



IEEE Workshop on Technologies for Defense and Security

ROUND TABLE Funding for Innovation in Defense and Security

NATO funding for defence research, technology and innovation
and the Italian National Military Research Plan

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and National Armaments Directorate
5th Department – Technological Innovation

Rome, 20th November 2023

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National Military Research Plan

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



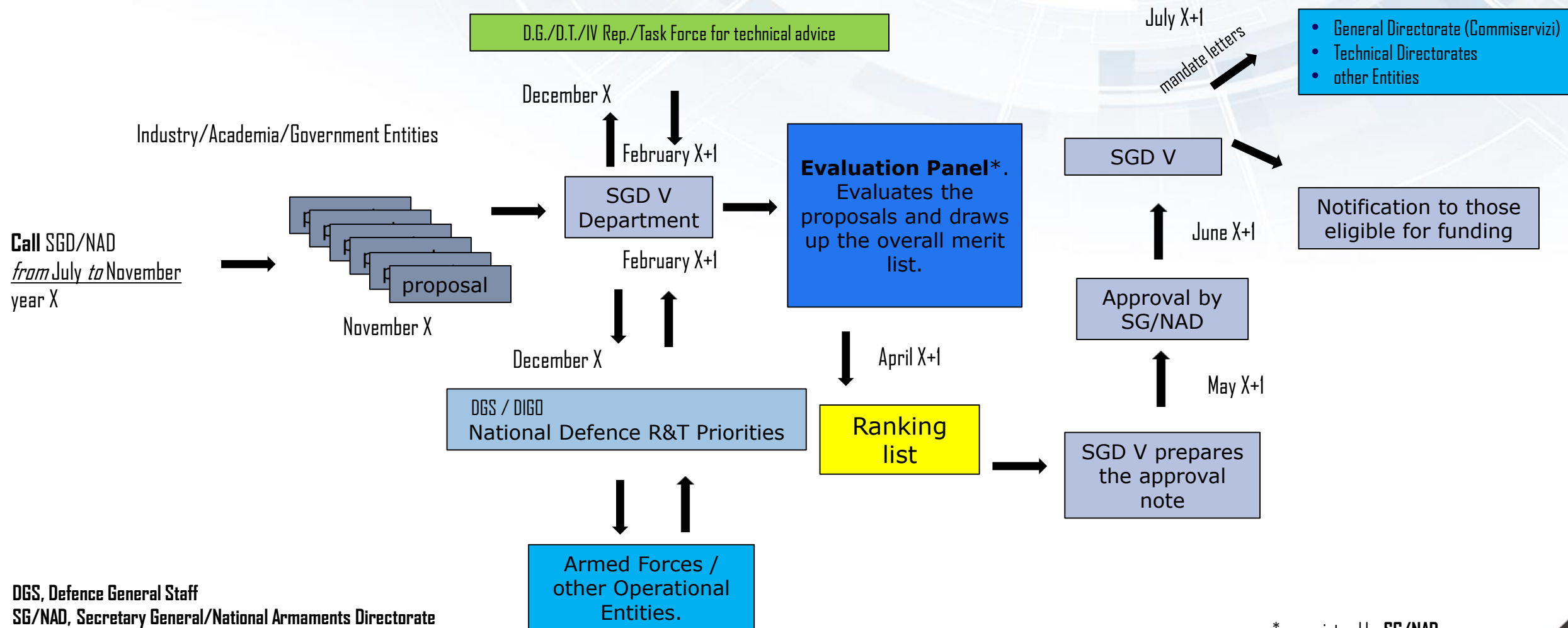
The graphic features a central cluster of nine hexagonal images arranged in a circular pattern. The hexagons contain various military-related scenes: a soldier in a green environment, a group of soldiers in a field, a soldier in a dark environment, a soldier in a blue environment, a soldier in a red environment, a soldier in a blue environment, a soldier in a red environment, a soldier in a blue environment, and a soldier in a red environment. The background is dark blue with a grid of binary code (0s and 1s) and a faint map of Italy. At the top center is the Italian coat of arms. At the bottom center is the text 'MINISTERO DELLA DIFESA' and 'DIREZIONE NAZIONALE DEGLI ARMAMENTI'.

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MINISTERO DELLA DIFESA
SEGRETERIATO GENERALE
E DIREZIONE NAZIONALE DEGLI ARMAMENTI

National Military Research Plan Cycle

Unsolicited projects



DGS, Defence General Staff
SG/NAD, Secretary General/National Armaments Directorate
DIGO, Defense Innovation General Office

* appointed by SG/NAD

National Military Research Plan

National defence R&T priorities

Approved by the CHOD

1. C2 & MULTI-DOMAIN SITUATION AWARENESS

- This area includes the development of Intelligence Surveillance Reconnaissance (ISR) technologies and intelligence dissemination technologies through innovative C2 systems and information fusion.

2. SPACE TECHNOLOGIES

- This area includes technologies for spacecraft defense & in-orbit servicing, space operations (Military Satellite Communications, Space Domain Awareness, Earth Observation), access to space, stratospheric vehicles.

3. CYBER SECURITY

- This area includes the development of all the technologies related to cyber defense and exploitation operations.

4. SOLDIER EMPOWERMENT

- This area includes technologies for human enhancement awareness (offensive and defensive) and Veteran Rehabilitation.

