

The EDF's political context

Volker Bäcker

Policy Officer

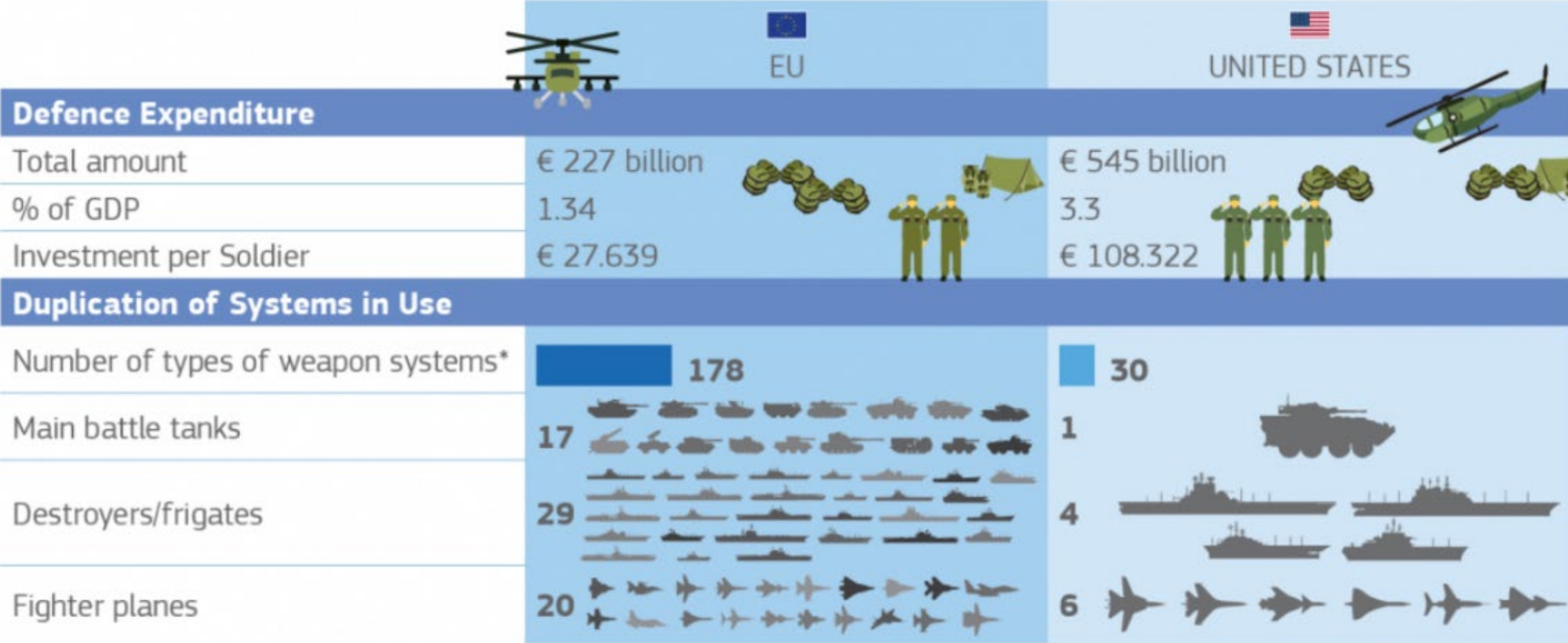
DEFIS A.3

EDF Implementation

—

Defence Technologies and Innovation

Starting point



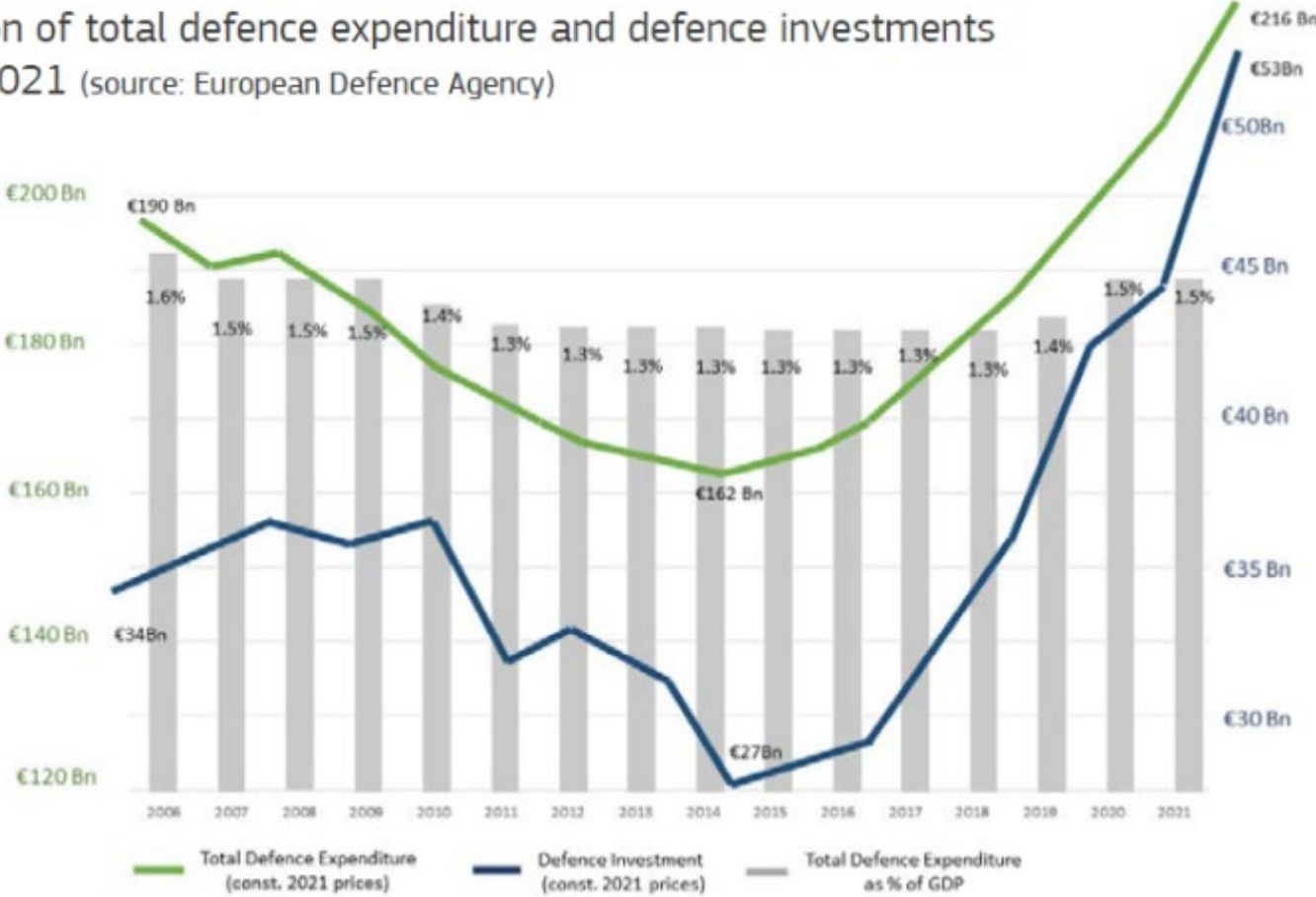
* Number of types of weapon systems for selected weapon systems categories
 Source: NATO, International Institute for Strategic Studies, SIPRI, Munich Security Report 2017

Financial and Industrial Gaps



