



# INNOVATION HUBS OVERVIEW

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## Quick Reference Booklet



HEDI



More information on the European Defence Agency is available at [www.eda.europa.eu](http://www.eda.europa.eu)

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# Content

Content .....	3
0. Introduction .....	7
1. European Member States .....	9
1.1. France.....	9
1. AID (Agence de l’innovation de défense).....	10
2. DIGIHALL .....	10
3. TSDH (Thales Singapore Defence Hub) .....	10
4. EUI (European Urban Initiative) .....	10
5. CEA Tech .....	11
6. ONERA (Office National d’études et de recherche aérospatiales) .....	11
7. IRT SystemX.....	11
8. IHEDN (Institut des hautes études de défense nationale).....	11
9. Starburst Accelerator .....	11
1.2. Belgium .....	12
1. HEDI (Hub for European Defence Innovation).....	13
2. DIGITAL & EDIH (Digital Europe Programme & European Digital Innovation Hub).....	13
3. EFSI (European Fund for Strategic Investments) .....	13
4. IF23 (Innovation Fund 2023) .....	13
5. EIC Accelerator (European Innovation Council Accelerator) .....	13
6. EBN (European Business and Innovation Centre Network).....	14
7. PhotonHub Europe.....	14
8. hub.brussels .....	14
9. ACP IF (ACPO Innovation Fund of OACPS) .....	14
10. InvestEU Project.....	15
11. imec.....	15
12. Flemish Institute for Technological Research (VITO) .....	15
13. Agoria .....	15
14. SkyWin Wallonia .....	16
15. Sirris – Innovation Forward.....	16

1.3 Germany.....	17
1. WFP Innovation Accelerator (World Food Programme Innovation Accelerator).....	18
2. Cyberagentur (der Agent für Innovation in der Cybersicherheit).....	18
3. Cyber Innovation Hub (Der Bundeswehr Cyber Innovation Hub).....	18
4. ROBOT-NET (Frahofer IPA).....	18
5. CIVICS Innovation Fund (CIVICS Innovation Hub) .....	19
6. Munich Aerospace Cluster .....	19
7. ZMSBw (Zentrum für Militärgeschichte und Sozialwissenschaften der Bundeswehr) .....	19
1.4 Finland.....	20
1. SMACC (Smart Machines and Manufacturing Competence Centre) .....	21
2. LIH (Location Innovation Hub) .....	21
3. DDE (Digital Defence Ecosystem).....	21
4. VTT (Technical Research Centre of Finland) .....	21
1.5 Luxembourg .....	22
1. L-DIH (Luxembourg Digital Innovation Hub) .....	23
2. SIH (Sustainability Innovation Hub – Luxinnovation).....	23
3. LSA (Luxembourg Space Agency) .....	23
4. NC3 (Luxembourg Cybersecurity Competence Centre) .....	23
1.6 Italy.....	24
1. DIH Confindustria (Digital Innovation Hub – Confindustria).....	25
2. UGID/INNOV@DIFESA (UGID/INNOV@DIFESA – Ufficio Generale Innovazione Difesa) .....	25
3. DAC (Distretto Aerospaziale della Campania).....	25
4. CIRA (Centro Italiano Ricerche Aerospaziali) .....	25
5. SeaFuture .....	26
6. Green&Blue Innovation Hub.....	26
1.7 Netherlands.....	27
1. NIF (NATO Innovation Fund) .....	28
2. ROYAL NLR (ROYAL NLR – Netherlands Aerospace Centre).....	28
3. NL AI Coalition (Netherlands Artificial Intelligence Coalition) .....	28
4. TNO (TNO - Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek) ....	29
5. Innovation Quarter (Invest & Innovate in the greater Rotterdam – The Hague Area) .....	29
6. NSO (Netherlands Space Office) .....	29

1.8 Portugal.....	30
1. D4T (Defence Innovation Hub for Technology Transfer).....	31
2. CAIH (CAIH – Cyber Academia and Innovation Hub) .....	31
3. BTID (Base Tecnológica e Industrial de Defesa Nacional).....	31
4. INESC TEC (Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciencia) .....	31
5. IST (Instituto Superior Técnico) .....	32
1.9 Spain.....	33
1. BDIH (Basque Digital Innovation Hub) .....	34
2. TECNALIA (TECNALIA – Member of Basque Research and Technology Alliance).....	34
3. IDEA (IDEA – Agencia de Innovación y Desarrollo de Andalucía) .....	34
4. INTA (INTA – Instituto Nacional de Técnica Aeroespacial) .....	34
5. INDRA (INDRA – Indra Sistemas S.A.).....	35
1.10 Sweden.....	36
1. The Swedish Defence Research Agency (FOI).....	37
2. Research Institutes of Sweden (RISE) .....	37
3. The Swedish Space Corporation (SSC) .....	37
4. The LEAD Incubator.....	37
5. Blue Science Park and the Marine Technology Centre .....	37
1.11 Ireland .....	38
1. DTIF (The Disruptive Technologies Innovation Fund) .....	39
2. RTI Unit (Defence Research, Technology and Innovation {RTI} Unit).....	39
3. NDRC (National Digital Research Centre) .....	39
1.12 Czech Republic .....	40
1. DSIH (DefSec Innovation Hub) .....	41
2. MIH (Mobility Innovation Hub).....	41
3. ERA a.s.....	41
1.13 Hungary .....	42
1. VIKI {DIRI} (Defence Innovation Research Institute).....	43
2. Institute of Informatics, University of Szeged, Department of Software Engineering .....	43
3. MVSZ (Magyar Védelmi és Biztonsági Szövetség).....	43
.....	44
2. Rest of the world.....	45

2.1	United States of America .....	45
2.2	United Kingdom .....	48
2.3	India.....	51
2.4	Australia .....	53
2.5	Canada .....	55
2.6	Singapore .....	57

# 0. Introduction

In an era where the velocity of technological advancement is unprecedented, the landscape of defence is rapidly evolving. The European Defence Agency (EDA), through the establishment of the Hub for European Defence Innovation (HEDI), acknowledges the imperative need to harness and synergize innovations that bolster our collective security and defence capabilities. This booklet serves as a cornerstone in this mission, offering a comprehensive mapping of the most pivotal Innovation Hubs across the globe, with a keen focus on those within European countries.

The defence sector, traditionally characterized by long development cycles and heavily regulated environments, is now at the cusp of a transformation. The emergence of new threats, the changing nature of warfare, and the disruptive potential of technologies such as artificial intelligence, cyber capabilities, and unmanned systems, necessitate a dynamic and innovative approach to defence. To this end, the collaboration between military, civilian, and dual-use innovation hubs is not just beneficial but essential.

This booklet is designed to be a practical resource for the Defence Innovation community. It aims to foster connections, inspire collaborative projects, and encourage the sharing of knowledge and resources. By detailing the landscape of

innovation hubs, we provide a platform for stakeholders within the defence ecosystem to identify potential partners, understand the breadth of ongoing initiatives, and leverage the collective ingenuity that these hubs represent.

Within these pages, readers will find a curated list of innovation hubs. Each entry includes a general description of the hub, highlighting its key areas of expertise. Furthermore, reference links are provided to guide readers towards more in-depth information, facilitating direct engagement and further exploration.

The information herein is more than a directory; it is a tapestry of potential, a glimpse into the future of defence, and a testament to the collaborative spirit that drives progress. As the landscape of threats continues to evolve, so must our approach to defence. The HEDI, through initiatives such as this booklet, is committed to ensuring that Europe and its allies remain at the forefront of defence innovation, ready to meet the challenges of tomorrow with the solutions of today.

We invite you to delve into this resource, to explore the vibrant ecosystem of defence innovation, and to join us in shaping a secure and resilient future.





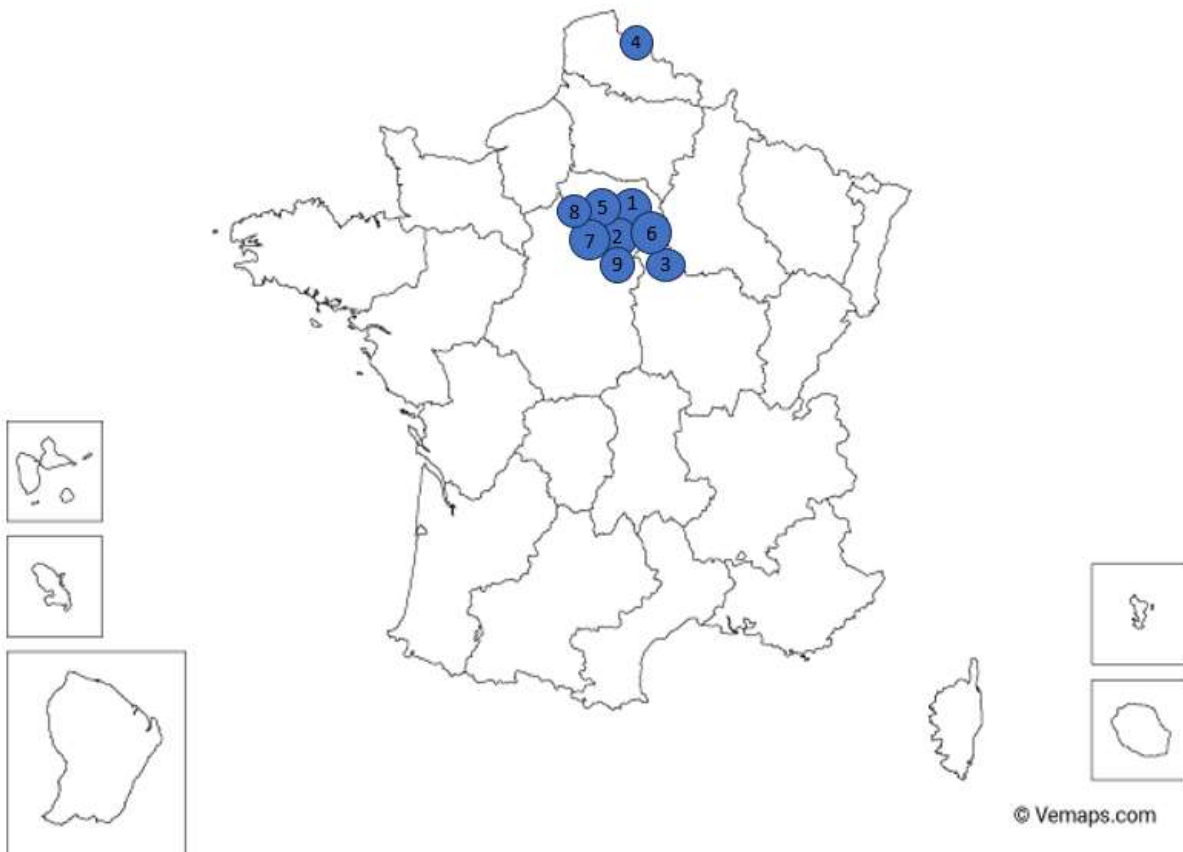
# 1. European Member States

## 1.1. France

France's defence innovation ecosystem is a robust and collaborative network that combines the efforts of government bodies, private sector entities, research institutions, and academia to advance defence technology and capabilities. Central to this ecosystem is the Direction Générale de l'Armement (DGA), which oversees defence procurement and R&D, and the French Defence Innovation Agency (AID), which accelerates the development of new technologies for the armed forces.

