ROYAL HIGHER INSTITUTE FOR DEFENCE
AIRFORCE COLONEL STEVEN LAUWEREYS, IR

DEFENSIE
LA DÉFENSE

Defence, Industry and Research Strategy
Strategy, Policy and Opportunity

Belgisch veiligheids- en defensiebeleid

Plan STAR : Security – Technology – Ambition - Resilience

Leveren van een actieve en billijke Belgische bijdrage in een breed scala aan militaire machtsinstrumenten met een nationale autonomie in bepaalde niche capaciteiten.

Personeel

Uitrusting

DTIB

Defence, Industry and Research Strategy

2024 Research, Development and Innovation pop poll

- Belgium should remain at the top of RDI ranking in Europe, as it currently is.

- Belgium should spend at least 3.5% of its GDP on RDI, as it currently does.

- Defence-related and dual-use RDI activities should be part of these efforts.

The Defence, Industry and Research strategy aims at developing and consolidating a strong Belgian Defence Technological and Industrial Base.

The Royal Higher Institute for Defence

- Main federal actor for the development and implementation of the Belgian Defence, Industry and Research Strategy (DIRS)

- Defines Belgian Defence R&T policy and manages Belgian Defence R&T programme

- Ambition to become the coordinator of all Belgian defence related research, development and innovation initiatives

- Represents Belgium in international defence related R&T fora

DEFENSIE
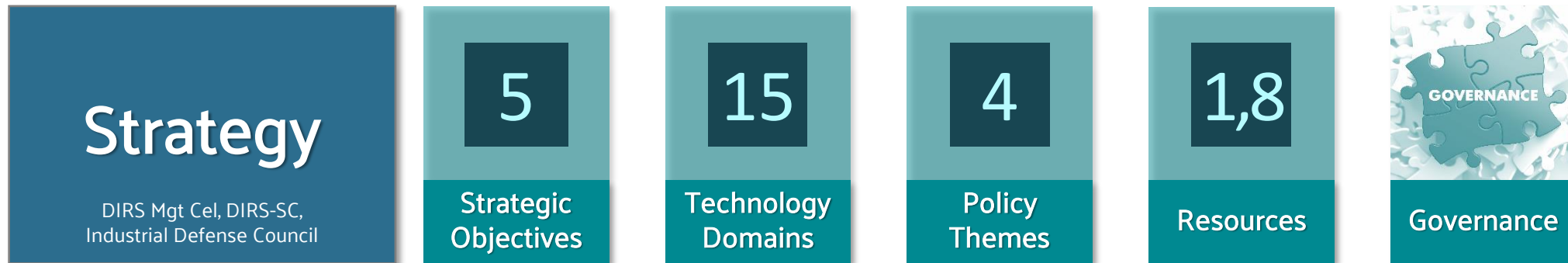LA DÉFENSE

Defence, Industry and Research Strategy

Developing and consolidating a strong Belgian defence technological and industrial base (DTIB)

o   supporting the national security and defence policy while reinforcing the open strategic autonomy of the EU.

o   positioning Belgium as a relevant, reliable and competitive technological partner.

o   guaranteeing national autonomy in critical areas.

o   generates economic and societal return in the form of knowledge, jobs and defence-related and dual-use technologies.

The DIRS is the overall long-term strategy for « all » actors involved in the development and support of the national scientific, technological and industrial potential in the field of security and defence.

https://www.defence-institute.be/nl/defence-industry-and-research-strategy-2/

DEFENSIE
LA DÉFENSE

The DIRS big picture

Strategy
DIRS Mgt Cel, DIRS-SC, Industrial Defense Council

5	15	4	1,8	GOVERNANCE
Strategic Objectives	Technology Domains	Policy Themes	Resources	Governance

Policies
Developed and executed by the entities having the responsibility

INFORM
Inform all defense-related actors as well as possible to better prepare and position themselves at European level.

MANAGE AND OPTIMIZE
Actively manage the portfolio to develop and support coherent value chains in well-defined areas.

FACILITATE AND SUPPORT
Make participation in defence-related research and development more accessible and support it with adequate resources if necessary.

PROTECT AND ANCHOR
Protect the generated scientific, technological and industrial potential against external threats and anchor it at the national level if necessary.