INSUFFICIENT DEFENCE EXPENDITURE

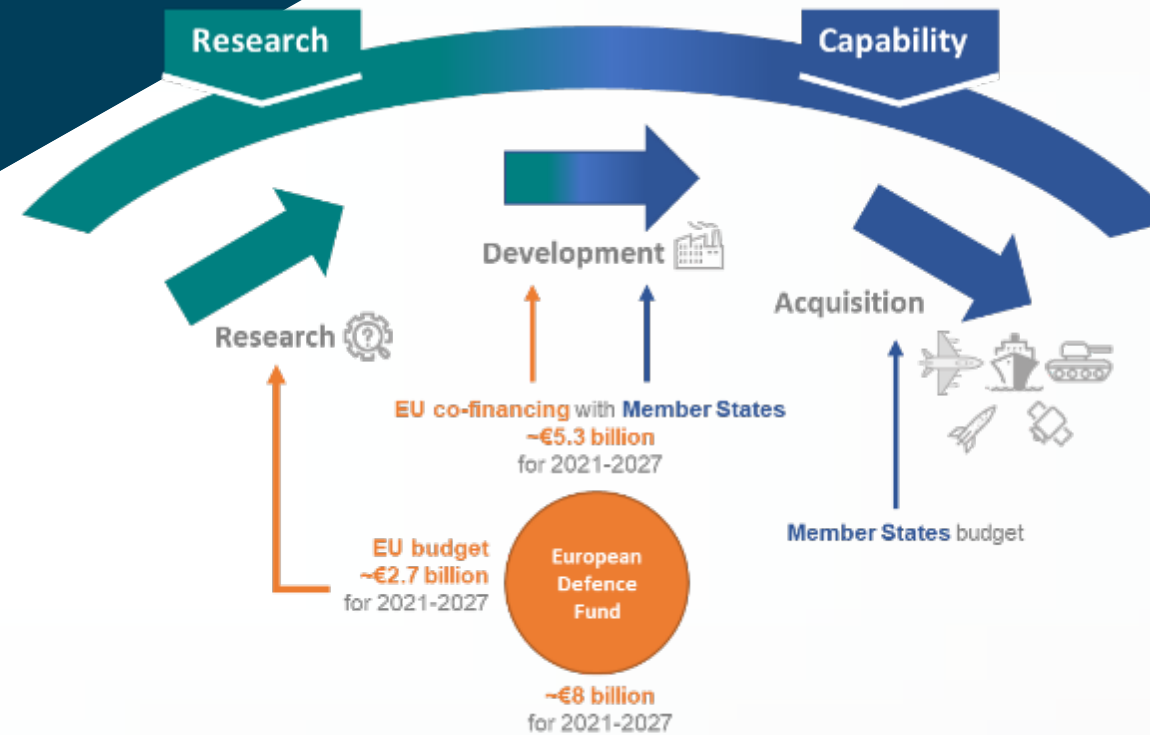
Evolution of total defence expenditure and defence investments 2006-2021 (source: European Defence Agency)



EU Defence companies are still structured mainly along national borders, mirroring the structure of the demand. This market structure, combined with low investment spending, resulted into a number of national players producing small volumes.