Clusters like Paris-Saclay, alongside research labs such as ONERA and CEA Tech, drive innovation in digital and aerospace technologies. The ecosystem is further enriched by funding and support from Bpifrance and incubators like the Starburst Accelerator, which nurture startups in the defence sector.

This integrated approach ensures France remains at the cutting edge of defence technology, fostering a dynamic environment for innovation that aligns with national security objectives.



### 1. AID (Agence de l'innovation de défense)

It is one of the main defence innovation agencies in France, whose main objective is to help SMEs, Start-ups, Large Enterprises, to develop Defence Technologies, mainly concerning the Research, Technology & Innovation domain.

-Reference: [Agence de l'innovation de défense | Ministère des Armées \(defense.gouv.fr\)](https://defense.gouv.fr)

### 2. DIGIHALL

It is a technology ecosystem in Paris-Saclay, and with its 1,500 scientists, is the largest research community in Europe. It was created to make AI and other digital technologies available to companies and to society at large, more specifically, towards Industry Clusters, Start-ups, and SMEs. Some of the topics that are covered in this Hub regard Artificial Intelligence, Robotics, Digital Technologies, Manufacturing, Transport, Health, and Agriculture.

-Reference: [Digihall | EPA Paris-Saclay \(epa-paris-saclay.fr\)](https://epa-paris-saclay.fr)

### 3. TSDH (Thales Singapore Defence Hub)

This Hub will harness ongoing local defence services support for Thales' systems currently used by the Singapore Armed Forces (SAF). Moreover, it is in close relations with the Defence Science and Technology Agency in Singapore with whom it focuses its efforts in develop Airspace, Defence & Security, Digital Identity & Security, and in general Research, Technology & Innovation aspects, to foster and enhance the defensive capabilities of Singapore.

-Reference: [Thales' Local Defence Hub to reinforce Defence Services Capabilities for Singapore Armed Forces | Thales Group](https://www.thalesgroup.com/en/our-business/defence)

### 4. EUI (European Urban Initiative)

This initiative, funded by the European union, supports urban areas of all sized with innovative actions, capacity, and knowledge building, as well as policy development and communication on sustainable urban development.

-Reference: [European Urban Initiative | EUI \(urban-initiative.eu\)](https://urban-initiative.eu)

## 5. CEA Tech

The technological research division of the French Alternative Energies and Atomic Energy Commission (CEA), it focuses on creating technological innovation to enhance the competitiveness of French companies.

-Reference: [CEA Tech Fr - Accélérateur d'innovation au service de l'industrie \(cea-tech.fr\)](http://cea-tech.fr)

## 6. ONERA (Office National d'études et de recherche aérospatiales)

ONERA is the French national aerospace research centre. It is a public establishment, with both industrial and commercial responsibilities, dedicated to aeronautical and space research.

-Reference: [ONERA, the French Aerospace Lab](http://onera.fr)

## 7. IRT SystemX

Located in the Paris-Saclay innovation cluster, IRT SystemX is focused on digital engineering of future systems, and its projects often have applications in defence.

-Reference: [Home - IRT SystemX \(irt-systemx.fr\)](http://irt-systemx.fr)

## 8. IHEDN (Institut des hautes études de défense nationale)

An institution for expertise and sensitization towards defence matters, it contributes to the training of French and foreign high-level military and civilian personnel.

-Reference: [L'IHEDN : Institut des hautes études de défense nationale](http://ihedn.fr)

## 9. Starburst Accelerator

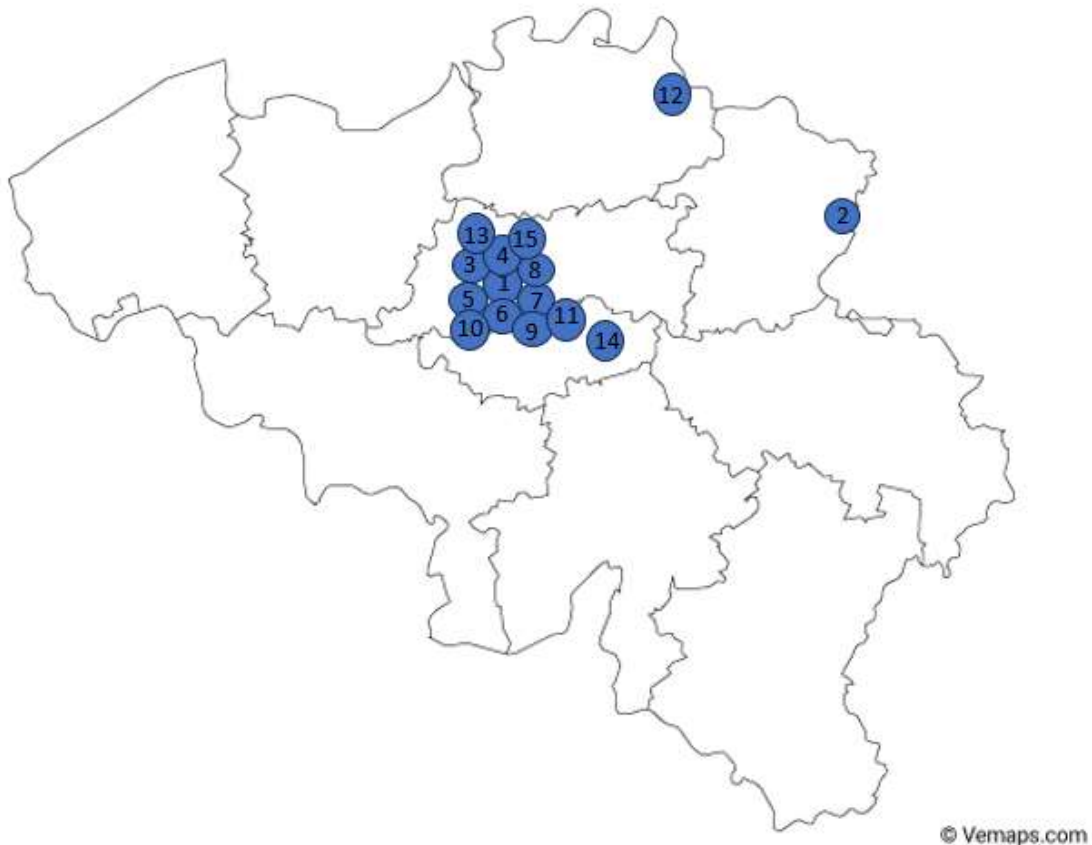
An incubator dedicated to aerospace startups, Starburst offers support to companies developing advanced aerospace and defence technologies.

-Reference: [Starburst](http://starburst.fr)

## 1.2. Belgium

Belgium's defence innovation ecosystem is a compact yet dynamic network that brings together government, academia, and industry to advance defence technologies. The Directorate General Material Resources (DGMR) is pivotal, steering R&D and procurement for the armed forces. Academic institutions like the Von Karman Institute contribute focused research and specialized education. Belgium's active role in NATO and the European Defence Agency facilitates international collaboration and access to collective defence projects.

Research centers and innovation hubs like imec, Agoria, and Sirris expand the technological frontiers in areas relevant to defence, including nanoelectronics, digital technologies, and advanced materials. The aerospace cluster Skywin Wallonia exemplifies the nation's strategy of fostering public-private partnerships to develop dual-use technologies. Collectively, these components form an ecosystem that, despite Belgium's size, is well-positioned to contribute to European defence innovation.



### 1. HEDI (Hub for European Defence Innovation)

It is the Innovation Hub of the European Defence Agency (EDA), whose focus is to collaborate with SMEs, Large Enterprises, Governments and Knowledge Centres. The Hub's main objective is to aid and incentivize numerous projects on capability development, defence research and industrial capabilities.

-Reference: [Hub for EU Defence Innovation Established within EDA \(europa.eu\)](#)

### 2. DIGITAL & EDIH (Digital Europe Programme & European Digital Innovation Hub)

It is an EU funding programme focused on bringing digital technology to businesses citizens and public administrators. It will provide strategic funding to five key capacity areas: supercomputing, artificial intelligence, cybersecurity, advanced digital skills and ensuring a wide use of digital technologies across the economy and society.

-Reference: [The Digital Europe Programme | Shaping Europe's digital future \(europa.eu\)](#)

### 3. EFSI (European Fund for Strategic Investments)

It is the central pillar of the Investment Plan for Europe, who aims to tackle the lack of confidence and investment which resulted from the economic and financial crisis. It supports strategic investments in key areas such as infrastructure, energy efficiency, research and innovation, environment, agriculture, digital technology, education, health, and social projects.

-Reference: [The European Fund for Strategic Investments \(EFSI\) | European Commission \(archive-it.org\)](#)

### 4. IF23 (Innovation Fund 2023)

The Innovation Fund is the EU fund for climate policy, with a focus on energy and industry. It aims to bring to the market solution to decarbonise European Industry and support its transition to climate neutrality while fostering its competitiveness.

-Reference: [Innovation Fund \(europa.eu\)](#)

### 5. EIC Accelerator (European Innovation Council Accelerator)

This accelerator concerns mainly on the development of Startups and SMEs, with the potential to create new markets or disrupt existing ones having a TRL going from 5 to 9. The Accelerator is open to the proposal in any field of technology.

-Reference: [EIC Accelerator \(europa.eu\)](#)

## 6. EBN (European Business and Innovation Centre Network)

The initiatives of this network include EU/BIC certification, development and distribution of quality business support programmes, facilitation and initiation of project collaborations, global network, and advocacy for excellent business support actors like the EU/BICs.

-Reference: [About EBN – EBN | EU/BIC Innovation Community](#)

## 7. PhotonHub Europe

This Hub builds on an impeccable track record of accomplishment in conducting photonics innovation with industry, notably with SMEs and mid-caps. Its competence centres act as technology suppliers in support of end-users for TRL acceleration from early-stage support of feasibility proof-of-concepts and demonstrators at TRL 3-4, to support of industrially compatible small-series pilot manufacturing at TRL 5-7, to facilitating full-scale production and seamless transition to market launch at TRL 7-8.

-Reference: [home - PhotonHUB : PhotonHUB](#)

## 8. hub.brussels

The Brussels region boasts an entrepreneurial ecosystem as rich as it is dynamic. From business centres to local economy offices, from activity cooperatives to incubators, from co-working spaces to business circles. Hub.brussels coordinates and animates several thematic networks, working in synergy to make Brussels the most stimulating, inspiring and promising region in terms of entrepreneurship.

-Reference: [Brussels Agency for Business Support | Home | hub.brussels](#)

## 9. ACP IF (ACPO Innovation Fund of OACPS)

This fund is a key component of the OACPS Research & Innovation Programme, aimed at strengthening R&I capacity in its African, Caribbean, and Pacific member countries to unlock their innovation potential and support their transition to knowledge-based economies for sustainable development.