Support Policies tailored to the needs and which are effective.

DEFENSIE
LA DÉFENSE

15 Technology domains

Vertical domaines

- o Maritime mine countermeasures technologies
- o Next generation combat aircraft technologies
- o Advanced military health and human performance
- o Advanced soldier system
- o Ammunition systems/effectors and integration
- o Unmanned intelligent systems
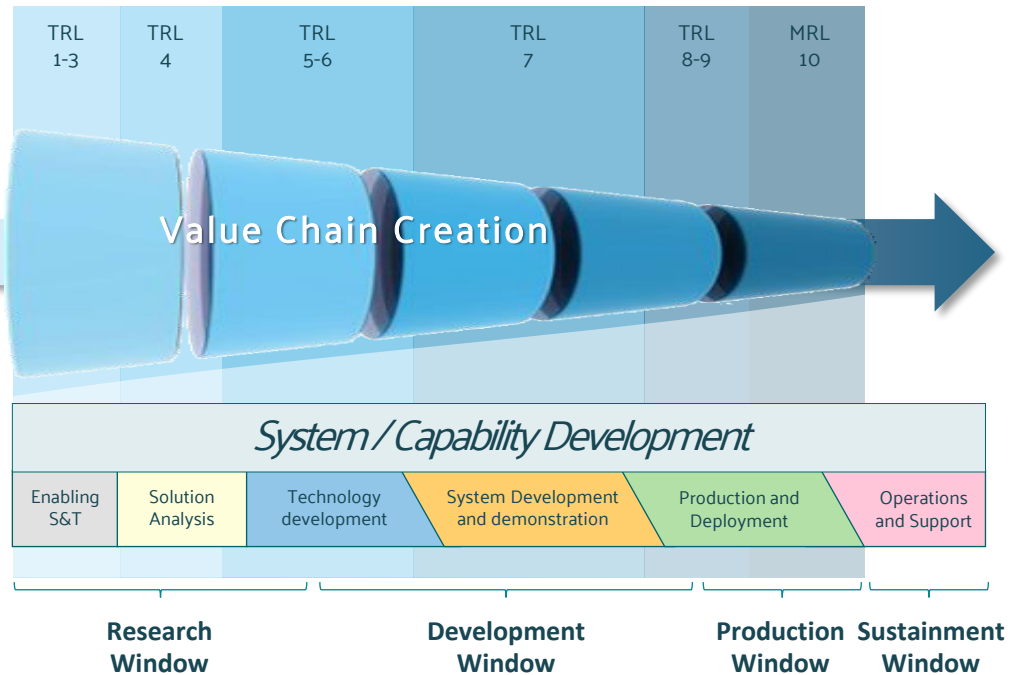- o Space-related applications