European Defence Fund (EDF)

European Defence Fund : The EU defence R&D programme



- **EDF financial support mainly in the form of grants**
- **Open to EU Member States and Norway**
- **Security-based participation conditions for entities controlled by third-countries**

Eligible actions

- Consortium of at least 3 entities established in at least 3 different Member States or Norway.
- Background and generated foreground **IP shall not be subject to any control or restriction** by non-EU countries/entities

Activities:



Research actions: applied/fundamental research, exclusive focus on defence applications - <i>low TRL (up to 4/5)</i>								
100%	100%	100%	100%					
Development actions: defence oriented development (new/upgrade products/technologies) - <i>higher TRL (5-8)</i>								
Baseline:	65%	90%	65%	20%	45%	70%	70%	65%
@max bonus:	100%	100%	100%	55%	80%	80%	80%	100%

Support of at least two MS/NO (LoI, ICR, co-funding) is required



Indirect costs: 25% flat rate or cost accounting of actual indirect costs

Boni: (≤ 35% bonus): PESCO (10%), (cross-border) participation of SMEs, (cross-border) participation of SMEs

EDF implementation

After the implementation of the first 2 annual Work Programmes:

- **High EU investment:**
€2 billion
- **101 projects**
- **Large coverage:**
19% EU funding to SMEs
- **Real cooperative and multinational dimension:**
in average, **20 entities from 8 MS and Norway** are involved in an EDF funded defence R&D project