-Reference: [Innovation Fund – ACP \(oacps-ri.eu\)](#)

## 10. InvestEU Project

This project consists of 3 building blocks: the InvestEU Fund, InvestEU Advisory Hub, InvestEU Portal. It works closely with SMEs, large enterprises, governments, and knowledge centres. It provides the EU with crucial long-term funding by leveraging private and public funds to support Europe's sustainable recovery. The InvestEU Project brings together a multitude of earlier EU financial instruments, making access to finance and investments in European companies and projects simpler, more efficient, and more flexible.

-Reference: [Home \(europa.eu\)](https://europa.eu)

## 11. imec

imec is an ecosystem whose main objective is to shape the future, by enabling nano- and digital technology innovation with a significant impact on the quality of life. It is supported by three pillars of R&D, that is, a unique infrastructure that includes a 2.5-billion-euro 300mm semiconductor pilot line, more than 5,500 expert scientists, and an ecosystem of more than 600 industry partners and academic network.

-Reference: [Imec R&D, nano electronics and digital technologies \(imec-int.com\)](https://www.imec-int.com)

## 12. Flemish Institute for Technological Research (VITO)

VITO's main mission is to accelerate the transition to a sustainable world. It de-risks innovation for businesses and it strengthens the economic and societal fabric of Flanders, with interdisciplinary research. It introduces short material cycles to set up ecosystems throughout the world for circular economy, while also radically reducing the consumption of fossil-based feedstocks and energy within the Flemish chemical sector. Additionally, it stimulates sustainable use of space and water, with links to agriculture, health, and more.

-Reference: [Vision on technology for a better world | VITO](https://www.vito.be)

## 13. Agoria

Its main objective is to pave the way for all technology-inspired companies in Belgium that develop and market sustainable solutions to realize growth and progress worldwide. By doing so, it takes care of sustainable employment, diversity, and inclusion. It also contributes its work for the creation of a better society, by working on digitalization, mobile society, and data economy.

-Reference: [Home | Agoria](https://www.agoria.be)

#### 14. SkyWin Wallonia

SkyWin is the aerospace cluster of Wallonia in Belgium. It is an association of companies, research organization and training centres engaged in public-private partnerships and in the implementation of innovative collaborative projects. It focuses specifically on 4 domains, i.e., aeronautics, space, drones, and defence.

-Reference: [Skywin](#)

#### 15. Sirris – Innovation Forward

Sirris focuses its effort on technological innovation which is the fuel for sustainable growth. It is a dynamic not-for-profit organization founded and governed by industry, and it helps companies achieve their innovation ambitions. It helps companies by aiding them in innovation, optimization, and to manage companies' innovation.

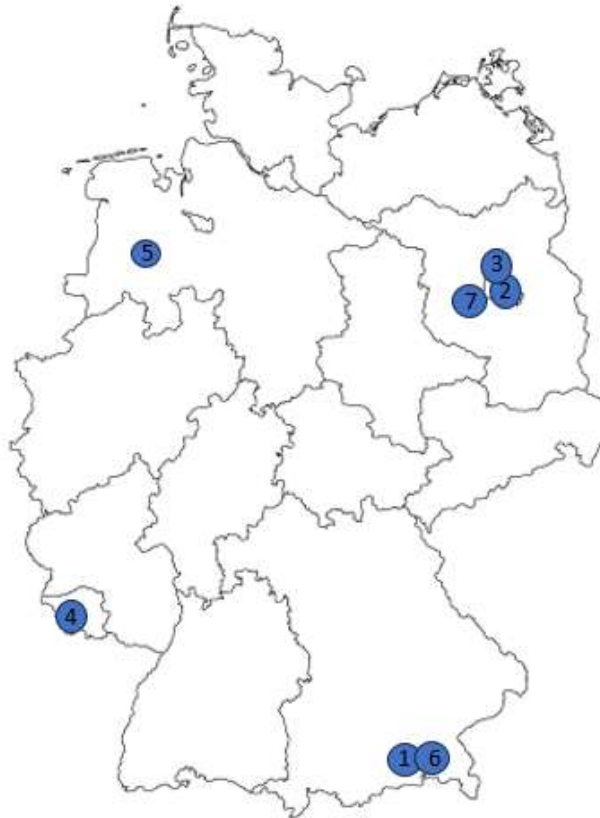
-Reference: [Sirris | Innovation forward](#)



## 1.3 Germany

Germany's defence innovation ecosystem is characterized by strong collaboration among government, industry, and academia. It emphasizes research and development, with a well-developed defence industry and active involvement of academic institutions. Germany exports defence equipment and collaborates internationally. Strict regulations and export controls ensure the responsible use of technologies. This ecosystem supports ongoing innovation and technological advancement in defence.

Germany's defence innovation ecosystem thrives on collaboration and technology development. Notable examples include the Eurofighter Typhoon, the Future Combat Air System (FCAS), companies like Rheinmetall, academic research at institutions like the Technical University of Munich, technology clusters like the Cyber Valley, and Germany's export of advanced equipment such as the Leopard 2 tank.



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### 1. WFP Innovation Accelerator (World Food Programme Innovation Accelerator)

The main objective of this accelerator is to reach Zero Hunger. To achieve this, the accelerator pilots, and scales promising ideas by leveraging advances in digital innovation, by providing Innovation Consulting Services to share knowledge with other agencies and organizations working towards the SDGs.

-Reference: [WFP Innovation](#)

### 2. Cyberagentur (der Agent für Innovation in der Cybersicherheit)

This agency's mission is to advance research and breakthrough innovations in the field of cybersecurity and related key technologies in the field of internal and external security. In this way, it is contributing to Germany's technological sovereignty in the cyber and information space.

-Reference: [Agentur für Innovation in der Cybersicherheit GmbH \(cyberagentur.de\)](#)

### 3. Cyber Innovation Hub (Der Bundeswehr Cyber Innovation Hub)

It is the digital speedboat of the German Armed Forces. With a diverse team of soldiers, reservists, and civil employees, it builds bridges between the Bundeswehr and the world of start-ups. Their vision is: Empowering Innovation in Defence.

-Reference: [Bundeswehr Cyber Innovation Hub \(CIHBw\) | Cyber Innovation Hub](#)

### 4. ROBOTT-NET (Fraunhofer IPA)

ROBOTT-NET offers free consulting to European Companies that develop and deploy robot technology in industrial production. Its mission is to collect and share the latest knowledge about robot technology that can improve production, bring new ideas to market, and ensure economic competitiveness. ROBOTT-NET is driven by four national research technology organizations, and one of them is in Germany.

-Reference: [THIS IS ROBOTT-NET](#)

## 5. CIVICS Innovation Fund (CIVICS Innovation Hub)

This fund is a unique European pooled fund launched by the CIVICS Innovation Hub, and its aim is to pioneer new ideas in civil society, enhance their visibility and integrate them into NECE (a growing pan-European network of civil educators). It supports start-up ideas in civic education that apply interdisciplinary, intersectional, intergenerational, and inclusive approaches which lead to greater resilience, diversity, and collaboration in democracy.

-Reference: [Civic Innovation Fund | THE CIVICS Innovation Hub | pan-European NGO](#)

## 6. Munich Aerospace Cluster

This association was posed as a research, development, and training centre in the field of aerospace. It succeeded by interlinking its four members (TUM, UniBwM, DLR, BHL), by allowing regional available competences to be bundled, synergies to be released, and to pool the knowledge of many aerospace institutes. It pursues the following goals: identification of new joint research goals, formulation of research focal points, bundling diverse scientific and technical expertise, development of the Munich science region into an attractive European aerospace training location.

-Reference: [Homepage - Munich Aerospace – New Horizons in Aviation and Space \(munich-aerospace.de\)](#)

## 7. ZMSBw (Zentrum für Militärgeschichte und Sozialwissenschaften der Bundeswehr)

The Centre for Military History and Social Sciences of the German Armed Forces is a federal department research institutions within the portfolio of the Federal Ministry of Defence. It conducts basic military history research as well as military sociological and security policy research for the Armed Forces. Mainly, the interrelationship between the military, the state, society, the economy, culture and the public are also taken into account. With its attention to social sciences, it also contributes to the further development of military sociology and security policy as well as to science-based policy advice.

-Reference: [ZMSBw \(bundeswehr.de\)](#)

## 1.4 Finland

Finland's defence innovation ecosystem centers on a strong defence industry, R&D investment, and international collaboration. It features a growing startup culture, innovation hubs, and expertise in areas like cybersecurity. Government initiatives and defence procurement drive innovation, ensuring Finland's strong defence technology and capabilities.

The Finnish defence innovation ecosystem is characterized by a strong focus on technology, a commitment to national security, and a collaborative approach between government, industry, and academia.



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### 1. SMACC (Smart Machines and Manufacturing Competence Centre)

It is a competence centre focused on research and services in the areas of smart machines and manufacturing. SMACC is formed by VTT Technical Research Centre of Finland and Tampere Universities Community. SMACC's activities are guided by the development themes, which are important, i.e., Advanced Technologies, Data Based Innovations, Digital Life-Cycle Management, Human-Technology Collaboration.

-Reference: [Valmistus | SMACC | Älykkäät koneet | Suomi](#)

### 2. LIH (Location Innovation Hub)

The Location Innovation Hub is a centre of excellence in locale information coordinated by the Finnish Geospatial Research Institute. It helps companies to grow their business with location information. It supports its customers to make their operations more efficient by developing data interoperability and using new positioning technologies, by providing tools and test environment, consultation and training, and support for companies to obtain funding.

-Reference: [Location Innovation Hub](#)

### 3. DDE (Digital Defence Ecosystem)

The DDE is a network of Finnish companies in defence and technology bringing new digital defence solutions to international markets. The members of this ecosystem are dual-use and defence technology companies and mainly research institutes in Finland. Many of these technology companies can already provide innovations and solutions very much needed in the defence sector. In just 1 year from its establishment 22 members have already taken part in this initiative.

-Reference: [Digital Defence Ecosystem](#)

### 4. VTT (Technical Research Centre of Finland)

VTT is a visionary research and innovation partner for companies and society. It is owned by the Finnish state, and it advances the utilization and commercialization of research and technology in commerce and society. Through scientific and technological means, it turns large global challenges and issues into sustainable growth for businesses and society.

-Reference: [Welcome to VTT | VTT \(vttresearch.com\)](#)

## 1.5 Luxembourg

Luxembourg doesn't have widely recognized defence-specific innovation hubs. However, the country actively engages in collaborative efforts and initiatives related to defence and security innovation. Its defence innovation ecosystem focuses on technology and international collaboration. Some of the key contributors include the Ministry of Defence, driving research, and the Defence Innovation Hub, who facilitates collaboration. Additionally, initiatives like the Luxembourg Space Agency and the Cybersecurity Competence Centre contribute to space and cybersecurity innovations with implications for defence.



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### 1. L-DIH (Luxembourg Digital Innovation Hub)

Digital Innovation Hub for Industry 4.0) – This hub focuses on addressing the digital transformation of the Luxembourg industry with networking, innovation skills and trainings, "test before invest" services and support to find investments at local and European level. Some of the fields of activity that the hub focuses on are Artificial Intelligence, Blockchain, Cybersecurity, Augmented Reality, Internet of Things, and System Integration.