5. AUTONOMOUS SYSTEMS

- This area includes technologies for the development and contrast of Robotic Autonomous Systems (RAS), Unmanned Systems (UxV);

7. CONTRAST TO EMERGING THREATS

- Technologies to contrast emerging threats such direct energy weapons, counter-A2/AD, cyber electromagnetic activities, hypersonic weapons.

6. ARTIFICIAL INTELLIGENCE

- This area includes technologies for Big Data Analysis and (with high variety), autonomous navigation in non-permissive EM environment; swarm intelligence and precision targeting.

8. UNDERWATER WARFARE

- Technologies for the underwater warfare.

9. URBAN WARFARE

- Technologies for the urban warfare.

10. ENERGY

- This area includes the development of all the technologies related to energy sustainability and resilience.

11. BIOTECHNOLOGIES

- Bioinformatics, Biosensors, Bioelectronics, smart materials & nanotechnologies; technologies for CBRN defense.

1. OPERATIONAL INTEREST

- List of research programs/proposals assessed as of priority interest by the Technical-Operational Area according to National Defence R&T priorities.

2. EXCELLENCE

- Clarity and validity of the objective
- Credibility of the proposed methodology
- Innovative potential and technological advancement compared with the state of the art of research in the specific field

3. IMPACT

- Impact of project outputs in terms of technological advancement for aspects of defense and national security interest
- Impact of project outputs on capabilities, growth and industrial competitiveness
- Disruptive impact and synergies with international cooperation
- Possible synergies with European R&T programs.

4. IMPLEMENTATION

- Quality and effectiveness of the work plan and risk management
- Appropriateness of the estimated budget and adequacy of the research team in terms of participation and expertise
- Expertise and know-how of the proposer within the scope of the submitted project
- Public-private collaboration
- Type of proposer

National Military Research Plan

web pages

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



**MINISTERO
DELLA DIFESA**

WEBTV    

Cerca nel sito... 

Presidente della Repubblica Ministro della Difesa Ministero della Difesa Stato Maggiore della Difesa Segretariato Generale della Difesa Area Stampa

Home Page / SGD-DNA / Staff e organizzazione / Reparti / V Reparto - Innovazione Tecnologica / La Ricerca & Innovazione

La Ricerca & Innovazione



La ricerca scientifica, unitamente all'innovazione tecnologica che ne deriva, è attività idonea a definire il livello del progresso sociale ed economico dell'intero sistema Paese, influenzando significativamente il benessere e la qualità della vita dell'intera collettività nazionale. Per questo motivo, il Ministero dell' sforzo possibile per ope Alleanze di cui fa part dell'innovazione tecnolo;

Il Direttore

Biografia del Direttore

Il Vice Direttore del Reparto

Biografia del Vice Direttore

Organigramma del Reparto

Uffici e Servizi

La Ricerca & Innovazione

AVVISO

Sono aperti i termini di presentazione delle proposte di progetti di ricerca per il Piano Nazionale della Ricerca Militare (PNRM) 2024. La scadenza per la presentazione delle proposte del PNRM 2024 è il **13/11/2023 (23:59 e 59 secondi)**.

Per quanto attiene al PNRM 2023 sono state inviate dedicate comunicazioni ai proponenti delle proposte ammesse a finanziamento.

Per la formulazione di proposte di progetti di ricerca tecnologica nell'ambito del PNRM tutti i soggetti proponenti interessati devono presentare la richiesta utilizzando esclusivamente la **procedura informatizzata** al seguente **link**:

<https://pnrm.difesa.it>

**Ministero della Difesa
PNRM
PIANO NAZIONALE DELLA RICERCA MILITARE**

Home Allegato1 Allegato2 Allegato3 Allegato4

Modalità di presentazione
Dichiarazioni
A.Sintesi del progetto proposto
B.Anagrafica del proponente principale
C.Anagrafica dei co-proponenti
D.Classificazione del progetto proposto
E.Profilo finanziario e temporale e forniture del progetto proposto
F.Problema individuato e soluzioni tecnologiche proposte
G.Competenze e capacità dedicate al progetto proposto
H.Strategia, visione tecnologica e capacità del proponente
I.Richieste all'A.D.
Generazione file ZIP

PIANO NAZIONALE DELLA RICERCA MILITARE (PNRM)

- Progetto di progetto -
MODALITÀ DI PRESENTAZIONE

PROCEDURA PER LA COMPILAZIONE DELLA PROPOSTA

- La proposta di progetto dovrà essere compilata rispettando le indicazioni di compilazione in [Allegato 2](#) e quelle fornite step by step sull'applicativo web in linea sul modulo HTML;
- Tutti i campi obbligatori dovranno essere compilati;
- La procedura permette il salvataggio del draft di proposta in modo che la stessa possa essere completata in una fase successiva. Allo scopo di ripristinare il salvataggio effettuato, dovrà essere inserito il numero di Token presente in alto a destra in ogni pagina visualizzata; è utile evidenziare che dovrà comunque essere effettuata, a cura del proponente, una verifica dei dati già inseriti a seguito del ripristino del salvataggio;
- Tutte le informazioni presenti nella proposta di progetto dovranno essere [punti da classifica di sicurezza](#). In caso di proposte di progetto contenenti informazioni classificate, la documentazione dovrà essere inviata secondo la normativa vigente;

- ATTENZIONE -

[La procedura consente di compilare la richiesta di progetto, ma non prevede l'invio formale online.](#)

PROCEDURA PER L'INVIO DELLA PROPOSTA
Al termine della compilazione del modulo online sarà reso disponibile un file formato "zip" criptato. **Per presentare formalmente la proposta sarà necessario:**

- eseguire il download del file generato;
- inviare il file di cui al punto che precede, senza apportarvi alcuna modifica, pena l'esclusione della proposta dall'elenco dei PNRM in valutazione, esclusivamente tramite posta elettronica certificata (PEC), all'indirizzo: sgd@postacert.difesa.it.