EDF 2021



€1.2 billion

60 projects selected

142 proposals submitted

692 entities from 26 MS + NO
43% SMEs

1092 participations
34% from SMEs

18.4% of overall budget
allocated to SMEs

EDF 2022



€0.8 billion

41 projects selected

134 proposals submitted

550 entities from 26 MS + NO
39% SMEs

887 participations
30% from SMEs

19.8% of overall budget
allocated to SMEs

EDF 2023



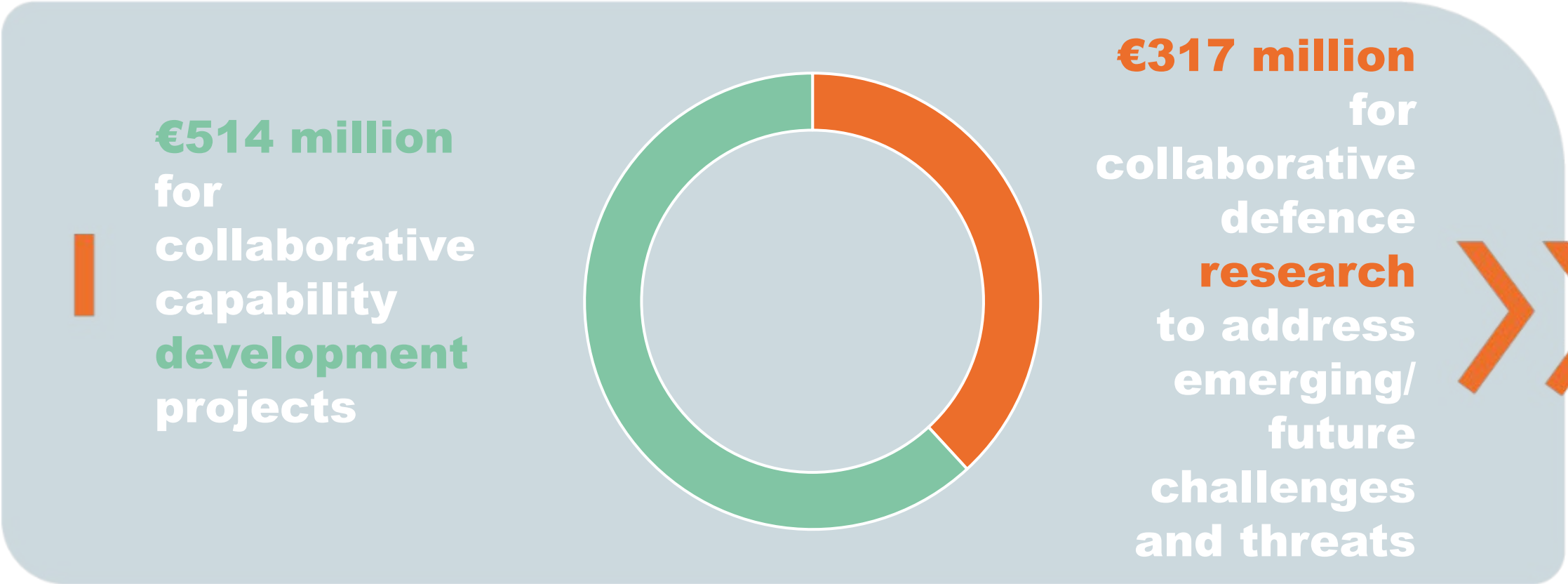
~ €1.2 billion

34 call topics

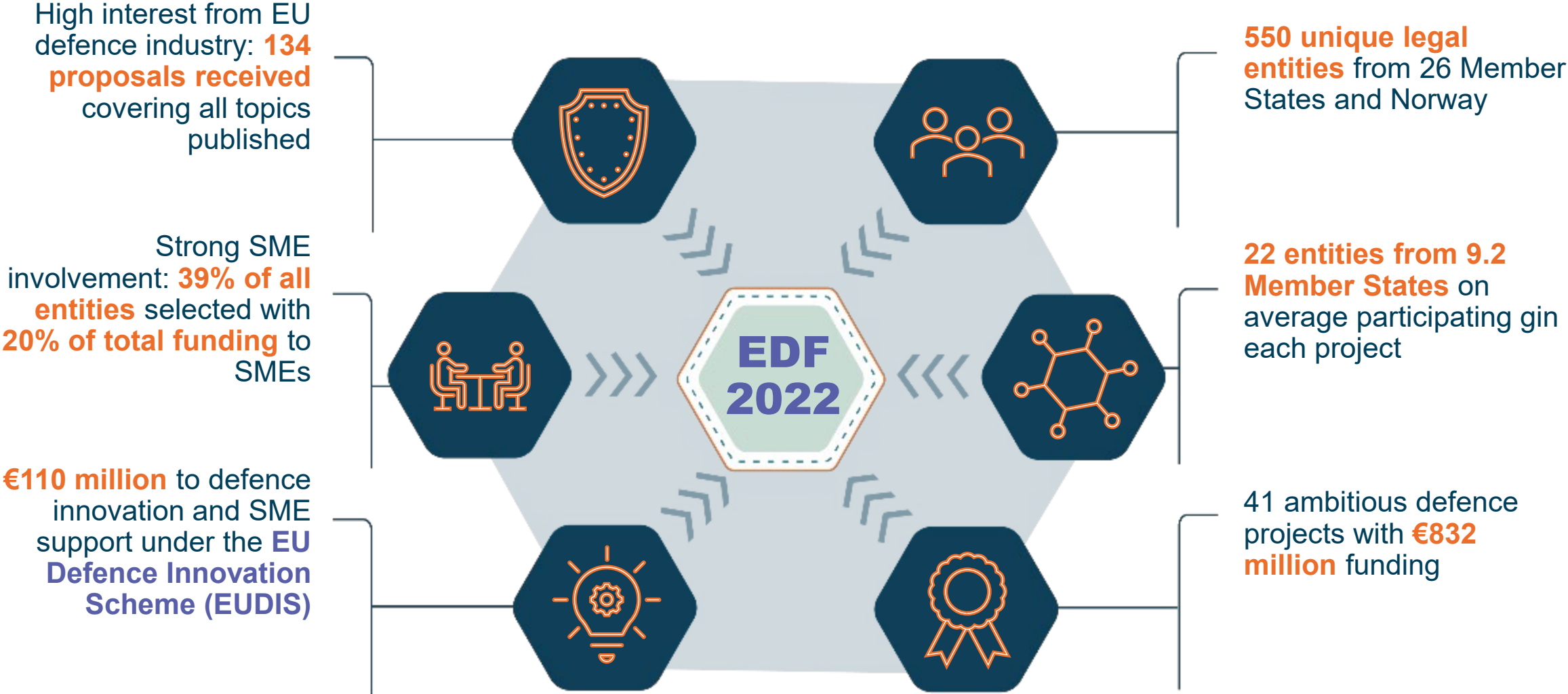
Deadline for submission:
22 November 2023

EDF 2022 CALL RESULTS

Strong support to industry across a range of high impact research and development actions in EDF2022



EDF 2022 KEY FIGURES



Austrian Participation in the EDF

- *1 Austrian entity was participating in 1 PADR project*
- *1 Austrian entity was participating in 1 EDIDP 2019 projects*
- *12 Austrian entities are participating in 7 EDIDP 2020 projects*
- *11 Austrian entities (with duplicates), incl. 1 SME, are participating in 10 EDF 2021 projects*
- *Also, Austria coordinates the PESCO project CBRN Surveillance as a service*
- *Austrian entities are very active in the categories Cyber and Digital Transformation*
- *Number of participation entities and value of EU-funding continuously increase*





EUDIS

EU DEFENCE INNOVATION SCHEME

For European Defence Innovators

Volker Bäcker
Policy Officer
DEFIS A.3
EDF Implementation

 #EUDefenceIndustry

Defence Technologies and Innovation





EU Defence Innovation Scheme

A stronger defence innovation ecosystem

- **Focus on SMEs, including start-ups and non-traditional players** in defence industrial ecosystem
- Tap into the full **potential of defence & civil** innovation communities
- Many opportunities, depending on **innovation maturity level**
- An investment ambition close to **€ 2 billion until 2027**
- **Five tracks** combine different approaches to call organization & SME support services
- **Integrated in the EDF**
- Aims to reach **up to 400 SMEs** annually



FIVE EUDIS INNOVATION TRACKS



CHALLENGE YOUR IDEA

26 M€

- Technological challenge – Digital transformation (25 M€)
- Hackathons (0.6 M€)



EMPOWER SMEs

89 M€

- Open SME R&D calls (72 M€)
- Disruptive technologies research calls (16 M€)
- Matchmaking
- Business coaching for grant receivers (1.2 M€)



TEST & ACCELERATE YOUR INNOVATION

30 M€

- Innovation test hub (Materials & components)