-Reference: [Digital Innovation Hub - DIH | Digital Transformation for Luxembourg's industry](#)

### 2. SIH (Sustainability Innovation Hub – Luxinnovation)

The Sustainability Innovation Hub brings together all Luxinnovation activities that help companies succeed with their sustainable transformation. There are different programs available such as: Fit 4 Sustainability, which helps companies to assess and reduce their environmental impact; Simplified guide to aid for environmental protection, a user-friendly guide to existing support measures; Sustainable solutions for groups of companies, a project that integrates companies in the same field of activity; Mapping of sustainability enablers, an overview of service and technology providers that can help companies become more sustainable through innovation.

-Reference: [Develop your business in Luxembourg | Luxinnovation](#)

### 3. LSA (Luxembourg Space Agency)

The LSA promotes the commercial space sector in Luxembourg by providing support to the space industry and by fostering new and existing businesses. The mission of this agency is to develop the Luxembourg space ecosystem and create synergies with businesses and organizations outside of this sector; to encourage the development of key skills and expertise; and to promote Luxembourg and its space sector internationally.

-Reference: [Luxembourg Space Agency \(public.lu\)](#)

### 4. NC3 (Luxembourg Cybersecurity Competence Centre)

NC3's main mission is to support the Luxembourg ecosystem in building cybersecurity competence and capacity, contributing to the development of the cybersecurity industrial base in the country. The NC3 builds its activities around 3 pillars: to encourage and coordinate capacities and competence building in cybersecurity for exposed organizations or individuals, to develop a strong cybersecurity ecosystem, and to orient research efforts and technological excellence in this specific sector.

-Reference: [National Cybersecurity Competence Center Luxembourg - nc3.lu](#)

## 1.6 Italy

Italy's defence innovation ecosystem is marked by collaboration between government, industry, and research institutions. Key elements include a robust defence industry with companies like Leonardo, government investments in R&D, initiatives fostering innovation in security technologies, active international collaboration, emphasis on aerospace and space technologies, with innovation hubs and agencies such as DAC and CIRA, and a focus on cybersecurity. The ecosystem benefits from government support and is dynamic, with ongoing developments in defence capabilities and technologies.



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### 1. DIH Confindustria (Digital Innovation Hub – Confindustria)

This hub from Confindustria has the task of promoting the demand for innovation in the production system and functions as the "gateway" of companies to the world of industry 4.0. It works directly or through the innovation ecosystem (Universities, Competence Centres, industry Players, etc...) by carrying out specific activities that are focused on: awareness-raising on the opportunities related to the application of 4.0 technologies, Digital Maturity Assessment, and orientation towards the innovation ecosystem.

-Reference: [Digital Innovation Hub. Cosa sono e a cosa servono - Preparati al Futuro \(confindustria.it\)](https://www.confindustria.it/it/innovazione/dih)

### 2. UGID/INNOV@DIFESA (UGID/INNOV@DIFESA – Ufficio Generale Innovazione Difesa)

This innovation centre developed by the Italian MoD works closely with Research Centres and a selected number of Organizations. It focuses its efforts on working and assisting the latter in multi-domain operations, emerging and disruptive technologies on defence and cognitive warfare. More specifically some of the project published by this centre concern unmanned aerial vehicles, enhanced CIMIC Capabilities, Cyber Warfare, and non-lethal weapons.

-Reference: [Ufficio Generale Innovazione Difesa](https://www.ugid.gov.it/)

### 3. DAC (Distretto Aerospaziale della Campania)

The Campania Aerospace Technological District has the definite goal of stimulating the collaboration between research centers, universities, and firms in the Campania region to foster business and continuous growth and innovation. The DAC represents a new model of development which faces new challenges related to the aerospace industry, such as: commercial aviation, general aviation, space and carriers, maintenance, and transformation.

-Reference: [Dac Campania | Distretto Tecnologico Aerospaziale della Campania](https://www.dac.campania.gov.it/)

### 4. CIRA (Centro Italiano Ricerche Aerospaziali)

The Italian Aerospace Research Centre has the aim of promoting research and technological development in the fields of space and aeronautics matching that of other European countries and enabling Italian enterprises to compete at high levels on the international markets. This company specializes in the most advanced techniques of aerospace research: from the study of aeronautical craft and spacecraft able to fly autonomously and at very high speeds, to the development of innovative systems that can reduce the environmental impact of carriers.

-Reference: [CIRA](https://www.cira.gov.it/)

## 5. SeaFuture

SeaFuture is the business convention for maritime and dual use technologies, and it is the Hub on the Mediterranean Sea for the Blue Economy. During this convention, a series of topics can be explored, such as dual use technologies, maritime safety, and security, electronic warfare-cyber defence, cyber security, and defence technologies.

-Reference: [SEAFUTURE – 5-8 June / La Spezia Naval Base](#)

## 6. Green&Blue Innovation Hub

This innovation hub is necessary to highlight the latest trends and innovations applied to the blue economy sector to make it increasingly sustainable and to support the energy transition. More specifically, the energy transition process, is of fundamental importance, such as climate neutrality, decarbonization of maritime transport, passage to a circular economy, marine environment protection, new policies to increase the resilience of coastal areas to climate change.

-Reference: [Green&Blue Innovation HUB – SEAFUTURE](#)

## 1.7 Netherlands

The Netherlands' defence innovation ecosystem involves collaboration between government, industry, and research entities. While specific defence innovation hubs might not be explicitly designated, key players include the Defence Cyber Command, TNO for applied scientific research, and entities like Innovation Quarter. The country actively participates in European and NATO defence collaborations, contributing to advancements in cybersecurity, space technology, and defence equipment.



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### 1. NIF (NATO Innovation Fund)

The NIF was created to supercharge the Alliance's unique innovation ecosystem. The NATO Innovation Fund is standalone EUR 1 billion venture capital fund supporting ambitious founders developing emerging and disruptive technologies. For the fund, high-impact verticals include artificial intelligence, biotechnology, energy & propulsion, manufacturing, and space. The NIF focuses also on autonomy, hypersonic, new materials and quantum and cutting-edge hardware and software.

-Reference: [Nato Innovation Fund \(nif.fund\)](https://nif.fund)

### 2. ROYAL NLR (ROYAL NLR – Netherlands Aerospace Centre)

The ROYALE NLR has been, for over 100 years, the knowledge organization for applied research making the world of transport safer, more sustainable, more efficient, and more effective. This centre works closely with the industry, civil aviation, space industry and defence. Some of the focus areas and themes that are at the centre of the ROYAL NLR concern knowledge and technology, sustainable aviation, competitive aerospace, and other programmes, such as operational availability, future air & space power, and emerging technologies.

-Reference: [NLR - Netherlands Aerospace Centre](https://www.nlr.nl)

### 3. NL AI Coalition (Netherlands Artificial Intelligence Coalition)

The NL AIC was set up in 2019 to implement and encourage AI activities in the Netherlands, as the initiative was taken by the Confederation of Netherlands Industry and Employers for Dutch SMEs, the Ministry of Economic Affairs and Climate Policy and others. The aim of this coalition is to put the Netherlands in a front-runner position in terms of AI knowledge and applications for well-being and welfare. It functions as a catalyst for AI applications in the country. Some of the Technology Building Blocks (TBB) that the coalition focuses on concern data sharing, human capital, human centric AI, research and innovation and start-ups and scale-ups.

-Reference: [Algorithms that work for everyone | NL AIC | The Netherlands AI Coalition](https://www.nlai.nl)

#### 4. TNO (TNO - Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek)

TNO's mission is to generate innovative solutions with demonstrable impact to achieve a safe, healthy, sustainable, and digital society and boost the earning power of the Netherlands. It aims to achieve this by performing two major core tasks. The first is to support the Dutch government in carrying out statutory government tasks in the public interest. The second core task is to strengthen the earning power of the Dutch economy and increase employment.

-Reference: [Innovation for life | TNO](#)

#### 5. Innovation Quarter (Invest & Innovate in the greater Rotterdam – The Hague Area)

The Innovation Quarter is the regional economic development agency for the Province of Zuid-Holland, also known as the greater Rotterdam – The Hague area. Its mission is to strengthen the regional economic structure by stimulating the innovation potential of this unique delta region. Within this international entrepreneurial ambiance, this agency offers great opportunities for doing business in numerous sectors, such as: maritime and harbor, aerospace, high tech systems, energy, and digital technology.

-Reference: [InnovationQuarter - InnovationQuarter](#)

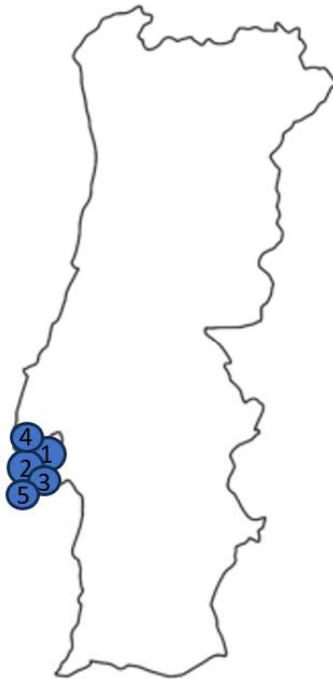
#### 6. NSO (Netherlands Space Office)

The NSO is the governmental Space Agency of the Netherlands, and its task is to realize the national space policy who is focused on the added value of space on science, economy, and society, and in particular the development of ground-breaking space technologies, and services based on satellite data. Space technologies and satellite data are key in dealing with today's global challenges, i.e., understanding climate change, monitoring air quality, safe navigation, and effective communication. All of them would be impossible without the help of satellite data generated by precision technology in space.

-Reference: [Home | Spaceoffice.nl](#)

## 1.8 Portugal

The Portuguese defence innovation ecosystem is characterized by collaboration between government, industry, and research institutions. Key elements include the National Defence Technological and Industrial Base (BTID), research and development institutions like INESC TEC and IST, and efforts to establish a Defence Innovation Hub (DiHub). National defence companies contribute to advancements in aerospace, naval solutions, and cybersecurity. The government actively invests in defence research and development to enhance technological capabilities. The landscape is dynamic, and ongoing initiatives aim to foster innovation in the defence sector.



### 1. D4T (Defence Innovation Hub for Technology Transfer)

The Defence4Tech Hub is the first Digital Innovation Hub in Europe and is led by idD Portugal Defence. Digital Innovation Hubs are part of Digital Europe Programme, and their objectives is to accelerate the dissemination and adoption of digital technologies by companies and the Public Administration, contributing to increase in the competitiveness of their processes, products, and services.

-Reference: [New Digital Innovation Hub for the Defence Economy – idD Portugal Defence](#)

### 2. CAIH (CAIH – Cyber Academia and Innovation Hub)

The CAIH is an entity of the National Defence ecosystem focused on the areas of cyber defence and cyber security. The CAIH's action plan is structured to enhance Cyber Education, Training and Exercises, Research, Development and Innovation, and Industry Development, to feed national and international ecosystems with knowledge, the competencies and skills required for a new generation of professionals, as well as to support the development of cyber capabilities.