Horizontal Domaines

- o Defence-related cyber
- o In-service support and life cycle services
- o Smart and advanced structures and materials
- o Energy and environment
- o Sensing, Information processing & data management, communications & embedded intelligent systems
- o Emerging and disruptive technologies
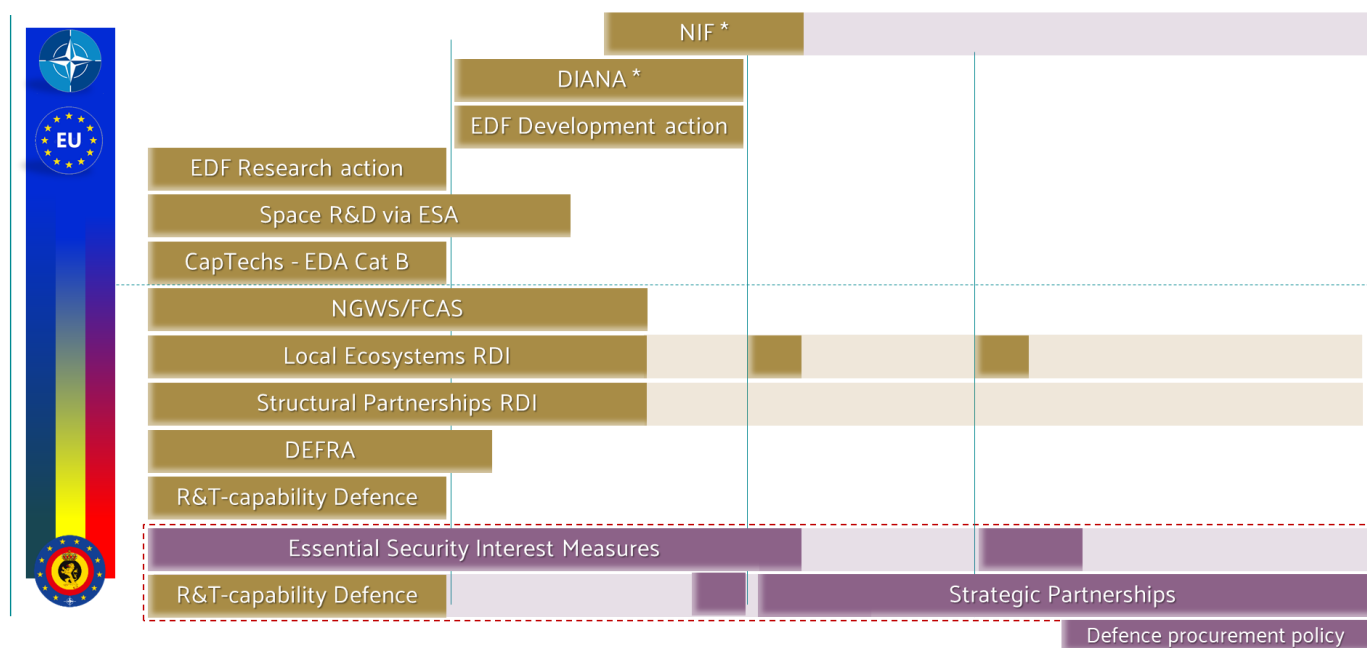- o Underpinning technologies
- o Skills and competences

DEFENSIE
LA DÉFENSE

How to reach the objectives

Defence Technological and Industrial Base

Federal portfolio of tools – Facilitate ans Support

TRL 1-3	TRL 4	TRL 5-6	TRL 7	TRL 8-9	MRL 10

Value Chain Creation

System / Capability Development

Enabling S&T	Solution Analysis	Technology development	System Development and demonstration	Production and Deployment	Operations and Support

Research Window | **Development Window** | **Production Window** | **Sustainment Window**

- NIF *
- DIANA *
- EDF Development action
- EDF Research action
- Space R&D via ESA
- CapTechs - EDA Cat B
- NGWS/FCAS
- Local Ecosystems RDI
- Structural Partnerships RDI
- DEFRA
- R&T-capability Defence
- Essential Security Interest Measures
- R&T-capability Defence
- Strategic Partnerships
- Defence procurement policy