IMPROVE ACCESS TO FINANCE

20 M€

- Proposed Defence Equity Facility under InvestEU



MIGRATE YOUR INNOVATION FROM CIVIL TO DEFENCE

59 M€

- Energy & environment (25 M€)
- Materials & components (20 M€)
- Cyber (14 M€)

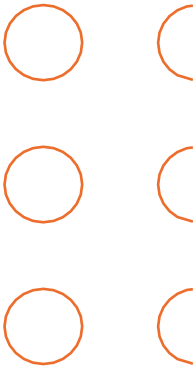
EDF Categories of Actions

Addressed by annual work programmes & calls for proposals



-  **Medical response, CBRN & human factors**
-  **Information superiority**
-  **Sensors**
-  **Cyber**
-  **Space**
-  **Digital transformation**
-  **Energy resilience & environmental transition**
-  **Materials and components**

-  **Air combat**
-  **Air and Missile defence**
-  **Ground combat**
-  **Force protection and mobility**
-  **Naval combat**
-  **Underwater warfare**
-  **Simulation and training**



Horizontal categories

-  **Disruptive technologies**
-  **Innovative defence technologies (SMEs)**



EDF Work Programme 2023

EUR 1.18 billion

34 topics

Opening of the calls: 15 June 2023

Deadline for submission: 22 November 2023

 Medical Response & CBRN	<ul style="list-style-type: none"> Federated CBRN systems 15 M€ 1st SGA under FPA on medical countermeasures 25 M€ 	 Air combat	<ul style="list-style-type: none"> Smart technologies for next generation fighter systems 30 M€ Self-protection systems 33 M€
 Information superiority	<ul style="list-style-type: none"> Laser communications 17 M€ Tactical RPAS 42 M€ Detect and avoid 40 M€ 	 Air & missile defence	<ul style="list-style-type: none"> Counter-UAS 43 M€ Endo-atmospheric interceptor (dual sourcing/direct award) 80 M€
 Sensors	<ul style="list-style-type: none"> Electromagnetic signal propagation 22 M€ Optronics detector 20 M€ Sensor grid 27 M€ 	 Ground combat	<ul style="list-style-type: none"> Main battle tank technologies 20 M€ Long range indirect fire support 27 M€
 Cyber	<ul style="list-style-type: none"> Automation of security penetration tests (spin-in) 14 M€ Cyber situational awareness 20 M€ Deployable Autonomous AI Agent 26 M€ 	 Protection & Mobility	<ul style="list-style-type: none"> Defeating unexploded explosive ordnances and IEDs 25 M€ Strategic air transport for outsized cargo 20 M€
 Space	<ul style="list-style-type: none"> Threats surveillance and protection of space assets 25 M€ Space situational awareness 100 M€ 	 Naval combat	<ul style="list-style-type: none"> Modular and multirole patrol corvette 154.5 M€
 Digital transformation	<ul style="list-style-type: none"> Dedicated hardware architectures for energy-efficient AI 20 M€ Human language technologies (challenge, 2 topics) 25 M€ 	 Underwater warfare	<ul style="list-style-type: none"> Unmanned anti-submarine and seabed warfare 45 M€ Mine countermeasures 45 M€
 Energy & Environment	<ul style="list-style-type: none"> Innovative propulsion systems (spin-in) 25 M€ 	 Disruptive technologies	<ul style="list-style-type: none"> Laser-based directed-energy weapons 25 M€ Non-thematic research 16 M€
 Materials & Components	<ul style="list-style-type: none"> High-performance materials (spin-in) 20 M€ Maintenance, joining and repair (cross-border defence innovation network) 30 M€ 	 SMEs	<ul style="list-style-type: none"> Non-thematic research for SMEs and ROs 36 M€ Non-thematic development for SMEs 36 M€
		 Others	<ul style="list-style-type: none"> External expertise, audits, IT, indirect management 8.5 M€ Business coaching for SMEs 1.2 M€ Blending facility for equity funding for SMEs/Mid-Caps 20 M€ EDF hackathon events 0.6 M€



Challenge your novel ideas **Hackathon**

- Outreach events to discover innovative solutions for defence and attract skills to the defence sector
- **Indicative funding:** EUR 0.6 Mio annually (Public procurement)
- **Hackathon themes & challenges** – selected by COM in co-operation with Member States/Norway and EDA/HEDI
- **Organization:**
 - Central hackathon hub with several locations (min.6) in Member States/NO
 - At least one hackathon event organized annually 2024-2027.
 - Awards to hackathon winners in a form of a mentoring programme
- **Timeline for 2023/2024:**
 - June-August → COM to send out an invitation for tender for a Framework contract for the organisation of hackathons and mentoring. Closing date - 23 August 2023.
 - Nov/Dec → COM signs the Framework contract and specific contract for the first hackathon in Spring 2024 (**Theme:** Coordinated transmission through various EU ground-based C2 systems (TBC))



Challenge your novel ideas **Technological challenge**

- Incentivise researchers or developers to address a given challenging objective
- Set up a testing environment to measure and foster the progress of R&D teams

- **Category/topic:** *Digital transformation. Agile and robust human language technologies for defence.*