-Reference: [Cyber Academia and Innovation Hub – idD Portugal Defence](#)

### 3. BTID (Base Tecnológica e Industrial de Defesa Nacional)

The BTID contains a set of scientific and technological companies and entitites, with the ability to intervene in one or more stages of the Defence systems and equipment life cycle and other civil domains, such as, Security, Aeronautics, Space and Sea. The BTID is composed by more than 380 companies, mainly dual-use SMEs, organized in clusters, from aeronautics to textiles, including automation and robotics, construction and engineering, as well as, software development.

-Reference: [DTIB \(iddportugal.pt\)](#)

### 4. INESC TEC (Instituto de Engenharia de Sistemas e Computadores, Tecnologia e Ciencia)

INESC TEC is a private non-profit association, with public utility status, which focuses on scientificc research and technological development activities, technology transfer, advanced consulting and training, and pre-incubation of new technology-based companies. It functions as an interface institution, which brings together academia, companies, public administration and society, applying the knowledge and results generated in reseach in technolgy transfer projects, seeking to create value and immediate social relevance.

-Reference: [INESC TEC](#)

## 5. IST (Instituto Superior Técnico)

The IST aims to contribute to development of society, promoting and sharing excellence in higher education in the fields of Architecture, Engineering, Science, and Technology. Técnico offers Bachelor, Master, and PhD programmes, lifelong training and develops RD&I activities, which are essential to provide an education based on the top international standards.

-Reference: [Técnico Lisboa – Engenharia, Arquitetura, Ciência e Tecnologia \(ulisboa.pt\)](http://www.tecnico.ulisboa.pt)



## 1.9 Spain

The Spanish defence innovation ecosystem integrates government initiatives, industry collaboration, and research institutions. The Ministry of Defence oversees policy and innovation, with agencies promoting technological development. Entities like INTA contribute to aerospace advancements, while companies like Indra provide advanced solutions. The Defence Innovation Hub is under development to foster collaboration, and Spanish universities contribute to research. Spain actively participates in international defence initiatives, contributing to a dynamic ecosystem with ongoing efforts to enhance technological capabilities.



### 1. BDIH (Basque Digital Innovation Hub)

The BDIH is a network that provides SMEs with access to the technological capabilities they need to rise to the challenges of smart industry, energy, and health, and to be able to grow in the digital and sustainable environment. Additionally, it also offers companies a series of infrastructure and know-how. Laboratories, equipment, software, scientific and technological capabilities, and an expert team to support each project.

-Reference: [Basque Digital Innovation HUB \(spri.eus\)](https://spri.eus)

### 2. TECNALIA (TECNALIA – Member of Basque Research and Technology Alliance)

This alliance helps companies to be more competitive and to generate wealth and employment. This is possible through a series of services that the platform offers, such as technological assets, lab services, infrastructures, and projects. Moreover, it concentrates its efforts in different scopes of action, i.e., smart manufacturing, health and food, digital transformation, circular economy, sustainable mobility and more.

-Reference: [Research centre | Technological development | Tecnalia](#)

### 3. IDEA (IDEA – Agencia de Innovación y Desarrollo de Andalucía)

This is an agency which collaborates closely with Andalusian scientific, technological, and business stakeholders. It is possible thanks to the agency's effort in aiding industrial SMEs and helping innovation and business development.

-Reference: [Agencia de Innovación y Desarrollo de Andalucía \(IDEA\) - Junta de Andalucía \(juntadeandalucia.es\)](https://juntadeandalucia.es)

### 4. INTA (INTA – Instituto Nacional de Técnica Aeroespacial)

INTA is a Public Research Organization that depends on the Spanish Ministry of Defence. It is responsible for performing scientific research activities and prototypes in its field of knowledge, as well as providing technological services to companies in the industry, universities, and other institutions. INTA specializes dually in technological research and development in Aeronautics, Aerospace, Hydrodynamics, Security, and Defence technologies.

-Reference: [INTA - Inicio](#)

## 5. INDRA (INDRA – Indra Sistemas S.A.)

Indra has an open and flexible innovation model designed to strategically broaden and enhance our ability to generate and capture attractive ideas. This model intends to consolidate the relations with the global innovation ecosystem. Through the R&D area, it offers support and collaboration throughout the entire innovation life cycle, by monitoring the company's innovative efforts and assisting in obtaining financing third parties on a global scale for R&D projects.

-Reference: [Home | indra \(indracompany.com\)](http://indracompany.com)

## 1.10 Sweden

Sweden's defence innovation ecosystem is a well-coordinated network that includes government agencies, defense companies, research institutions, and universities. This ecosystem is characterized by strong collaboration between public and private sectors to ensure advanced technological developments in defense. With collaboration from the various governmental agencies (FMV), industry (SAAB, VOLVO), and the research and technology centers (FOI), it has been capable of demonstrating a strong commitment to sustainable, secure development and readiness to meet emerging security challenges within the EU.



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### 1. The Swedish Defence Research Agency (FOI)

FOI excels in multidisciplinary defense research, enhancing EU security through advancements in cybersecurity, sensor systems, and strategic defense analysis. Contributing to both national and EU-wide security initiatives, FOI's forward-looking approach solidifies its role as a key player in defense innovation.

-Reference: [Swedish Defence Research Agency - Totalförsvarets forskningsinstitut - FOI](#)

### 2. Research Institutes of Sweden (RISE)

RISE stands as a beacon of sustainable and technologically advanced defence solutions, strengthening EU security. With a vast collaborative network, RISE pioneers technologies crucial for cybersecurity and communication, vital for the EU's transition to a safer, resilient society.

-Reference: [Swedish research creating sustainable growth | RISE](#)

### 3. The Swedish Space Corporation (SSC)

SSC, in collaboration with Swedish Institute for Space Physics (IRF) and the Luleå University of Technology (LTU), bolsters EU space exploration and security, offering unmatched test resources. Their work in space technology, aligned with EU defence frameworks, propels research and system development essential for the EU's strategic autonomy in space.

-Reference: [Home Page - SSC - Swedish Space Corporation \(sscspace.com\)](#)

### 4. The LEAD Incubator

Recommended as a NATO/DIANA Swedish accelerator, LEAD, along with Linköping and Norrköping Science Parks and Visual Sweden, fortifies EU defence capabilities. Their combined expertise in aerospace, cybersecurity, and energy-efficient materials advances strategic defence technologies within the EU.

-Reference: [LEAD | For tech startups that want to make a difference and grow faster and safer](#)

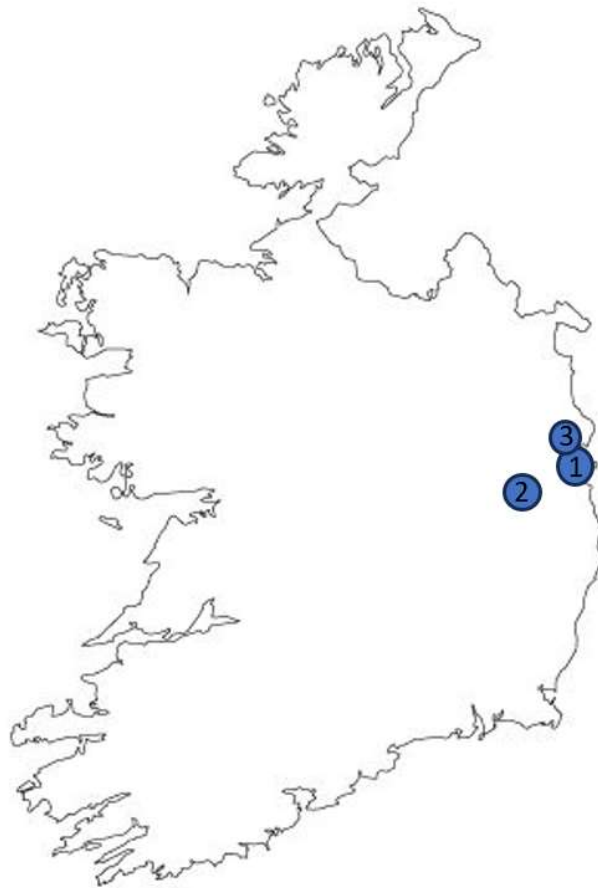
### 5. Blue Science Park and the Marine Technology Centre

At Blue Science Park, the Marine Technology Centre specialises in dual-use marine technology, propelling EU defence and security. Collaborating with the Swedish Naval Base and industry leaders like Saab Kockums and NKT, the centre drives innovation at the nexus of defence and civilian maritime sectors.

-Reference: [Marine Technology Center - MTC \(mtcos.se\)](#)

## 1.11 Ireland

Ireland's innovation ecosystem is dynamic and spans various sectors, including technology, research, and entrepreneurship. While not explicitly defense-focused, the ecosystem contributes to advancements in various fields. Some examples of the latter include technology and start-ups, research and development, innovation hubs, and government initiatives. Ireland may not have widely recognized standalone defence innovation hubs. However, Ireland does participate in defence and security initiatives, and collaborations between government, industry, and research institutions may contribute to advancements in defence technologies.



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### 1. DTIF (The Disruptive Technologies Innovation Fund)

This fund has been established under Project Ireland 2040, it is managed by the Department of Enterprise, Trade and Employment and administered by Enterprise Ireland. The DTIF's objectives are to: support enterprises in Ireland to exploit enterprises opportunities with "disruptive technologies" by de-risking collaborative projects, support enterprises in Ireland to collaborate in order to engage with and be prepared for challenges associated with new disruptive technologies, foster deeper and wider RD&I collaborations between the public and private sectors in key technology areas and, in particular, to support collaborations between large firms and SMEs in Ireland. More on this can be found on their official website.

-Reference: [Disruptive Technologies Innovation Fund - DETE \(enterprise.gov.ie\)](https://enterprise.gov.ie/disruptive-technologies-innovation-fund)

### 2. RTI Unit (Defence Research, Technology and Innovation {RTI} Unit)

The Defence Research, Technology and Innovation Unit works closely with the Irish Ministry of Defence. Its main points of focus concern the main military branches (Army, Air Corps, Naval Service, and the Reserve Defence Forces). Its main activities revolve around defending the state against armed aggression, aiding the civil power and authorities, multinational peacekeeping and humanitarian relief, and maritime security and fishery protection.