Invest (upstream) to be able to participate in European and transatlantic capability programs from the start and support Belgian national capability requirements when required.
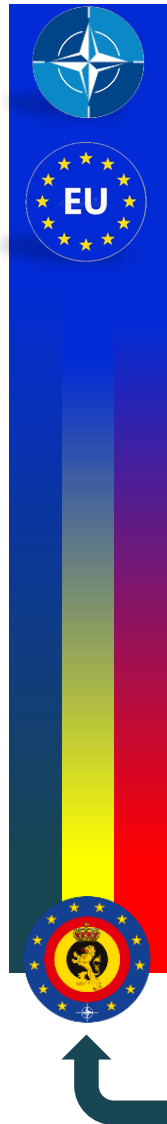
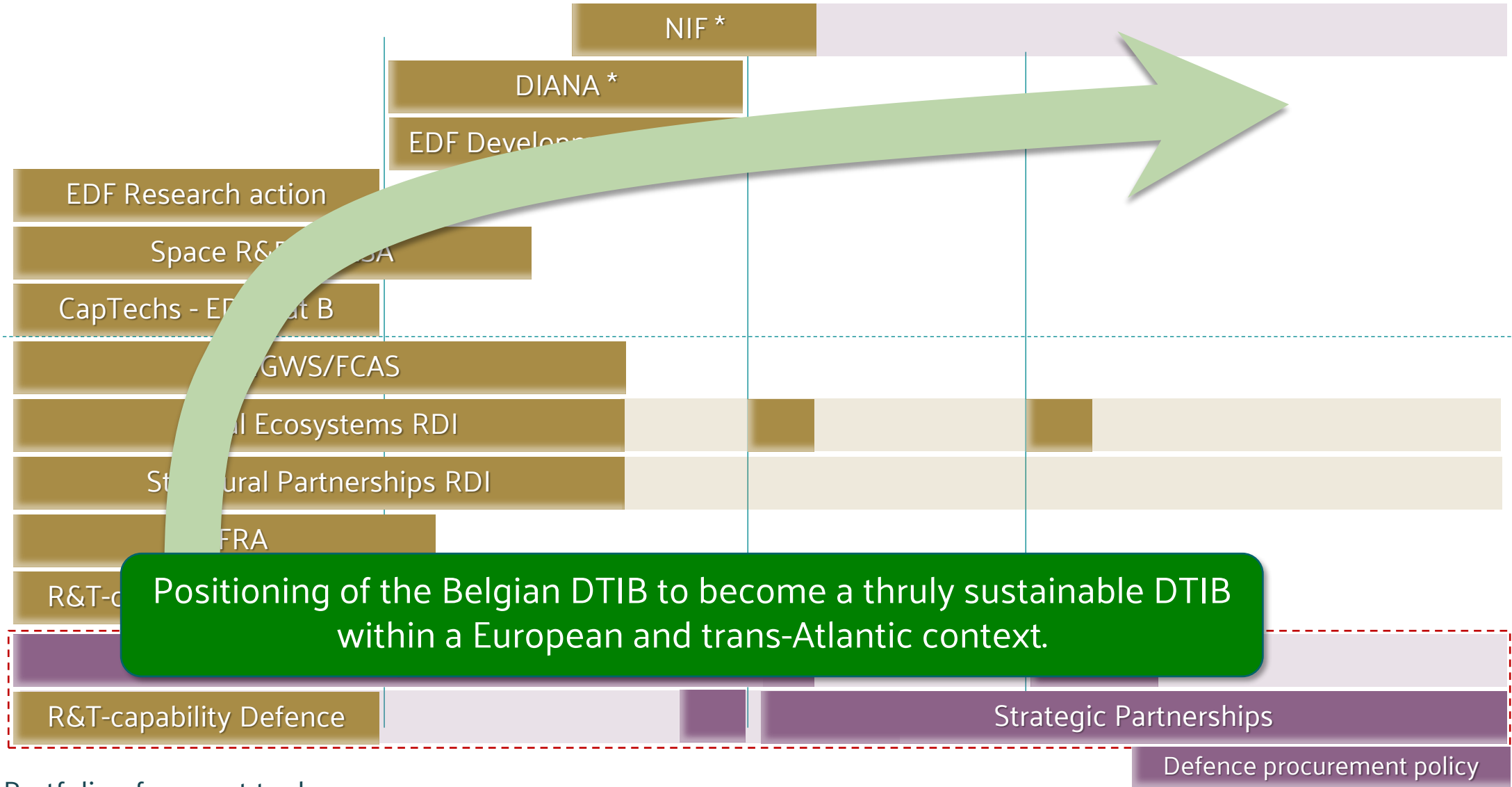# Federal portfolio of tools – Facilitate and Support
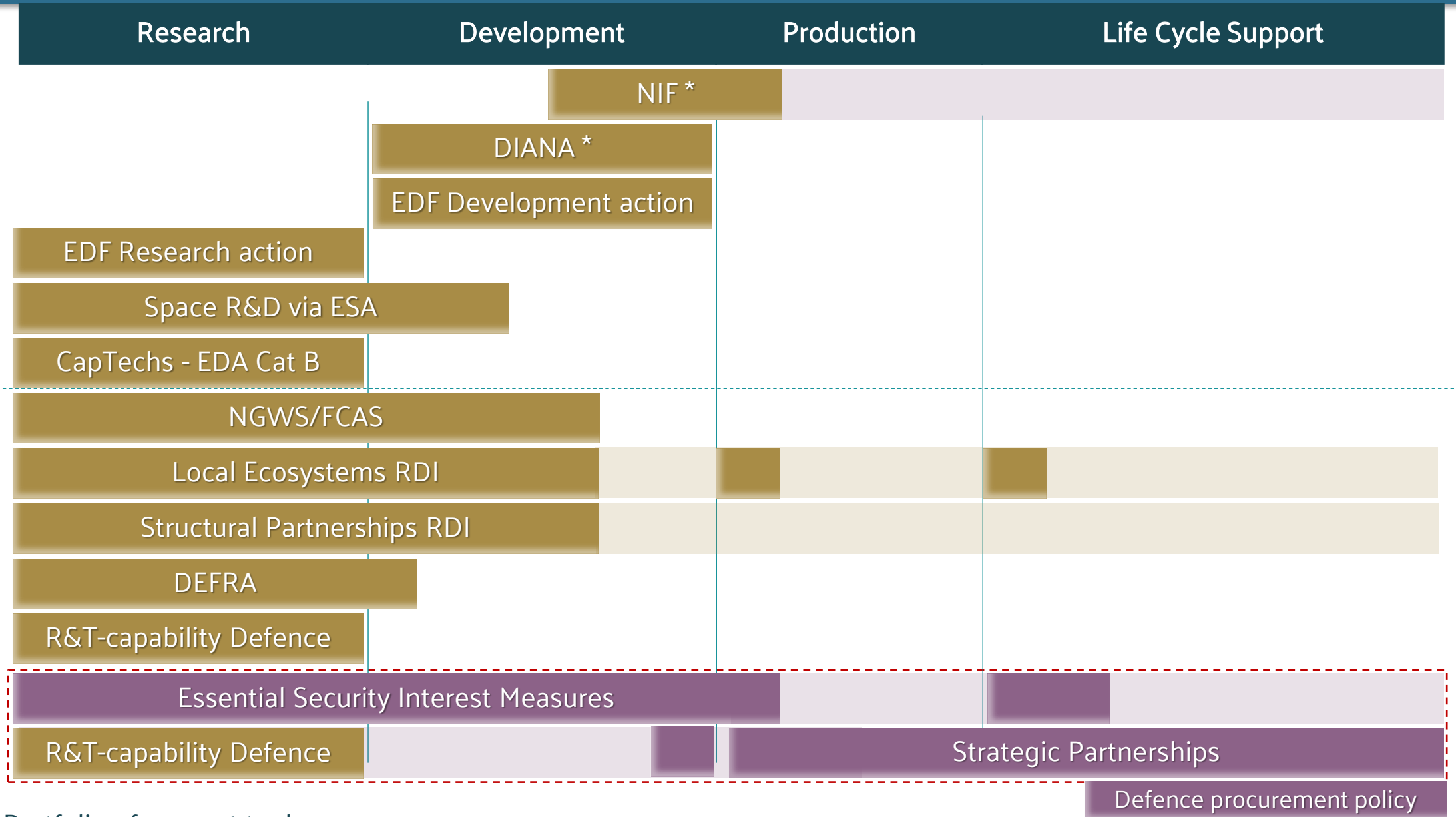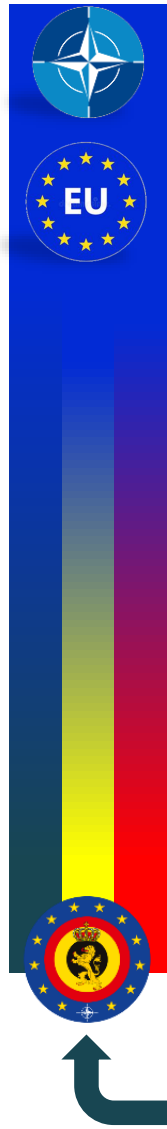
	Research	Development	Production	Life Cycle Support
NIF *		■		
DIANA *		■		
EDF Development action		■		
EDF Research action	■			
Space R&D via ESA	■			
CapTechs - EDA Cat B	■			
NGWS/FCAS	■			
Local Ecosystems RDI	■		■	■
Structural Partnerships RDI	■			
DEFRA	■			
R&T-capability Defence	■			
Essential Security Interest Measures	■			■
R&T-capability Defence	■		■	Strategic Partnerships
Defence procurement policy				■