- AVVERTENZE -

- per ciascuna PEC inviata, dovranno essere allegati tutti i files di una sola proposta di PNRM e nell'oggetto dovrà essere riportata la dicitura: "Proposta PNRM titolo del progetto"; si declina ogni responsabilità in caso di smarrimento di proposte di PNRM riportati un oggetto diverso;
- qualsiasi modifica o variante alla proposta già inviata, dovrà essere comunicata con le stesse modalità di cui sopra, specificando nell'oggetto la data di inoltro della proposta di progetto che si intende annullare: "Proposta PNRM - titolo del progetto". La proposta annulla e sostituisce la precedente inviata in data;

Inoltre è possibile, facoltativamente, allegare alla PEC un eventuale ulteriore documento tecnico esplicativo con testo, immagini e elementi grafici esclusivamente in formato "pdf" multipagina o "pdf" in bianco e nero ovvero a colori.

[Nuovo Progetto](#) [Carica Bozza Progetto](#)

<https://www.difesa.it/SGD-DNA/Staff/Reparti/V/Pagine/LaRicercaInnovazione.aspx>

<https://pnrm.difesa.it/>

Other research initiatives at national level



- Defence test centres
- Framework Agreements



DIANA (Defence Innovation Accelerator for the North Atlantic)

Overview

The Alliance is confronted with a new wave of transformative technologies (referred to as Emerging and Disruptive Technologies (EDTs)). Their adoption into Allied militaries is critical to the maintenance of the Alliance's technological edge, but their development is not driven by the public sector.

DIANA will leverage several elements:

- **a network of technology test centres** will enable innovators to engage in co-development with Allied military end users and conduct testing, evaluation, verification and validation of their proposed solutions;
- **a transatlantic accelerator network** will boost the development of technological solutions by start-ups through participation in a competitive programme. The programme will bring together start-ups from across the Alliance; provide opportunities for co-development with Allied operators; and educate on business practices.
- **a rapid adoption service** DIANA's Rapid Adoption Service (RAS) will help Allied national entities develop and rapidly procure the most promising solutions from DIANA's innovators;
- **a trusted capital database** matchmaking Allied start-ups with trusted investors;
- **Regional Headquarters** in Europe and North America to coordinate and drive all DIANA activities.

DIANA (Defence Innovation Accelerator for the North Atlantic)

Accelerators

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti

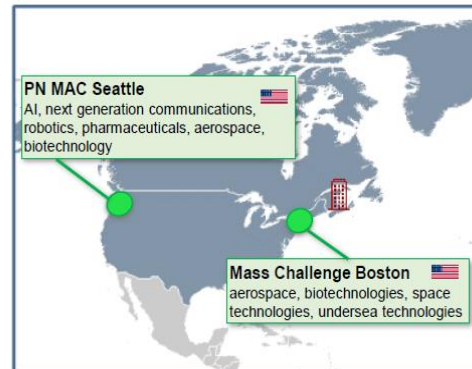


DIANA Network: Accelerators

20 July 2023

Key

- Regional Offices
- Regional Hub
- Test Centres
- Accelerators



idD Portugal Defence Lisbon
data and computing, biotechnology, novel materials, renewable energies (energy and propulsion)

WSL
AI, data, autonomy, cyber, biotechnology, aerospace (space), micro/nanotechnology (novel materials), greentech (energy and propulsion)

DASA London
AI, cyber, materials science, biotechnology

Niels Bohr Institute/ BioInnovation Institute BII Copenhagen
quantum-enabled technology, biotechnology

Takeoff DIANA Accelerator Turin
aerospace (space)

Tallinn Science Park Tehnopol Startup Wise Guys / Tartu Science Park
AI, cyber, space, greentech (energy and propulsion)

CzechInvest Prague
AI, space, greentech (energy and propulsion), CERN related (data and computing)

Odtü Teknokent Ankara
biotechnology, energy and propulsion, novel materials and other deep tech programmes

Demokritos Athens
AI, data, autonomy, nanotechnology (novel materials), biotechnology

FORTH Heraklion

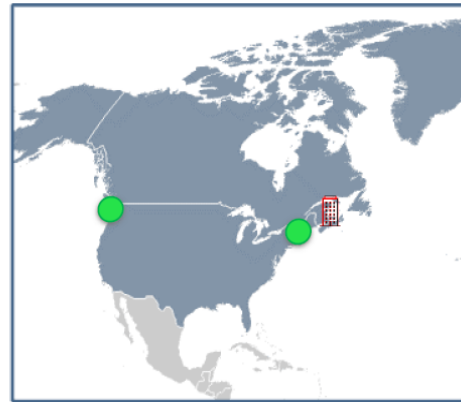
DIANA (Defence Innovation Accelerator for the North Atlantic)