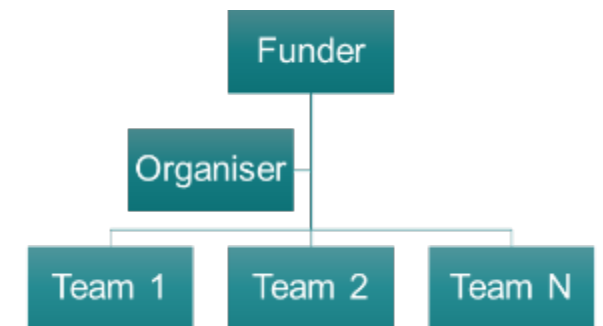
- **Two topics:**

- (1) Challenge Organiser

- **Targeted activities:** setting-up of the infrastructures for testing HLT systems in the framework of the technological challenge; collection and annotation of data, quality assessment, distribution and curation of databases and organisation of the evaluation campaigns. Support several teams pursuing different solutions: a preliminary evaluation plan provided
 - Indicative budget: **EUR 7 Mio**, one proposal

- (2) Participation in a Technological Challenge

- **Targeted activities:** Research on language technologies; and participate in the evaluation campaigns, integrate modules in tech demonstrators that can be tested
 - Indicative budget: **EUR 18 Mio.**, several proposals (**not to exceed EUR 6 Mio**)



EDF-2023-LS-RA-CHALLENGE: Call for EDF research actions, in the form of a technological challenge, implemented via lump sum grants

Type of action:
EDF-LS-RA: Lump Sum Grant – Research Action

Number of topics: 2

Type of grant:
Lump Sum Grant

CALL ID

EDF-2023-LS-RA-CHALLENGE

TOPIC ID

EDF-2023-LS-RA-CHALLENGE-DIGIT-HLTP
EDF-2023-LS-RA-CHALLENGE-DIGIT-HLTO

BUDGET

25 M€

EUDIS measure

Offers a unique combination of *steering mission-driven R&D*, promoting innovation and fostering *community building* for a particular technology



Common testing environment to measure progress of different teams in a comparable way



Blind testing ensuring the objectivity of measurements for intelligent systems involving Machine Learning



Supports informed choices for end-users about feasibility of solutions for future systems

EDF-2023-LS-RA-CHALLENGE: Topics

Topic/Budget	Title	Scope*	Mandatory types of activities	Expected # projects funded
EDF-2023-LS-RA-CHALLENGE-DIGIT-HLTO 7 M€	Agile and robust human language technologies for defence – Organisation of a technological challenge	Organise technological challenge on human language technologies	Integrating knowledge	1
EDF-2023-LS-RA-CHALLENGE-DIGIT-HLTP 18 M€ (6 M€ per proposal)	Agile and robust human language technologies – Participation to a technological challenge	Address technological solutions to process linguistic information in its different forms. Solutions to be integrated in demonstrators	Generating knowledge, Integrating knowledge	≥1

* Indicative summary



Test and accelerate Innovation Test Hubs

- Create defence industry knowledge hubs in specific fields (as required by MS) to foster uptake of civil technologies in defence domain
- Funding for consortium's R&D project (main part of the grant), incl. 12% funding for organizing calls for innovative and scalable SMEs (financial support to third parties/cascade funding)
- **Category/topic:** *Materials and components. Technologies and processes for maintenance, joining and repair through an innovation test hub.*
- **Specific objective:** set-up a demonstrator platform as test environment that offers possibility to test, qualify and certify technologies covering fields of joining, repair and maintenance
- **Indicative budget:** 30 MEUR, incl. 12% (3,6 MEUR) for FSTP/cascade funding
- **Two-tier grant scheme (financial support to third parties/cascade funding):**
 - **First tier:** EDF grant beneficiary is R&D consortium (e.g., industry, test centers, RTOs, accelerators, certification authorities)
 - **Second tier:** During project implementation, consortium organizes own calls for SMEs/start-ups
 - COM defined support to SMEs (e.g., tech mentoring, testing, class on doing business in defence).

Zoom on EDF-2023-DA-MATCOMP-MJR-CBDIN

Innovation Test Hub

Financial support to third parties (FSTP) / cascade funding

FSTP BUDGET

3,6 M€

FSTP GRANT SIZE

Max. 60 k€ per third party

TYPE OF GRANT

Lump Sum Grant

- Organize 1-2 calls, focus on SMEs, incl. start-ups
- Select & award 10-30 entities
- Distribute grants
- Provide/organise support to SMEs



**Consortium
tasks**

**Support to
SMEs,
incl. start-ups
(third parties)**

- Technical mentoring
- Testing
- Class on doing business in defence domain (IPR protection, export control etc.)
- Provide networking and collaborative activities

Zoom on EDF-2023-DA-MATCOMP-MJR-CBDIN

Innovation Test Hub

Topic/Budget	Title	Scope*	Mandatory types of activities	Expected # projects funded
EDF-2023-DA-MATCOMP-MJR-CBDIN 30 M€ (including 12%/3.6 M€ for Financial support to third parties)	Technologies and processes for maintenance, joining and repair through an innovation test hub	Set-up demonstrator platform to test, qualify and certify technologies covering joining, repair and maintenance + Financial support to third parties (FSTP) / cascade funding	Integrating knowledge, Studies, Design, System Prototyping, Testing, Qualification	≥1**

EUDIS measure

Enhance *industry knowledge hubs* in specific fields to foster uptake of civil technologies in defence domain