Portfolio of support tools

* Belgian participation to DIANA / NIF is cofundend between Flanders (28%) , Wallonia (42%) and Federal level (30%)

Federal portfolio of tools – Facilitate and Support

Research	Development	Production	Life Cycle Support

NIF *

DIANA *

EDF Develop...

EDF Research action

Space R&... ...SA

CapTechs - E... ...t B

...GWS/FCAS

...l Ecosystems RDI

St...ural Partnerships RDI

...FRA

R&T-c...

Positioning of the Belgian DTIB to become a thruly sustainable DTIB within a European and trans-Atlantic context.

R&T-capability Defence

Strategic Partnerships

Defence procurement policy

Portfolio of support tools

* Belgian participation to DIANA / NIF is cofundend between Flanders (28%) , Wallonia (42%) and Federal level (30%)

Defence Research Action

Call for proposals in specific themes, R&T proposals up to TRL 6 with a 2 to 4 year duration

Partnerships: Triple helix collaborative approach between government, industry and academia (research)

Budget: Yearly budget more than 10 Mio€, programs partially funded following EU directive on Research, Development and Innovation

Timing: Yearly call published 4th quarter X, evaluation X+1, contract award by end of year X+1,

Call 2024 – 12 Mio€ (call closes 22/02) :
1. Cyber - Short-term Mitigation Techniques for Software Resilience
2. Securing critical Maritime Infrastructure
3. Improved Underwater Communications between Sensors/Weapon Systems and Data systems
4. Next-Generation Vision and Sensor Fusion
5. Prolonged Forward Casualty Care
6. Open Call: Research on Innovative and Future-Oriented Defence Solutions

Information: themes, timing, rules and procedures : www.belspo.be/belspo/defra

Next Generation Combat Aircraft Technologies

Future Combat Air System

System of Systems

- Remote Carriers

- Next Generation Fighter
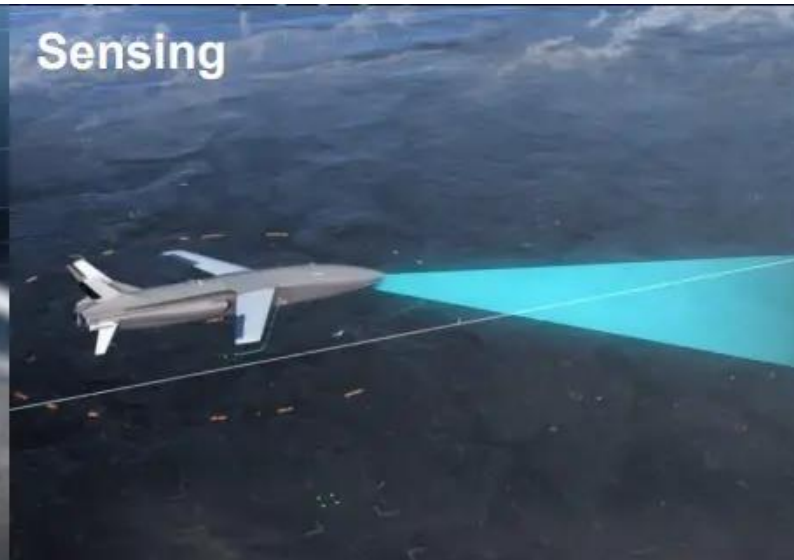
- Secure Networks for interconnectivity

Observer

R&D ➡ Demonstrator ~2030 ➡ Capability 2040/2050

AIRBUS DASSAULT AVIATION Indra

Next Generation Remote Carriers

Jamming

Sensing

Spoofing

Striking

Belgian DTIB domains of interest

- Aerostructures and subsystems

- Engine and accessories

- Communication, Cyber, Avionics, Embedded Sensors and Networks

- Transversal disruptive technologies

NGCAT 🇧🇪 R&D Call 2024

- R&D programme **directly funded** by Belgian Defence to Belgian stakeholders

- **Collaborative R&D approach** : Belgian company takes the lead, interfaces with NGWS/FCAS stakeholders and manages the cooperation with Belgian (small) businesses and research institutions

- Activities creating NGCAT technology in general while bringing **added value and risk reduction** to the NGWS/FCAS programme

