL

Eurosatory
National pavilion

17-21 June 2024 - Paris (F)



NATIONAL PAVILION
EUROSATORY 2024

ALL ABOUT THE EVENT

The Luxembourg Chamber of Commerce and the partners of Luxembourg Trade & Invest are pleased to invite you to participate in the national pavilion that will be organised at Eurosatory in Paris (F) from 17-21 June 2024.

Held every two years, **Eurosatory** offers a unique opportunity to meet manufacturers and start-ups worldwide, along with public and private Defence & Security market players. Eurosatory showcases the widest possible range of solutions and services to improve defense and security performances and counted in 2022 more than 1,700 exhibitors, 39 national pavilions and 62,000 professional visitors.

When? 17-21 June 2024

Where? Parc des Expositions Paris Nord Villepinte, Paris (F)

Preferential participation rate:

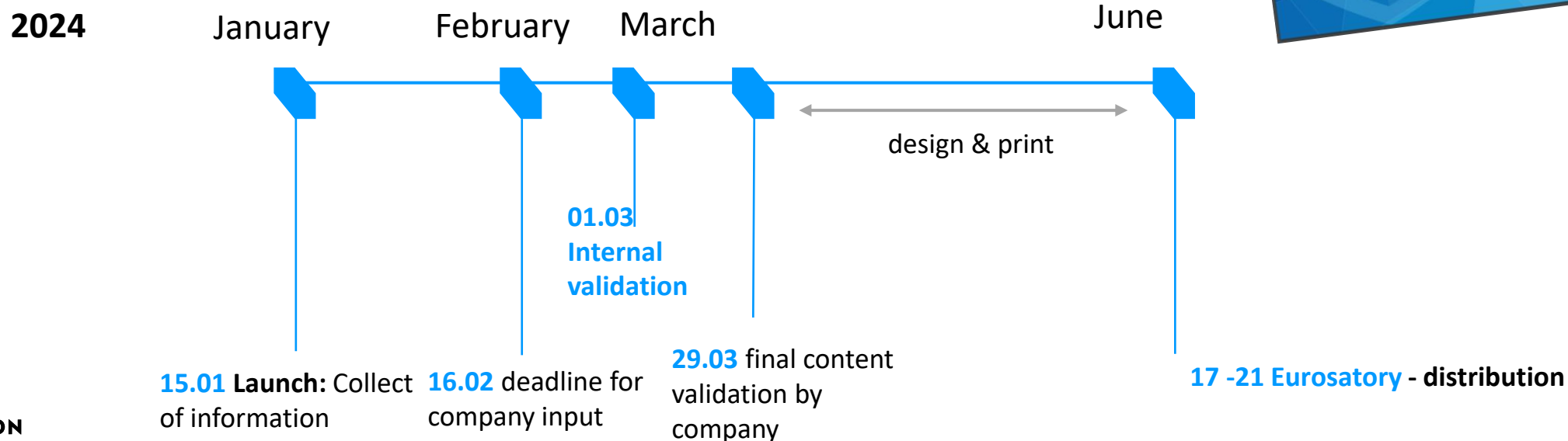
4,000 EUR / company

1,500 EUR / innovative start-up (< 5 years)

Defence catalogue 2024

Eurosatory 2024 – Luxembourg Pavilion

- More than 100 companies expressed interest
- Aim: promotion, visibility
- Timeline:



6-month Outlook

January – June 2024 – Key dates

Conferences:

- **23-24.01** EU Space Conference (Bxl)
- **5-6.02** EDA Conference on Swarming Technology, Saint Louis (France)
- **19.02** NATO Space Reverse Industry Day (Bxl)
- **20.02** BeNeLux Space4Defence Industry Day (Bxl)
- **22.02** GovSatCom Conference (Luxembourg)
- **27.03** BeNelux Cyber4Defence (FIC- Lille)

International:

- **26-28.03** International CyberSecurity Forum FIC - Luxembourg Pavillon (Lille)
- **3-4.04 TBD** France-Luxembourg Defence Industry Days, Paris
- **15-18.04 TBD** High-level visit to Belgium
- **17-21.06** Eurosatory - Defence fair - Luxembourg Pavillon (Paris)

Funding:

- **Q1-Q2:** expected launch of **Joint Defence Call 2024**
- **Q2: European Defence Fund 2023** Infodays

EDA CapTech:

- **13-14.02** Energy&Environment, Vienna
- **21-22.02** Land (Bxl)
- **12-14.03** Air (Manching, DE)
- **13.03** Materials (online)
- **20-21.03** Information (Bxl)
- **29-30.05** Land
- **3-5.06** Materials (Luxembourg)
- **18-19.06 TBD** Air

Thank you!

Alexander Link

Defense Technology and Innovation Coordinator

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