-Reference: [Defence Research, Technology and Innovation \(RTI\) Unit - Defence Forces \(military.ie\)](https://military.ie/defence-research-technology-and-innovation)

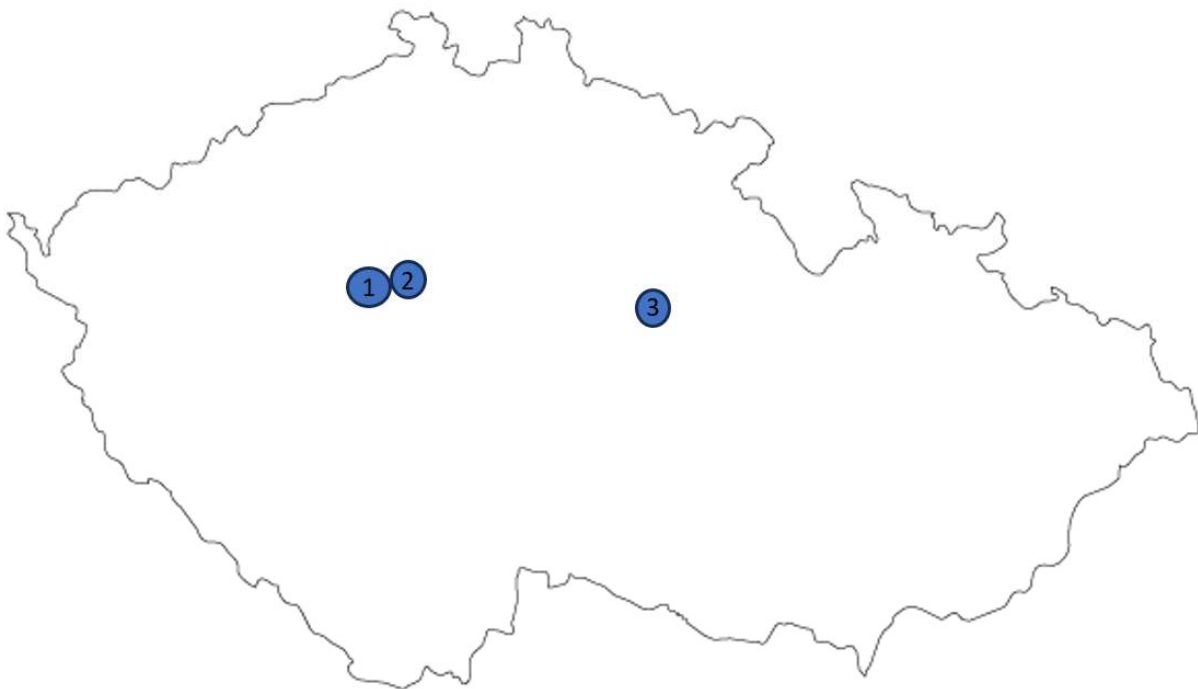
### 3. NDRC (National Digital Research Centre)

The NDRC is a research centre specifically dedicated to the development of new and rising start-ups in the world of digital innovation. More than a centre, it functions as a community, offering a series of services, such as workshops (hackathons), mentoring, networking, and funding. The main objective of the centre is to allow Ireland to become a top 5 country in the world when it comes to entrepreneurship and in building internationally scalable tech start-ups.

-Reference: [NDRC](https://ndrc.ie)

## 1.12 Czech Republic

The Czech innovation ecosystem is characterized by a dynamic blend of technology, research and entrepreneurship. While the defence and security sector may not be as prominent as some other industries, there are a few actors which have allowed the country to reach a high level of development in these last sectors. The DSIH, together with with the Defence Industry Division of CzechInvest, both support investments and innovation in the defence related sector by promoting the Czech defence industry.



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### 1. DSIH (DefSec Innovation Hub)

The DSIH is the vehicle for collaborative and educational efforts leading to innovation in defence in security. It brings together industry, academia, national and international organizations mainly from the defence and security domains so that they can learn from each other and ultimately innovate. This is possible because the hub focuses on organizing and facilitating multidisciplinary and multinational forums, helping to establish and solidify relationships leading to innovation, assisting academia to understand the needs and requirements of the defence and security sectors. To have more information concerning their work, it is possible to consult their official website.

-Reference: <http://www.dsih.org/index.php/en/>

### 2. MIH (Mobility Innovation Hub)

The Mobility Innovation Hub focuses on connecting key sectors and building the mobility innovation ecosystem. It supports start-ups and, also, brings together established companies, research institutes and more. Its incubation programme are specifically focused on clean mobility, smart manufacturing and logistics, autonomous driving, and the digitalization of mobility.

-Reference: <https://www.mobility-hub.cz/?lang=en>

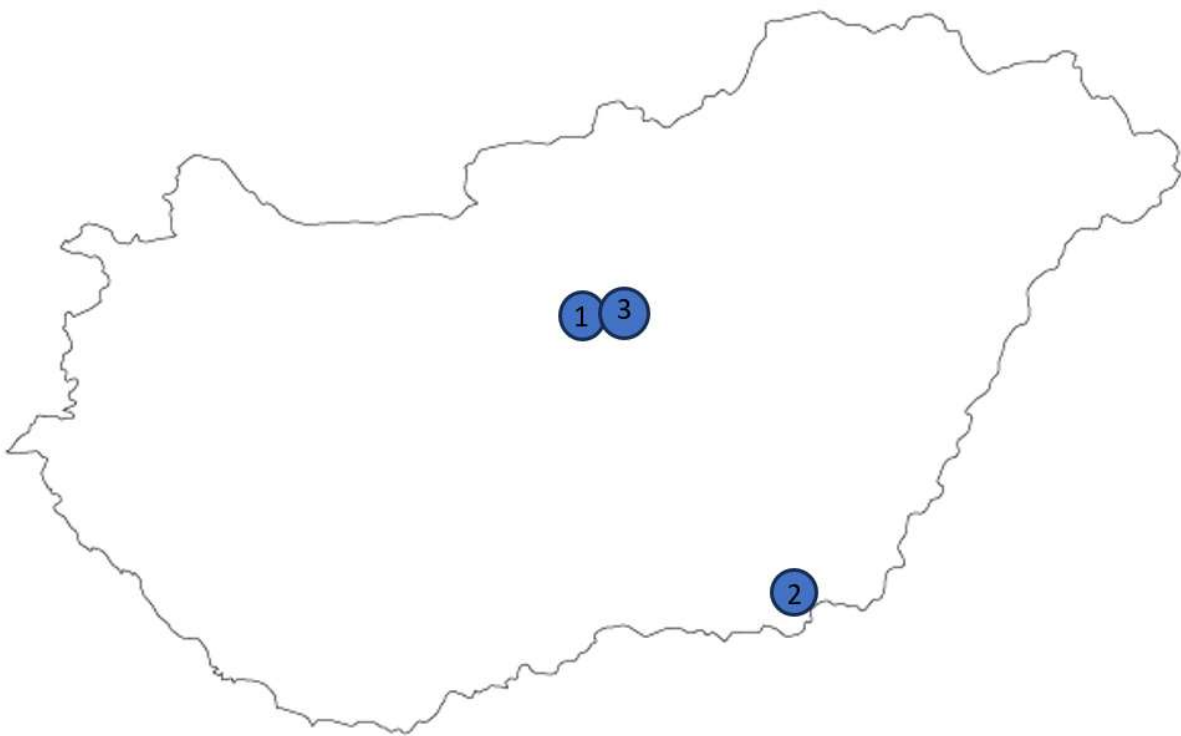
### 3. ERA a.s.

ERA is a leading company in multilateration, multistatic surveillance, and reconnaissance technology, and although not being specifically a hub, it does contribute to the innovation ecosystem of the country. While being, at first sight, an aviation company, it also focuses on specific domains, such as air traffic management, military technologies, such as EW-EDMT, and surface surveillance and vehicle tracking systems.

-Reference: [ERA a.s.](#)

## 1.13 Hungary

Hungary has a growing technology sector with a focus on startups and innovative companies. The country's defence industry, including companies like Rába and RHEA System, contributes to defence-related technologies. While specific defence-related innovation hubs may not be widely recognized, associations like the Hungarian Defence and Security Industry Association (MOSZ) play a role in fostering collaboration within the sector. Hungarian universities and research institutions engage in relevant research, contributing to advancements in science and technology.



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### 1. VIKI {DIRI} (Defence Innovation Research Institute)

DIRI is dedicated to mapping dual-use technologies, i.e., those that can be used for civilian and military purposes alike, and to supporting their defence-related utilization. The main objective is to make the new technologies produced by the DIRI enter service with the Hungarian Defence Forces in the interest of promoting their commercialization. According to the ministerial commissioner, the new domestically developed and manufactured high-tech digital equipment will have an impact on warfighting as well and support the creation of modern and combat-worthy armed forces.

-Reference: [Defence Innovation Research Institute established](#)

### 2. Institute of Informatics, University of Szeged, Department of Software Engineering

The Department of Software Engineering is one of the seven units of the Institute of Informatics at the University of Szeged. In this specific department the R&D aspect is one of the main objectives, as they try to keep the competences of the staff up to date with the latest research achievements and technologies. The R&D activities core competences are 6 areas to explore the new frontiers and solve problems in some of the most important fields related to software engineering, i.e., software quality, cybersecurity, M2M & embedded systems, cloud, IoT and deep learning.

-Reference: [Department of Software Engineering - University of Szeged \(u-szeged.hu\)](#)

### 3. MVSZ (Magyar Védelmi és Biztonsági Szövetség)

The Hungarian Defence and Security Industry Association plays a crucial role in representing and supporting companies within this specific sectors. It serves as a platform for the exchange of information and best practices within the defence and security industry. Moreover, it supports innovation and technological advancements, to encourage research and development, collaboration with research institutions and participation in innovation programs.

-Reference: [Magyar Védelmiipari Szövetség - Elnöki köszöntő \(vedelmiipar.hu\)](#)



## 2. Rest of the world

The defence innovation ecosystem outside of the European Union (EU) is characterized by diverse and dynamic landscapes across different regions. Major players, such as the United States, China, India, Singapore, and Australia, each contribute to a global tapestry of military technology and innovation. In the United States, a robust collaboration between the Department of Defence, private defence contractors, and innovative startups, exemplified by agencies like DARPA, drives cutting-edge technological advancements. India invests in defence research and development, notably through organizations like DRDO, while South Korea focuses on technological innovations in aerospace and cybersecurity. Singapore's Defence Science and Technology Agency collaborates with various stakeholders to develop cutting-edge defense capabilities. Australia, with a well-established defence industry, emphasizes innovation through initiatives like the Defence Innovation Hub. These diverse ecosystems showcase the varying approaches and priorities that nations adopt to advance military technology and innovation outside the EU. Ongoing geopolitical shifts and technological breakthroughs continue to shape the trajectory of defence innovation globally.

Let's take a look at some of the most relevant countries in this specific category:

### 2.1 United States of America

The United States defence innovation ecosystem features a network of defence innovation hubs, including entities like the Defence Innovation Unit (DIU) and defence accelerators. These hubs serve as focal points for fostering collaboration between the Department of Defence, startups, and private industry. They play a crucial role in accelerating the development and adoption of cutting-edge technologies for military applications. Public-private partnerships, supported by these hubs, drive innovation in the defence sector, emphasizing agility and responsiveness to emerging threats.



### 2.1.1. *IH (Engine of the NATO Innovation Network – Innovation Hub)*

It is the community where experts and innovators from everywhere collaborate to tackle NATO challenges and design solutions. By joining the Hub, members will have access to a broad community of experts from inside and outside NATO, an online collaborative platform to interact with the community, and innovative solutions aiming at meeting NATO and Nation's future capability challenges.