- Activities 24 – 30 months up to TRL 6

- Questions, & suggestions: ngcat@mil.be

Tentative Timeline

Nov 2023
Industry Day

Mar 2024
NGCAT R&D Call

End Apr 2024
Expression of interest

26 Aug 2024
Deadline Proposal

Sep-Nov 2024
Evaluation & Interviews

1Q2025
R&D Contracts in place
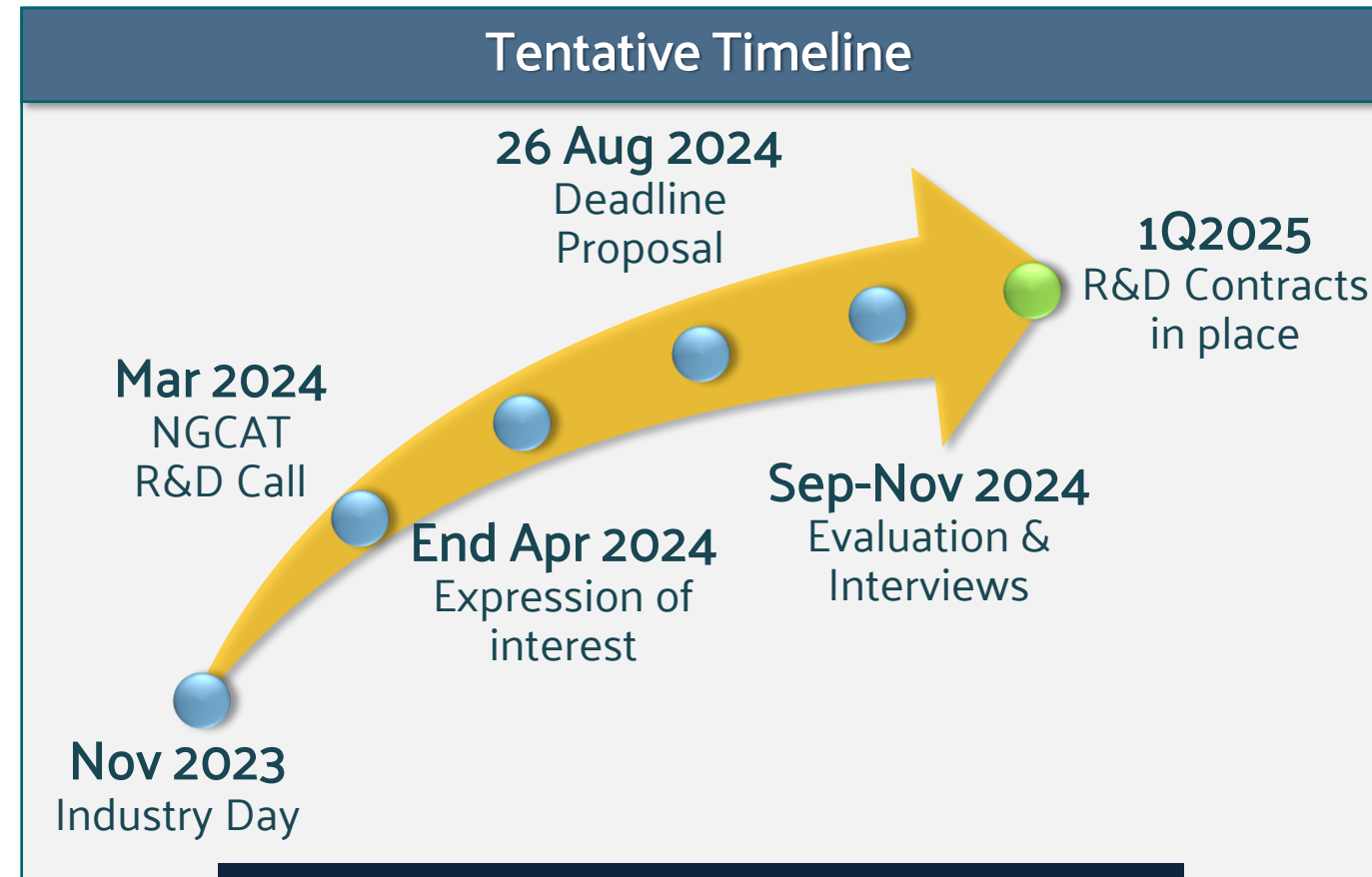
🇧🇪 **R&D Call 60 Mio€**