SMEs can test their innovation with leading European companies



Quicker access to grants for SMEs – max. 4 months



Visibility of European SMEs working in the same domain

* Indicative summary

** Resulting grants to be implemented by EDA



Migrate innovation from civil to defence

Spin-in calls

- Support proposals that build on results from civil EU funded R&D programmes
- *Categories: **cyber**, energy resilience and environmental transition, materials and components*
- **Indicative funding:** EUR 59 Mio, several applications
- **Topics:**
 - *Automation of security penetration tests (EUR 14 Mio)*
 - *Innovative propulsion systems for defence applications (EUR 25 Mio)*
 - *High-performance materials (EUR 20 Mio)*
- **Promising technologies** that can have potential defence applications (e.g., AI, medicine/ biotechnology, energy and environmental transition, cyber, materials & components, autonomy, quantum)
- Synergies with civil EU-funded R&D programmes – including the possibility of “spin outs”

EDF-2023-RA-SI: Call for **spin-in EDF research** actions implemented via actual cost grants

Type of action:
EDF-RA: Research Action

Number of topics: 3

Type of grant:
EDF-AG: Action Grant

CALL ID

EDF-2023-RA-SI

TOPIC ID

EDF-2023-RA-SI-CYBER-ASPT
EDF-2023-RA-SI-ENERENV-IPS
EDF-2023-RA-SI-MATCOMP-HPM

BUDGET

59 M€

EUDIS measure

Spin-in calls build on results from civil EU funded R&D programmes and adapt to defence applications

- Access to EU funded civil R&D results
- Same or different consortium composition
- Completed & active civil R&D projects (one or more)

EDF-2023-RA-SI: Topics

Topic/Budget	Title	Scope*	Mandatory types of activities	Expected # projects funded
EDF-2023-RA-SI-CYBER-ASPT 14 M€	Automation of security penetration tests	Create a software solution that performs network security penetration tests, suitable for mil/security ops centres	Generating knowledge, Integrating knowledge, Studies, Design	≥1
EDF-2023-RA-SI-ENERENV-IPS 25 M€	Innovative propulsion systems for defence applications	Efficient energy management and advanced propulsion technologies	Generating knowledge, Integrating knowledge, Studies, Design	≥1
EDF-2023-RA-SI-MATCOMP-HPM 20 M€	High performance materials for defence applications	Design and/or adaptation of high-performance materials for future use in defence applications	Generating knowledge, Integrating knowledge, Studies, Design.	≥1

* Indicative summary



Improve access to finance

Defence Equity Facility under Invest EU **(COMING SOON!)**

- Improve access to equity investments in Europe
- Stimulate development of an ecosystem of European private fund supporting defence innovation
- **Fund of funds mechanism:**
 - EDF will support investments made by the **European Investment Fund (EIF)** into private funds focusing on innovative SMEs (including start-ups) and **midcaps developing technologies with both civilian and defence applications.**
 - EIF's investment reduces risks for investors, sends a positive signal to the market and crowds-in co-investors.
- **Financing:** 100 MEUR from EDF* + EIF 'Top-up' + Private investments
- Leverage effect for EDF between 3.5 - 5 times
- Ambition to **start implementation in Autumn 2023**
- Financial instrument accompanied with **capacity building activities for fund managers** and matchmaking for investors and SMEs

A study on the access to equity financing for European SMEs and midcaps in the defence sector



Survey on the Access to Equity Financing for European Defence SMEs and Midcaps Launched!

defence-industry-space.ec.europa.eu • 1 min read

We aim to:

- Assess companies' funding needs and challenges to access financing;
- Assess drivers and barriers to invest in the defence sector;
- Map the European ecosystem of investors active in the defence sector;
- Quantify the funding gaps for European SMEs and Midcaps in the defence sector in the EU.

THE SURVEY FOR INVESTORS AND COMPANIES IS NOW CLOSED



Empower SMEs **Open-non-thematic SME and disruptive technology calls**

- Open R&D calls targeting SMEs - lump sum grants
 - Business coaching to guide SMEs in their business challenges
 - Matchmaking opportunities during the EDF Info Days
-
- **Categories:** *SMEs*, *Disruptive Technologies*
 - **Calls:** EDF-2023-LS-DA-SME-NT, EDF-2023-LS-RA-SMERO-NT, EDF-2023-LS-RA-DIS-NT
 - **Indicative funding:** EUR 89,2 Mio
 - **Business Coaching** will be offered to address business challenges such as:
 - Human resources
 - Legal and financial challenges
 - Market analysis & accessing the defence market
 - Help to define and find the right cooperation partners
 - **COM has framework contract with external party** to provide the services



Current agenda

- Dedicated EUDIS webpage – eudis.europa.eu
- Assess opportunities for continuous deployment of EUDIS instruments for EDF WP 2024 and beyond:
 - Timely identification of spin-in and spin-out opportunities
 - Best practices in effective (faster) access to grants
 - New support measures for SMEs: (accelerator, matchmaking, more SME business coaching to EDF grant receivers)
- Cooperate with EDA: information, outreach, implementation
- Regular dialogue with teams of NATO DIANA and NATO Innovation Fund



Call for experts: profile (1/2)

Experts assist the Commission in the assessment of the proposals submitted to the EDF 2023 calls
Expertise in **technical areas, ethics or in financial assessment** of defence related activities



CBRN medical countermeasures
CBRN detection



Aircraft configurations
Air Traffic Management



Unmanned systems
Manned-Unmanned teaming



C4ISR
Signal transmission



AI and its evaluation
Databases



Missile defence
warheads



Sonar, radar, optical ...
Data fusion



Synthetic fuels
Batteries



Collaborative
Combat



Cyber defence
Exercises and trainings



Electronics manufacturing
Advanced materials



Protection
Soldier systems



Shipbuilding
Naval architecture



Camouflage



Electronic warfare
Command posts

...