-Reference: [Home Page | Innovation Hub \(innovationhub-act.org\)](https://innovationhub-act.org)

### 2.1.2. *Maritime and Defense Technology Hub*

This hub is a shared workspace that brings together under one roof the helix of innovation: industry, government, and academia. It takes advantage of the increased need for maritime and national security technology solutions across the Federal Government. This hub is situated in the St. Pete Innovation District, where over 19 organizations reside, and all of them are curated based on their alignment to the Grow Smarter and Country target industries with particular attention on marine science, defense and technology sectors.

-Reference: [Maritime and Defense Tech Hub | St. Petersburg Innovation District \(stpeteinnovationdistrict.com\)](https://stpeteinnovationdistrict.com)

### 2.1.3. *DIU (Defense Innovation Unit)*

The DIU strengthens national security by accelerating the adoption of commercial technology throughout the military and bolstering our allied and national security innovation bases. It is partnered with the Department of Defense (DoD) to rapidly prototype and field dual-use capabilities that solve operational challenges at speed and scale.

-Reference: [Defense Innovation Unit \(diu.mil\)](https://diu.mil)

### 2.1.4. *AFWERX*

It is the technology directorate of the Air Force Research Laboratory. Its main objective is to accelerate agile and affordable capability transitions by teaming innovative technology developers. Its most important challenge is a high-quality market research program; by designing thinking workshops, crowdsourcing, collaboration showcase event and innovative contracting pathways to cast a wide net for industry and academic innovators to apply their latest technologies.

-Reference: [AFWERX](https://afwerx.com)

### 2.1.5 *DISA (Defense Information System Agency)*

DISA is a U.S. Department of Defense combat support agency. It is composed by more than 7,000 military and civilian employees, and it provides, operates and assures command, control, information-sharing capabilities and a globally accessible enterprise information infrastructure in direct support to joint warfighters, national-level leaders and other missions and coalition partners across a full spectrum of military operations.

-Reference: [DISA | About DISA](#)

### 2.1.6 *DIA (Defense Intelligence Agency)*

This agency provides intelligence on foreign militaries and their operating environments so the U.S. and its allies can prevent and decisively win wars. It offers its service to everyone, from the president to the soldier in combat through a combination of expert analysis, intelligence gathering, and cutting-edge science and technology.

-Reference: [Defense Intelligence Agency > Home \(dia.mil\)](#)

### 2.1.7 *NSIS (National Security Innovation Network)*

The NSIS is an unrivaled problem-solving network that adapts to the emerging needs of those who serve in the defense of our national security. It offers programs and services that connect innovators across communities that might not traditionally cross path. By combining problem-solvers from different kinds of communities, it is possible to create powerful and unexpected effects. Its ability to harness the diversity for the common good is one of the greatest advantages of the U.S.A.

-Reference: [Home | National Security Innovation Network \(nsin.mil\)](#)

### 2.1.8 *SOFWERX (Special Operations Forces Works)*

SOFWERX serves as an innovation platform for the United States Special Operations Command, bringing the best of Government, Industry, Academia, and National Labs together to help solve challenging problems encountered by Special Operational Forces. This platform a series of services such as laboratories collaborations to focus on research and development in areas in artificial intelligence, biotechnology, and cybersecurity, leading to breakthroughs that directly impact the effectiveness and readiness of special operations forces.

-Reference: [SOFWERX: Collaborative Solutions for Warfighter Challenges](#)

## 2.2 United Kingdom

The British defence innovation ecosystem is a collaborative network involving the Ministry of Defence (MoD), private defense contractors, research institutions, and startups. Key entities, including the Defence Science and Technology Laboratory (DSTL), Defence and Security Accelerator (DASA), and Defence Innovation Unit (DIU), accelerate innovation by fostering collaborations. The UK emphasizes public-private partnerships, supporting startups through initiatives like the Defence Innovation Fund. Universities contribute to defence-related research, and the ecosystem is adaptive, focused on staying at the forefront of technological advancements in areas such as cybersecurity.



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### 2.2.1 *DASA (The Defence and Security Accelerator)*

DASA is a cross-Government team from a wide range of backgrounds including defence, security, the private sector, and academia. Its main objectives are to be an exemplar innovation organization that promotes best practices across Government and seeks to build on its experience and learning, strengthen and broaden links to innovators across the UK and elsewhere, collaborate with customers across UK government to find innovative solutions to national security challenges, and focus effort on increasing the pull through of innovative ideas.

-Reference: [About us - Defence and Security Accelerator - GOV.UK \(www.gov.uk\)](https://www.gov.uk/about-us-defence-and-security-accelerator)

### 2.2.2 *DIANA (Defence Innovation Accelerator for the North Atlantic)*

DIANA leverages its acceleration programme and test centre network to bring start-ups together with operational end users, scientists, and system integrators to advance compelling deep tech with dual-use solutions for the Alliance. DIANA focuses mainly on Emerging Disruptive Technologies (EDTs), more specifically, artificial intelligence, autonomy, quantum, biotechnologies and human enhancement, hypersonic and space-specific projects.

-Reference: [DIANA | About \(nato.int\)](https://nato.int/diana/about)

### 2.2.3 *jHUB (Advantage through Innovation)*

The aim of this hub is to deliver competitive advantage against the UK's adversaries by unlocking novel and disruptive capabilities, through an opportunity-led and user-centred approach – with particular focus on harnessing leading dual-purpose technology. It has a particular interest in repurposing high TRL products and services from areas that do not traditionally have a Defence focus.

-Reference: [About us - jHub Defence Innovation - GOV.UK \(www.gov.uk\)](https://www.gov.uk/about-us-jhub-defence-innovation)

### 2.2.4 *MTC (Manufacturing Technology Centre)*

The MTC represents one of the largest public sector investments in UK manufacturing, whose main objective is to bridge the gap between academia and industry. Some of the domains and markets that it mainly focuses on are aerospace industry (such as digital assembly of aerostructures), defence and security (by collaborating with the UK MoD on digitalization and digital and AI), infrastructure (focusing on decarbonization and clean growth, poor productivity and efficiency and slow adoption of new technologies).

-Reference: [MTC | Home | Transforming Industry for a Sustainable World \(the-mtc.org\)](https://the-mtc.org/mtc/home/transforming-industry-for-a-sustainable-world)

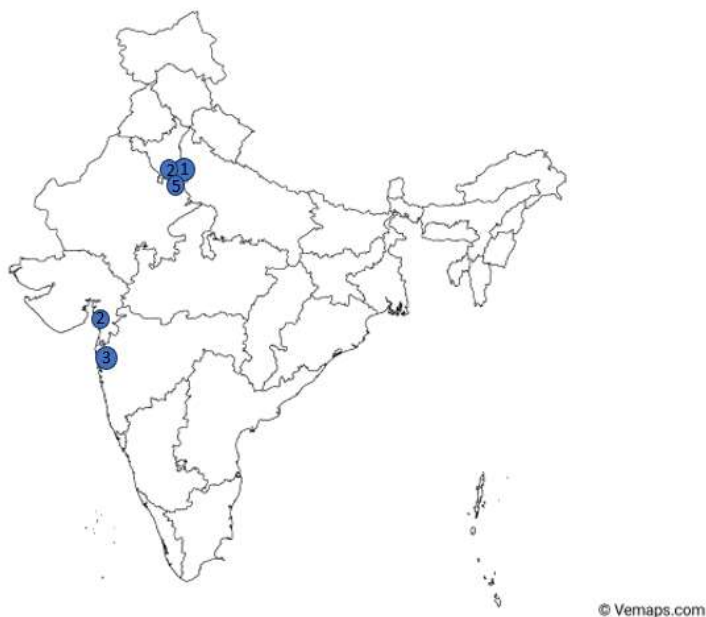
### *2.2.5 DSTL (Defence Science and Technology Laboratory)*

The DSTL is one of the principal government organizations dedicated to science and technology in the defence and security field. It supplies specialist services to MoD and wider government, working collaboratively with external partners in industry and academia. Its main responsibility includes providing and facilitating expert advice, analysis on defence procurement, leading the MoD's science and technology programme, championing and developing science and technology skills across MoD, and coordinating UK's involvement in NATO science and technology activity.

-Reference: Defence Science and Technology Laboratory - GOV.UK ([www.gov.uk](http://www.gov.uk))

## 2.3 India

India's defence innovation ecosystem is characterized by a collaborative network involving government entities, private defence contractors, research institutions, and startups. The Defence Research and Development Organisation (DRDO) leads defence research, while initiatives like Innovations for Defence Excellence (iDEX) and the Defence Innovation Organization (DIO) foster innovation by connecting the government, industry, and startups. The ecosystem emphasizes public-private partnerships, supporting startups through initiatives like the Defence Innovation Fund. Academic institutions and research organizations play a role, and the ecosystem is evolving rapidly, driven by government support, private industry involvement, and a burgeoning startup culture.



### 2.3.1 iDEX (Innovation for Defence Excellence)

iDEX aims at the creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging industries including MSMEs, startups, individual innovators, R&D institutes & academia. Its main objectives include the facilitation of rapid development of new and innovative technologies for the Indian Defence and aerospace sector; the creation of a culture of engagement with innovative start-ups; and the empowerment of a culture of technology in co-creation and co-innovation within the defence and aerospace sectors.

-Reference: [Home | iDEX](#)

### 2.3.2 *DIC 2.0 (Defence Innovation Challenge 2.0)*

The Karnvati University and its incubators (DDTII and KIIF) are functioning towards building a robust and conducive ecosystem for supporting and nurturing innovators, start-ups and entrepreneurs for building defence-oriented technologies, products, and services. It offers a broad range of products that the innovation challenge will emphasis on, i.e., surveillance, UAVs, AI based solutions, vehicle management and tracking systems and more.

-Reference: [Defence Innovation - Karnavati University](#)

### 2.3.3 *NDIC (Nashik Defence Innovation Centre)*

It is a non-profit company, and it is supported by iDEX, the Defence Innovation Organization (DIO) and Ministry of Indian Defence. Its vision is to become a leader in world class defence innovation which foster innovation and encourages technology developments for Defence requirement by India, by engaging R&D institutes, academia, start-ups, and SMEs.

-Reference: [NDIC \(ndicindia.com\)](#)

### 2.3.4 *DRDO (Defence Research & Development Organization)*

DRDO is the R&D wing of the Ministry of Defence in India, and with its vision to empower India with cutting-edge defence technologies and a mission to achieve self-reliance in critical defence technologies and systems, it wants to equip the armed forces with state-of-the-art weapon systems and equipment. To this day DRDO has established a series of Laboratories and Technology clusters, which combine different domains in the defence and security sector, such as, for example, aeronautics, armaments, combat vehicles, missiles, advanced computing, simulation and more.