Test Centres



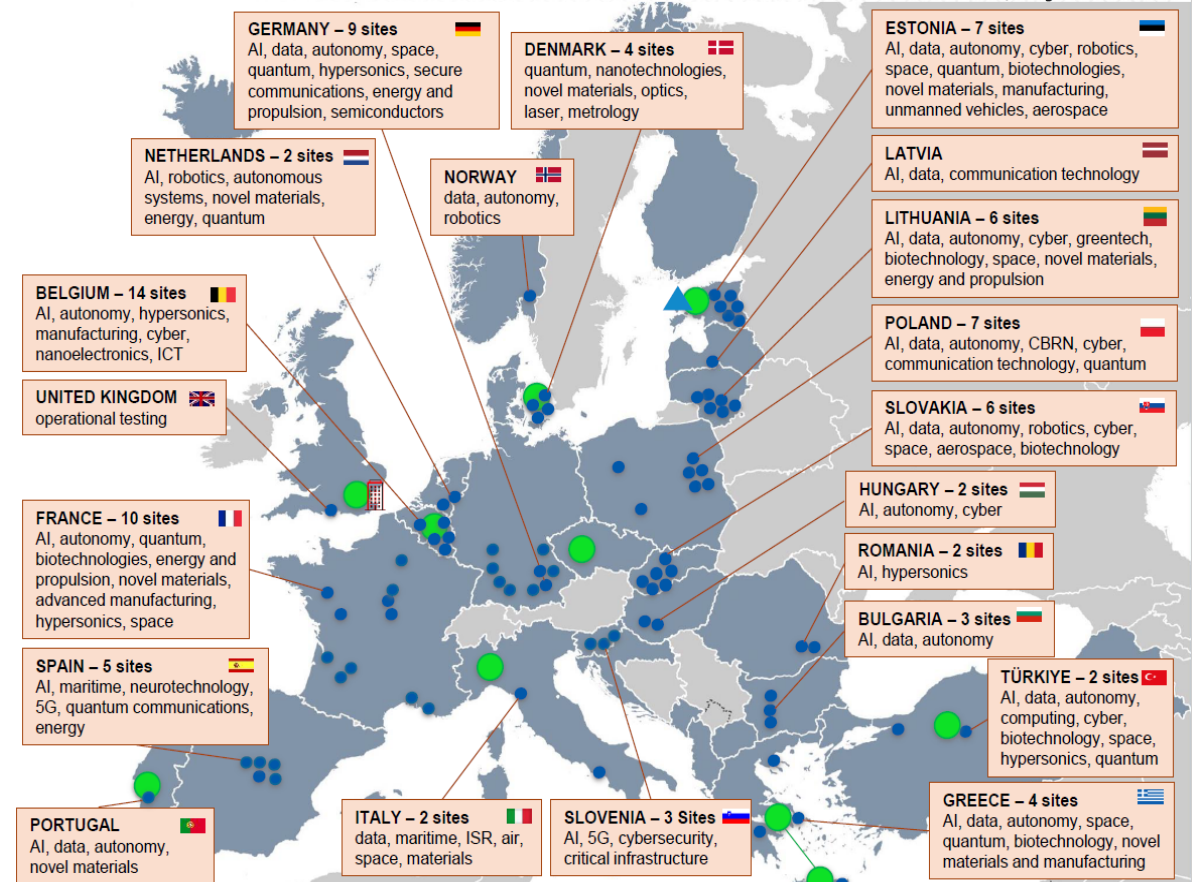
Key

-  Regional Offices
-  Regional Hub
-  Test Centres
-  Accelerators



DIANA Network: Test Centres

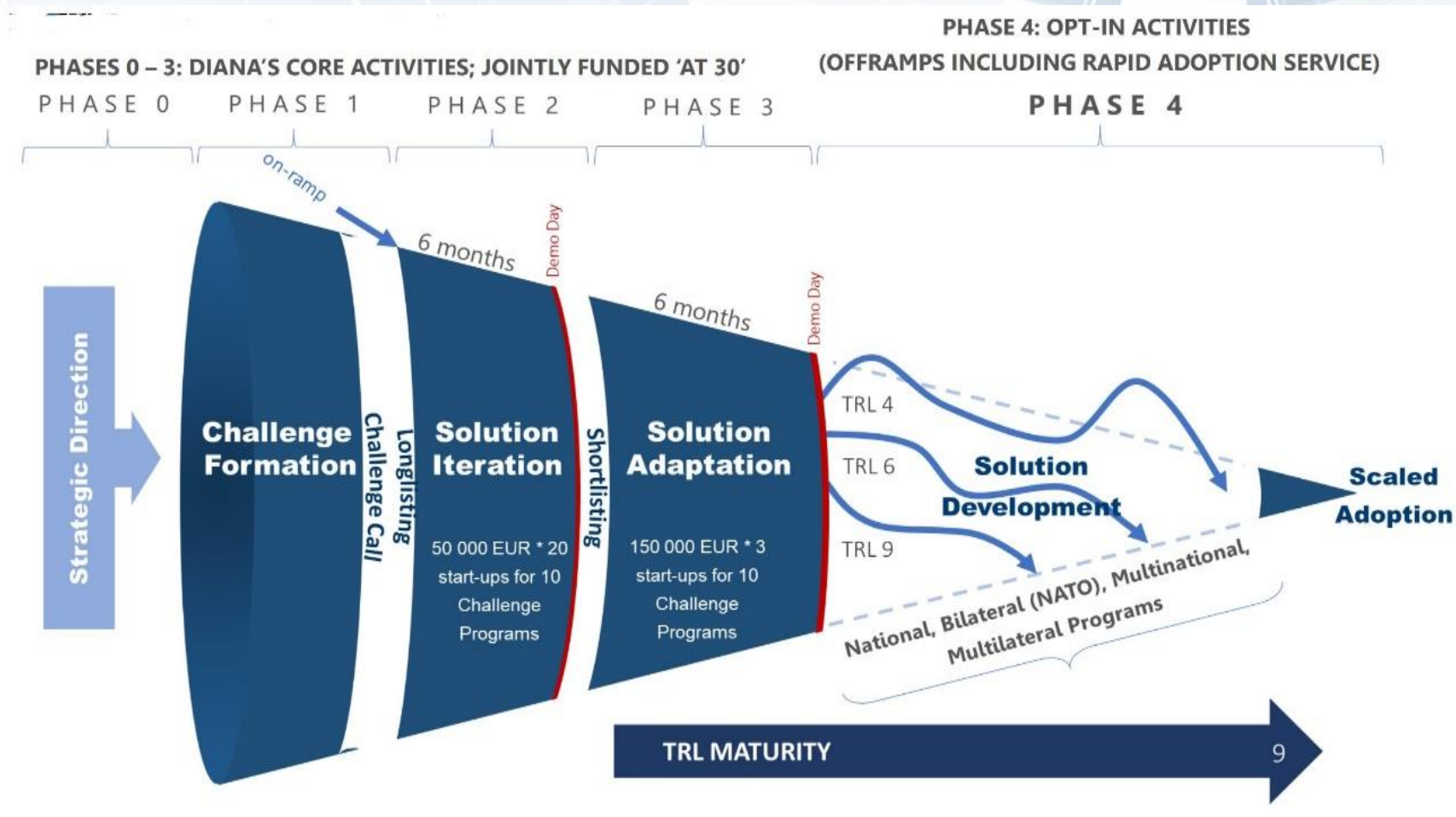
20 July 2023



DIANA (Defence Innovation Accelerator for the North Atlantic)

Operating cycle of Challenges

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



June 2023, **3 pilot challenges**: energy resilience, secure information sharing, and sensing and surveillance

NATO Science for Peace and Security (SPS) Programme

Overview

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



Defining features

- **Science and Technology:** SPS promotes dialogue and practical cooperation based on scientific research, technological innovation and knowledge exchange.
- **Funding for civilian institutions:** SPS funds cooperation among two or more civilian entities (universities, research centres) through grants.
- **Cooperation with partners:** Each SPS-supported activity must involve at least one NATO Ally and one NATO partner nation.
- **Security impact:** All SPS-supported activities must have an impact on security and a clear link to NATO objectives.

Specific themes

- A set of key priorities agreed by Allies define the Programme's areas of work.
- Based on NATO strategic concept and political guidance.
- All SPS activities must address at least one of the SPS key priorities.