Call for experts: profile (2/2)



Call for experts: registration

At any time:

Register or update your **profile** in the EU experts database with relevant **fixed and free text keywords**

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/work-as-an-expert>

Send an email with your CV + registration number to **ec-edf-experts@ec.europa.eu**

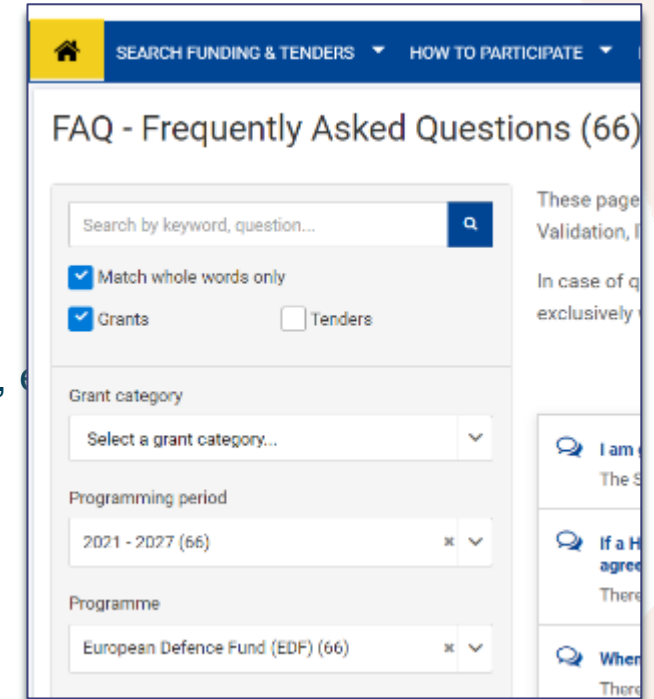
More information on our website under 'Funding and Grants' > 'Space and Defence related funding'

https://defence-industry-space.ec.europa.eu/calls-tenders/defence-industry-call-experts-assist-european-commission-evaluation-proposals-submitted-funding_en

The screenshot shows the 'Funding & tender opportunities' page on the European Commission website. The page is titled 'Work as an expert' and is part of the 'European Defence Fund (EDF)' section. It provides information on how to register as an expert and lists the types of work experts can assist with, such as evaluation of proposals and monitoring of actions. A video thumbnail titled 'Being an expert for the European Commission' is visible. The page also includes a 'News' section with a link to 'Horizon Europe: key changes to the Ethics Appraisal Process' and a 'Quick Links' section at the bottom.

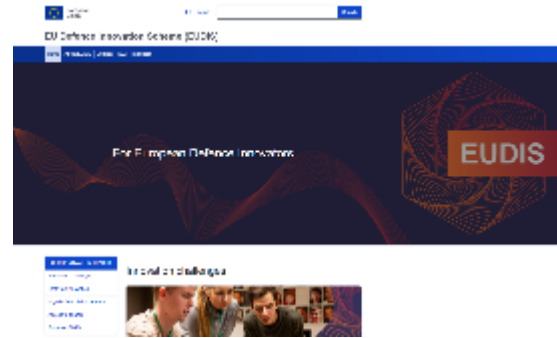
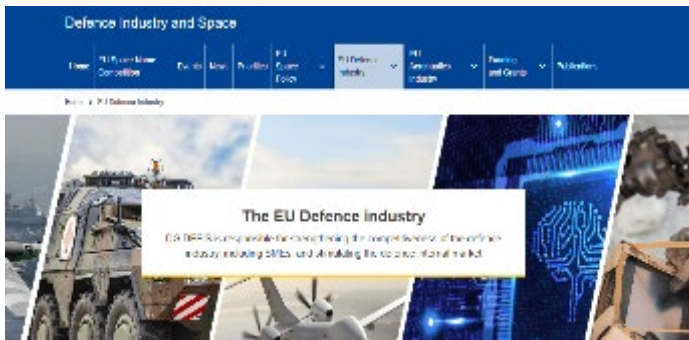
Useful links

- [General information on the EDF on DG DEFIS website](#)
(including EDF annual work programmes and multiannual perspective)
- [EDF Calls for proposals on the *Funding and Tenders portal*](#) (where to apply)
- [EDF Reference documents on the *Funding and Tenders portal*](#)
(Regulation, conditions to apply, submission templates, model grant agreements, etc.)
- [National Focal Points Network](#)
- Remaining questions regarding application to EDF calls for proposals?
→ DEFIS-EDF-PROPOSALS@ec.europa.eu
- [Infoday web page](#) (access to recording of the event)
- [Frequently Asked Questions on Funding and Tenders portal](#)



Thank you!

eudis.europa.eu



Visit our website!