EDA Capability Technology Areas (CapTechs)

- <u>CapTechs</u> to undertake R&T activities in response to agreed defence capability needs in 15 working groups

- <u>Overarching Strategic Research Agenda</u> (OSRA) defines Technology Building Blocks (TBB) with a roadmap with concrete project ideas

- <u>Participation</u>: to become non-Governmental Expert (CnGE) contact the CapTech National Coordinators (CNC)
  BelCNC@mil.be

- Information :
  - Capability Technology Areas (CapTechs) (europa.eu)
  - Calendar : Industry Engagement Roadmap 2024 (europa.eu)
  - Discover the EDA activities (europa.eu)
  - my.eda.europa.eu

DEFENSIE
LA DÉFENSE

EDA Capability Technology Areas (CapTechs)

1. Technologies, Components and Modules
2. RF Sensors Technologies
3. Electro Optical Sensors Technologies
4. CIS and Networks
5. Materials and Structures
6. Missiles and Munitions
7. Aerial Systems
8. Ground Systems
9. Guidance, Navigation and Control
10. Naval Systems
11. Simulation Technologies
12. CBRN and Human Factors
13. Cyber Research & Technology
14. Energy and Environment
15. Space

EDA Cat B - Ad Hoc projects and programmes

- Collaboration between at least two nations
  - in line with EDA strategic research agenda discussed in CapTech
  - executed by research institutions and industry from the participating member states

- Approval of EDA Steering board is required

- Significant effort to complete Project or Programme Arrangement (PA) between nations and a Research Technical Proposal (RTP) between consortium participants

- Strategic effort for companies willing to position themselves within European consortia

- Funding support by Belgian Defence is possible and requires an evaluation by RHID
  - Up to 100% of eligible costs for research institutions
  - Up to 50% of eligible costs for industry
  - !!! Start to inform RHID ASAP of funding request (X-1)

DEFENSIE
LA DÉFENSE

inno4def.be

INNOVATION FOR DEFENCE

What's happening   Our challenge   How do we tackle it   Running projects   Join community   Share your idea

INNOVATION FOR DEFENCE
Defence Innovation, our duty!

Research, development and innovation play a crucial role in Belgian Defence's development, fostering progress not only in security and defence but also driving economic growth, reinforcing our technological base and providing promising prospects for individuals. This strengthens the Defence-Nation link and positions Belgian Defence competitively amidst geopolitical uncertainties and potential worldwide security threats.

Who are we?   What's our challenge?   How do we tackle it?

Hackathons

Battlefield of Things

The two-day Battlefield of Things Hackathon is an innovation event that unites Belgian IoT enthusiasts, students, IoT professionals, and BELDEF personnel for hands-on innovation in IoT design.

15-17 March 2024   Actively recruiting

Share Your Idea

English (United States)

Idea submission form

⭐ Welcome to the Innovation Idea Submission Form! ⭐

Introduction: Innovation is the driving force at Innovation for Defense. Your input is invaluable for progress, whether you're an internal team member or an external visionary. We strongly believe in the boundless nature of innovation, welcoming diverse perspectives to fuel our creative engine.

About the Form: Our innovation idea submission form serves as a conduit for your visionary concepts to create tangible real-world impacts, regardless of your experience level in innovation. The provided references can provide you some guidance for the submission. Explore impactful submissions for inspiration, and review examples that don't align with our objectives.

What We're Looking For: We're in search of ideas that challenge conventions and offer meaningful solutions. To stand out, invest in researching your idea's alignment with real-world context and visualize its transformation into reality, including resources, timelines, and partnerships. Your idea has the potential to be a game-changer, so dream big and think practically.

15-17 March 2024   Actively recruiting

KHID : Start pagina - IRSD-KHID-RHID (defence-institute.be)
DIRS : Defence, Industry and Research Strategy - IRSD-KHID-RHID (defence-institute.be)
POC : Steven.Lauwereys@mil.be
https://www.linkedin.com/in/steven-lauwereys/

Q&A