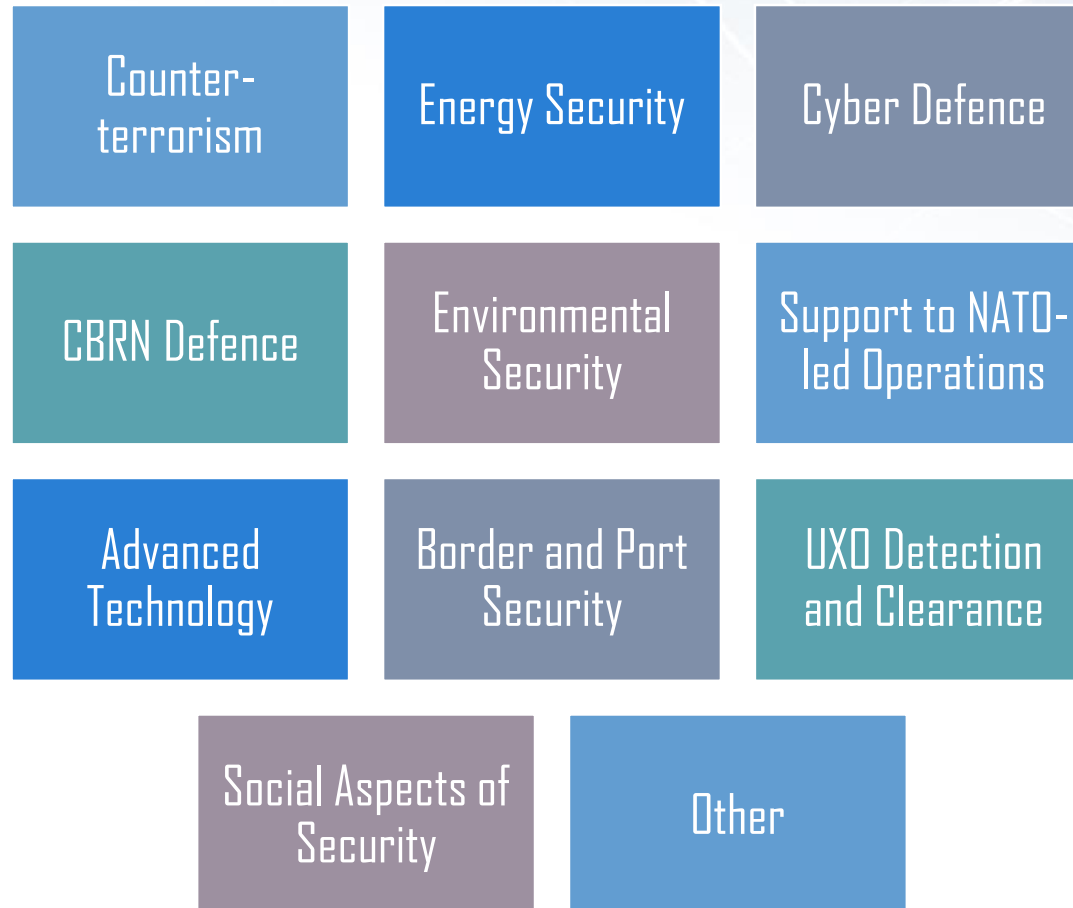
Specific types of grants

- The SPS Programme provides funding for four types of activities:
 1. R&D Multi-Year Projects (MYP)
 2. Events
 1. Advanced Research Workshops (ARW)
 2. Advanced Study Institutes (ASI)
 3. Advanced Training Courses (ATS)
- The SPS Programme only accepts proposals submitted in response to calls for proposals advertised on its website.

NATO Science for Peace and Security (SPS) Programme

Key Priorities

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



- 38% of ongoing activities address the key priority of Advanced Technology.
- An increasing number of activities focus on Energy Security, Environmental Security and the broader Climate and Security agenda.
- The current key priorities are under revision to increase alignment with NATO's growing portfolio.

NATO Science for Peace and Security (SPS) Programme

Types of grants

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



R&D Multi-Year Projects (80% of ongoing SPS grants)

- **Duration:** 24-36 months
- **TRL:** up to 5-6 (technology validated or demonstrated in a relevant environment)
- **Budgets** up to EUR 400,000
- **Funding** for:
 - ✓ Project-related equipment (funded 100%)
 - ✓ Travel
 - ✓ Training and stipends for early stage researchers
 - ✓ Salaries (co-funding)
- **Sustainability:** Involvement of public and private end-users to bring results forward.

Events (20% of ongoing SPS grants)

Advanced Research Workshops: Knowledge exchange among experts

- Duration: 2-5 days
- Funding up to EUR 40,000 for direct organizational costs and speakers' travel
- Participants: Experts sharing know-how on contemporary challenges

Advanced Training Courses: Transferring knowledge to partners

- Duration: 5-7 days
- Budget: up to EUR 60,000 for direct organizational costs and speakers' travel
- Participants: Specialists and trainees from partner nations

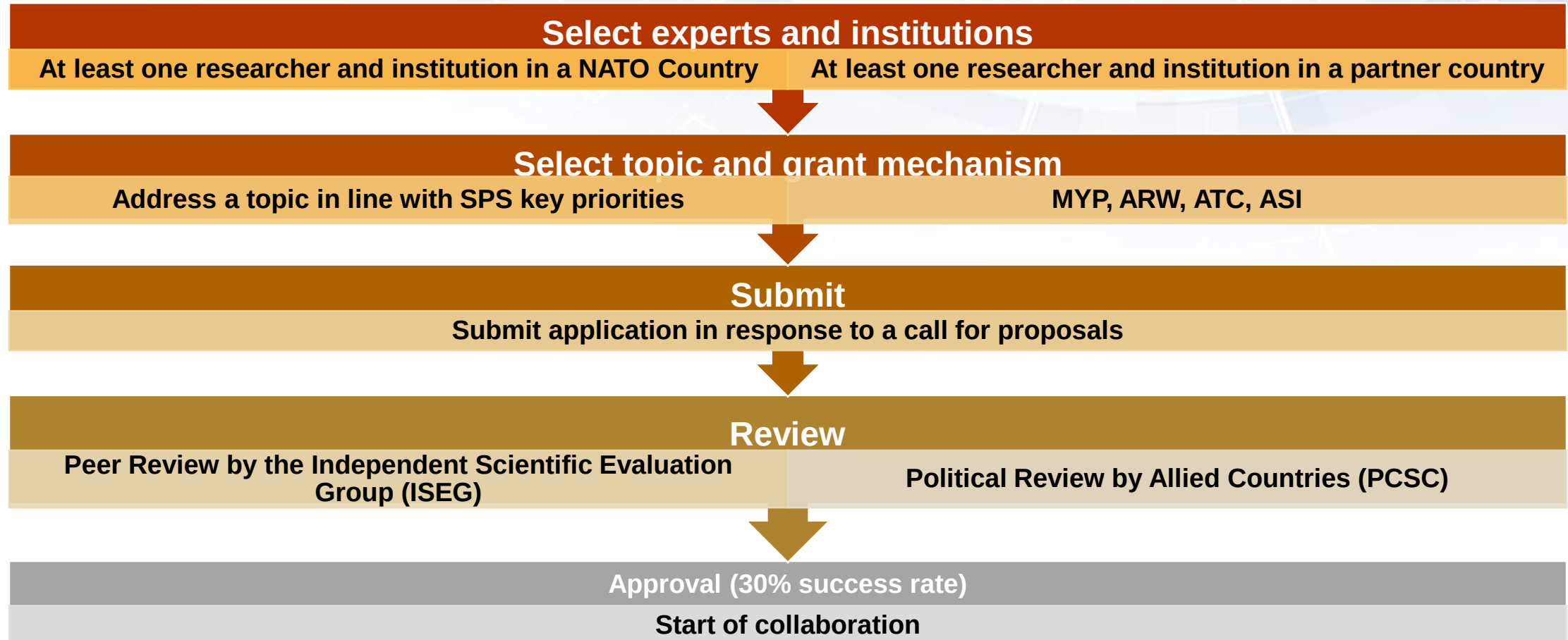
Advanced Study Institutes: Advancing knowledge among specialists