-Reference: [Defence Research and Development Organisation - DRDO, Ministry of Defence, Government of India](#)

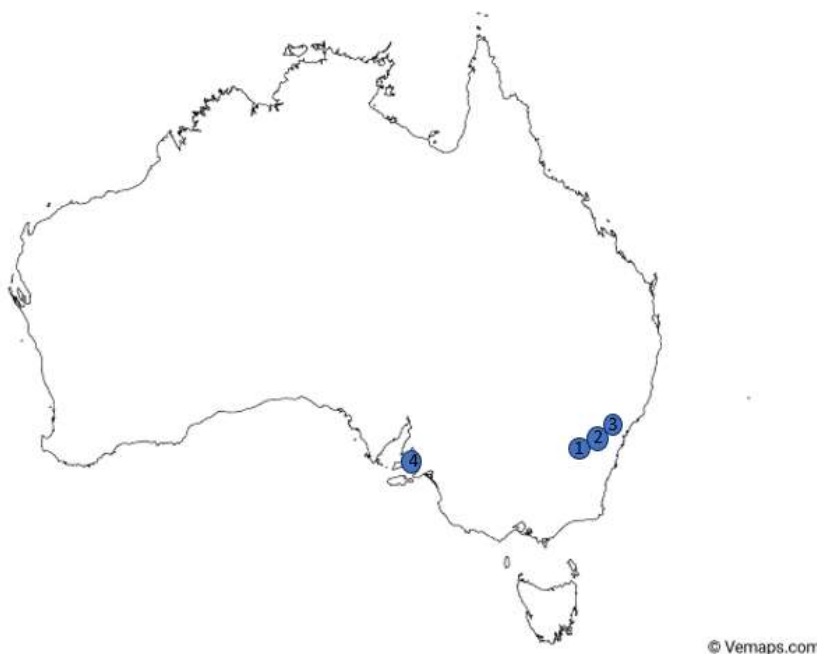
### 2.3.5 *DIO (Defence Innovation Organization)*

DIO is a key component of the Innovations for Defence Excellence (iDEX). It was established to create a conducive ecosystem for defence innovation by facilitating collaboration between the government, industry, and start-ups. More specifically, Dio plays a crucial role in shaping the innovation landscape within the Indian defence ecosystem, working on cultivating a culture of innovation, entrepreneurship, and collaboration among various stakeholders.

-Reference: [About DIO | iDEX](#)

## 2.4 Australia

The Australian defence innovation ecosystem is a collaborative network involving government bodies, defence industry players, research institutions, and startups. Central components include the Defence Science and Technology (DST) Group, Centre for Defence Industry Capability (CDIC), and Defence Innovation Hub. These entities drive research, provide business support, and invest in innovative projects. The defence industry involves private contractors contributing significantly to technological development. Collaboration, skills development, and a focus on innovation characterize the Australian defence innovation landscape.



### 2.4.1 DIH (Defence Innovation Hub of the Australian Government of Defence)

The DIH invests in innovative technologies that can enhance the defence capability through Australian industry growth and innovation. It has been allocated over 1 billion dollars in funding to 2030 to invest in the development of innovative Australian technology that has the potential to deliver a capability edge to defence. Additionally, it finances in a broad range of technologies at different phases of maturity from the early concept stage through to demonstration, prototyping and integration. Among its fundamental defence operational capability domains, i.e., information and cyber, maritime, air, space, land, and defence enterprises.

-Reference: [Home · Defence Innovation Hub](#)

#### 2.4.2 CDIC (Centre for Defence Industry Capability)

The CDIC is a key initiative supporting defence industry growth and innovation. Its primary mission is to provide support to businesses within the defence industry, helping them navigate the complexities of defence procurement, fostering innovation, and facilitating collaboration. The CDIC works mainly on improving the capability and competitiveness of Australian defence businesses. This implies supporting to enhance skills, technology adoption, and innovation across the defence industry.

-Reference: [Centre for Defence Industry Capability Review | About | Defence](#)

#### 2.4.3 DIN (Defence Innovation Network)

The Defence Innovation Network is an association of nine leading universities in NSW and ACT. Its purpose is to bring together industry, universities, State Government and Defence to address Australia's defence needs. The objectives concern, the increase of NSW capacities for defence R&D, fostering collaboration between NSW industry and academia, increasing NSW defence science investment through national & international defence R&D programs.

-Reference: [NSW Defence Innovation Network | defenceinnovationnetwork.com/din](#)

#### 2.4.4 DTC (Defence Team Centre)

The DTC is a not-for-profit defence industry association, which is focused on connecting and supporting Australian defence industry to develop capability and increase industry's competitiveness in defence markets. The DTC provides services to facilitate market entry and ongoing business with Defence, more specifically, they are tailored to meet the needs of the various companies engaged in activities in all domains within the sector (air, land, sea, space and cyber).

-Reference: [About | Defence Teaming Centre \(dte.org.au\)](#)

## 2.5 Canada

The Canadian Defence Innovation Ecosystem is a collaborative network involving government entities, defense industry players, research institutions, and innovation programs. Key components include Defence Research and Development Canada (DRDC), Innovation for Defence Excellence and Security (IDEaS). These entities foster collaboration, fund research projects, and drive innovation to enhance the technological capabilities of the Canadian Armed Forces. The ecosystem encourages partnerships between government, industry, and academia, emphasizing the strategic alignment of innovation with national defense priorities.



### 2.5.1 IDEaS (Innovation for Defence Excellence and Security)

The Innovation for Defence Excellence and Security program will be investing 1.6 billion dollars in innovations for defence and security over the next 20 years. This program is designed to improve the Department of National Defence's (DND) access to the creative potential of Canadian innovators. There 5 main different funding elements that have different roles, such as, competitive projects (up to 1.2 million dollars in phased development funding to propel technology forward), innovation networks (up to 3 million dollars to stimulate the free flow of ideas critical for innovation), contests (to fuel the competition between innovators), sandboxes (which allow experts and innovators to collaborate), and test drives (the Canadian Armed Forces will test the technologies proposed).

-Reference: [How IDEaS works - Canada.ca](https://www.canada.ca/en/department-of-national-defence/services/innovation-for-defence-excellence-and-security/ideas-how-it-works.html)

### 2.5.2 *DRDC (Defence Research and Development Canada)*

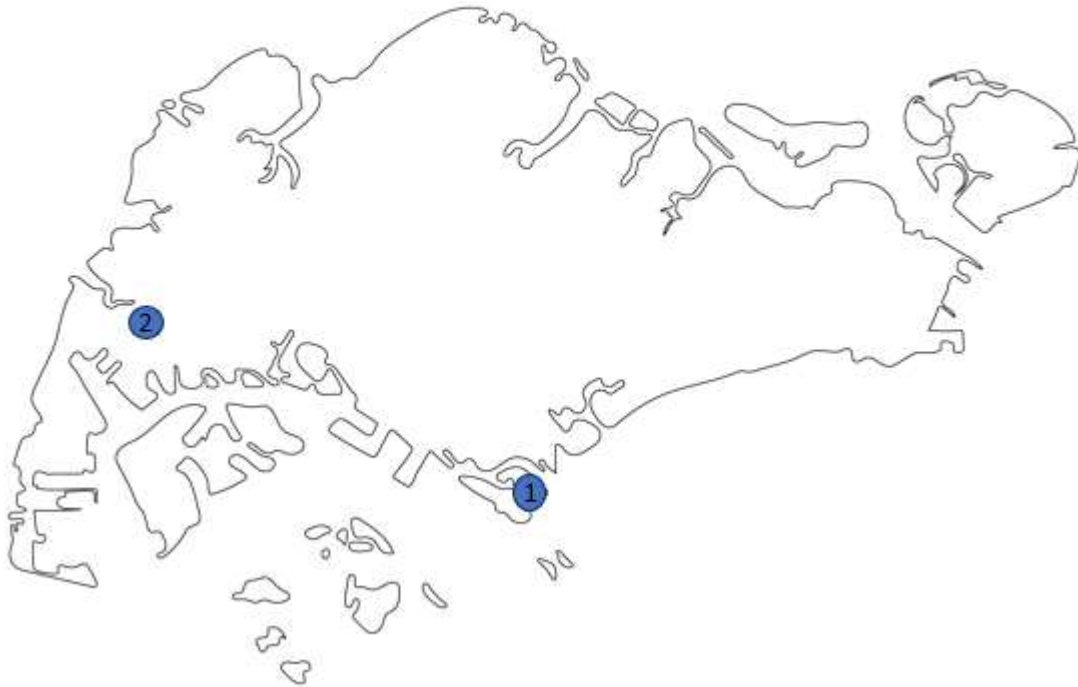
The DRDC is Canada's science, technology, and innovation leader. It develops and delivers new technical solutions and advice to the Department of National Defence, the Canadian Armed Forces and other federal departments. The DRDC engages in research across a wide range of areas critical to defence, including aerospace systems, chemical, biological, radiological, and nuclear defence, cybersecurity, naval systems and more. Additionally, the DRDC is actively involved in technology transfer and innovation, conducting aims that address current defence challenges but that can also contribute to the broader innovation ecosystem in Canada.

-Reference: [Defence Research and Development Canada - Canada.ca](https://www.drdc.gc.ca/Canada.ca)



## 2.6 Singapore

Singapore's defence innovation sector is marked by a strategic and forward-looking approach to technology and research. Spearheaded by organizations such as the Defence Science and Technology Agency (DSTA), the ecosystem fosters collaboration between government, research institutions, and industry partners. Initiatives like the Centre of Excellence for Testing & Research of Autonomous Vehicles – Unmanned Systems (CETRAN) highlight a focus on emerging technologies, including autonomous systems. The sector prioritizes advancements in areas such as artificial intelligence, cybersecurity, and unmanned systems to bolster the technological capabilities of the Singapore Armed Forces. Overall, Singapore's defence innovation sector reflects a commitment to staying at the forefront of technological advancements through research, collaboration, and investment in cutting-edge technologies.



### 2.6.1 *DSTA (Defence Science & Technology Agency)*

The DSTA is a top-notch technology organization that drives innovation and delivers start-of-art capabilities to make the Singapore Armed Forces a formidable fighting force. By harnessing and exploiting science and technology, its employees leverage multidisciplinary expertise to equip soldiers with advanced systems to defend Singapore. Among the main areas of interest, the agency focuses its efforts working on domains such as 3D modelling, aircrafts & avionics, as well as AI and automation. More specifically, it pays specific attention to advanced systems, cybersecurity, land, and naval systems as well as procurement.

-Reference: [DSTA | Defence Science and Technology Agency \(DSTA\)](#)

### 2.6.2 *CETRAN (Centre of Excellence for Testing & Research of Autonomous Vehicles – Unmanned Systems)*

CETRAN operates under the Defence Science and Technology Agency (DSTA) in Singapore. The centre provides state-of-the-art research and testing facilities for autonomous vehicles and unmanned systems, including infrastructures and environments suitable for testing the capabilities of these technologies. Their work has implications for the defence and security sectors since these developed technologies may contribute to enhancing autonomous capabilities in military context.

-Reference: [CETRAN - Centre of Excellence for Testing and Research of Autonomous Vehicles - NTU](#)





European Defence Agency  
Rue des Drapiers 17-23  
B-1050 Brussels – Belgium

[www.eda.europa.eu](http://www.eda.europa.eu)