- Duration: 7-10 days
- Budget: up to EUR 60,000 for direct organizational costs and speakers' travel
- Participants: Post-Doctoral researchers

NATO Science for Peace and Security (SPS) Programme

The application and review process

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



NATO Science for Peace and Security (SPS) Programme

Call for proposal 2024/1

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



Now open – Deadline 21 January 2024

<https://natosps.grantplatform.com/>

The screenshot shows the NATO Science for Peace and Security (SPS) Programme website. At the top, the NATO logo and the text 'Science for Peace and Security (SPS) Programme' are visible. The main heading is 'Science for Peace and Security', followed by a welcome message: 'Welcome to the grants platform of the NATO Science for Peace and Security (SPS) Programme!'. Below this, a section titled 'On this page, you may:' lists four bullet points: 'See all available opportunities offered by the NATO SPS Programme.', 'Create a new user account or log into your existing account.', 'Submit your own application.', and 'See the applications you have previously submitted.' A 'How to apply:' section follows with a four-step numbered list: 1. Register an account, 2. Find the contest or call you want to apply for, 3. Start your application, and 4. Submit your application. At the bottom, there is a link: 'For any questions on SPS grants, click here to contact the SPS Programme'. On the left side, there is a navigation menu with a 'Home' button and a list of links: '1. The NATO SPS Programme', '2. SPS grants', '3. SPS grants for Multi-Year Projects (MYP)', '4. SPS grants for Events', and '5. SPS Photo Contest'. Below the menu is a 'Log in or register' section with an email input field and a 'Continue' button. At the bottom left, there is a 'Share' section with social media icons for Facebook, X, Pinterest, LinkedIn, and YouTube.

Home

- 1. The NATO SPS Programme
- 2. SPS grants
- 3. SPS grants for Multi-Year Projects (MYP)
- 4. SPS grants for Events
- 5. SPS Photo Contest

Log in or register

Email

Continue

Share

Facebook, X, Pinterest, LinkedIn, YouTube

NATO OTAN
Science for Peace and Security (SPS) Programme

Science for Peace and Security

Welcome to the grants platform of the NATO Science for Peace and Security (SPS) Programme!

On this page, you may:

- See all available opportunities offered by the NATO SPS Programme.
- Create a new user account or log into your existing account.
- Submit your own application.
- See the applications you have previously submitted.

How to apply:

- 1 Register an account.
- 2 Find the contest or call you want to apply for.
- 3 Start your application.
- 4 Submit your application.

For any questions on SPS grants, [click here to contact the SPS Programme](#)

Available opportunities

The SPS Programme is currently accepting applications only for the opportunities listed below:



2024/1 call: SPS Events (ARW, ASI, ATC)

[Start application](#)



2024/1 call: SPS Multi-Year Projects (MYPs)

[Start application](#)



SPS Photo Contest

[Start application](#)

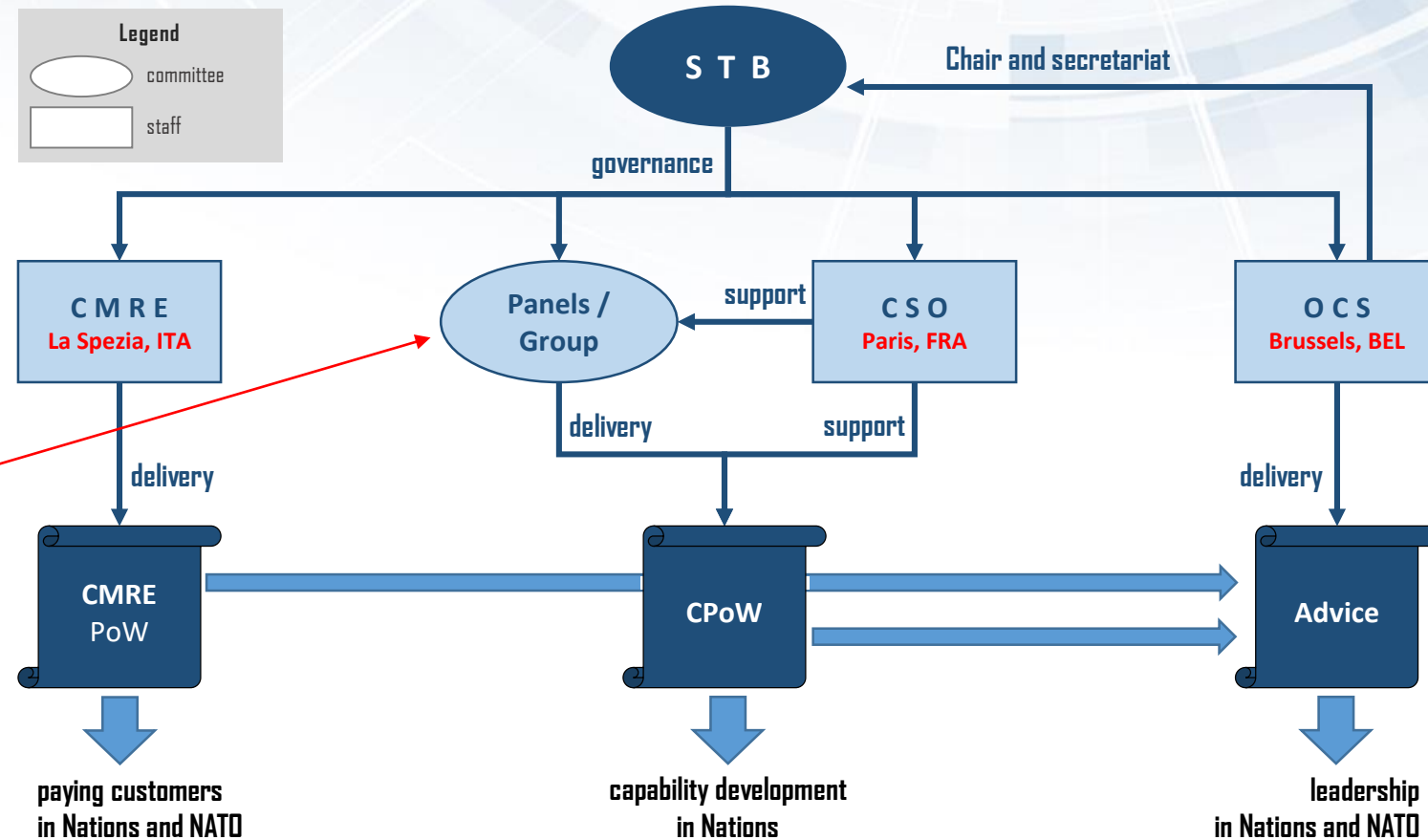
NATO Science & Technology Organization

Overview

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



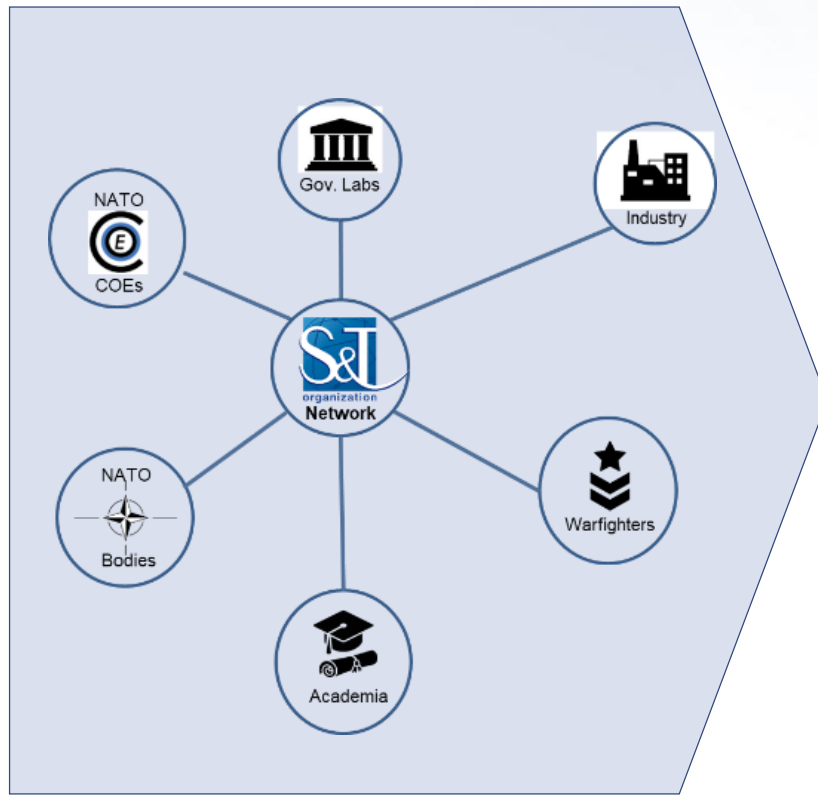
AVT – Applied Vehicle Technologies
HFM – Human Factors and Medicine
IST – Information Systems Technologies
SAS – System Analysis & Studies
SCI – Systems Concepts & Integration
SET – Sensors & Electronics Technologies
NMSG – NATO Modelling and Simulation Group



NATO Science & Technology Organization

Collaborative business model

Segretariato Generale della Difesa e
Direzione Nazionale degli Armamenti



STO Collaborative Program of Work CPoW

5000 (+)
Active Scientists

300 (+)
Collaborative S&T Activities

100 (+)
Publications per year

31 Allies + 3 EOPs





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