

Empowering NATO's Technological Edge

NATO Science & Technology Organization (STO) *Academic Research for Defense, Impact on Japan's National Security*

Maj Gen (rtd) Philippe MONTOCCHIO

Deputy Director,
Science & Technology Organization, Collaboration Support Office

The NATO Science and Technology Organization (STO)

Office of the
Chief Scientist
NATO HQ– Brussels
Belgium

Collaboration
Support Office
Paris - France



Centre for
Maritime Research &
Experimentation
La Spezia - Italy

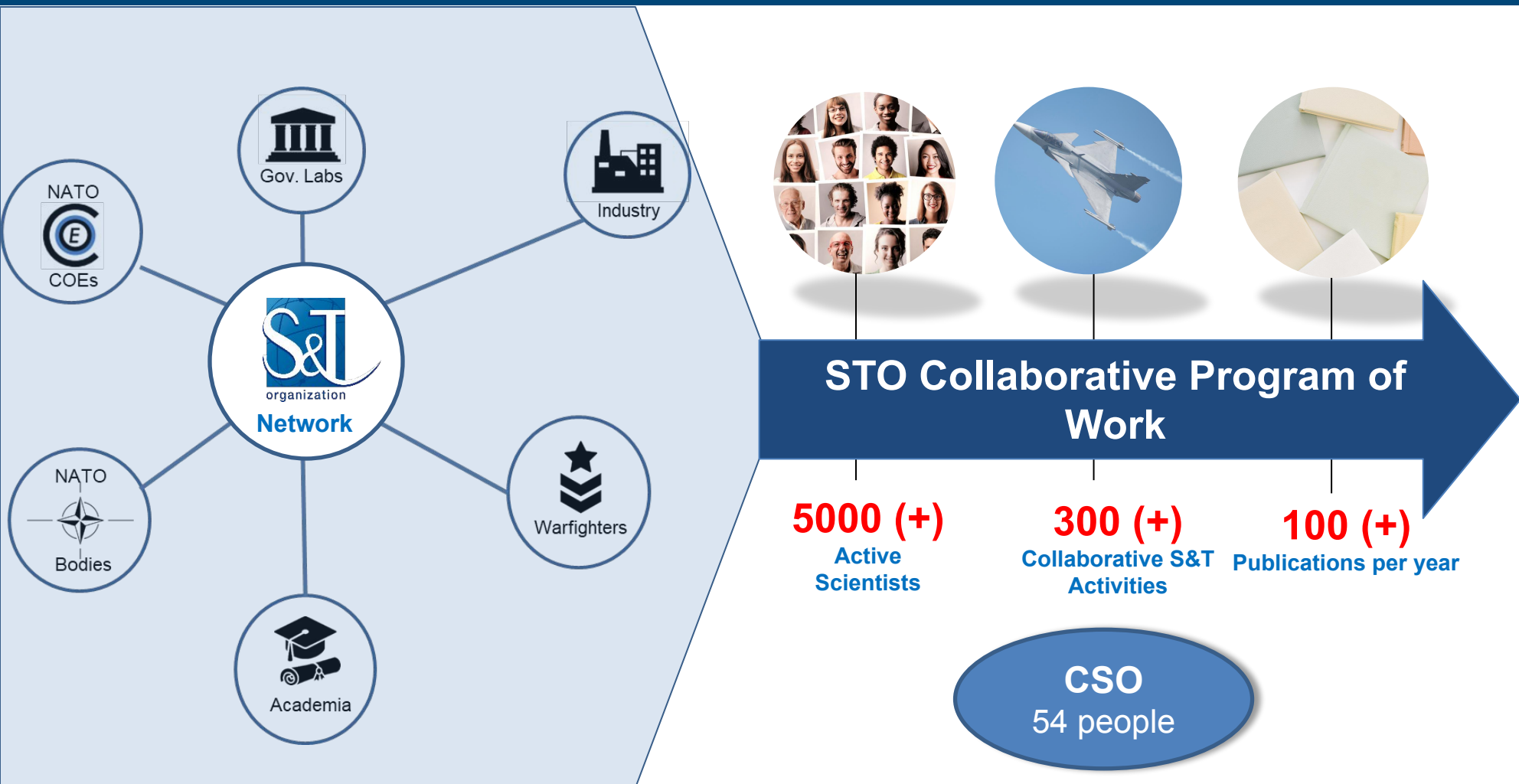
The NATO S&T Collaborative Business Model

Since
1952



*‘.... scientific results cannot be used efficiently by **soldiers** who have no understanding of them, and **scientists** cannot produce results useful for warfare without an understanding of the operations.’* **Theodore von Kármán**

The NATO S&T Collaborative Business Model

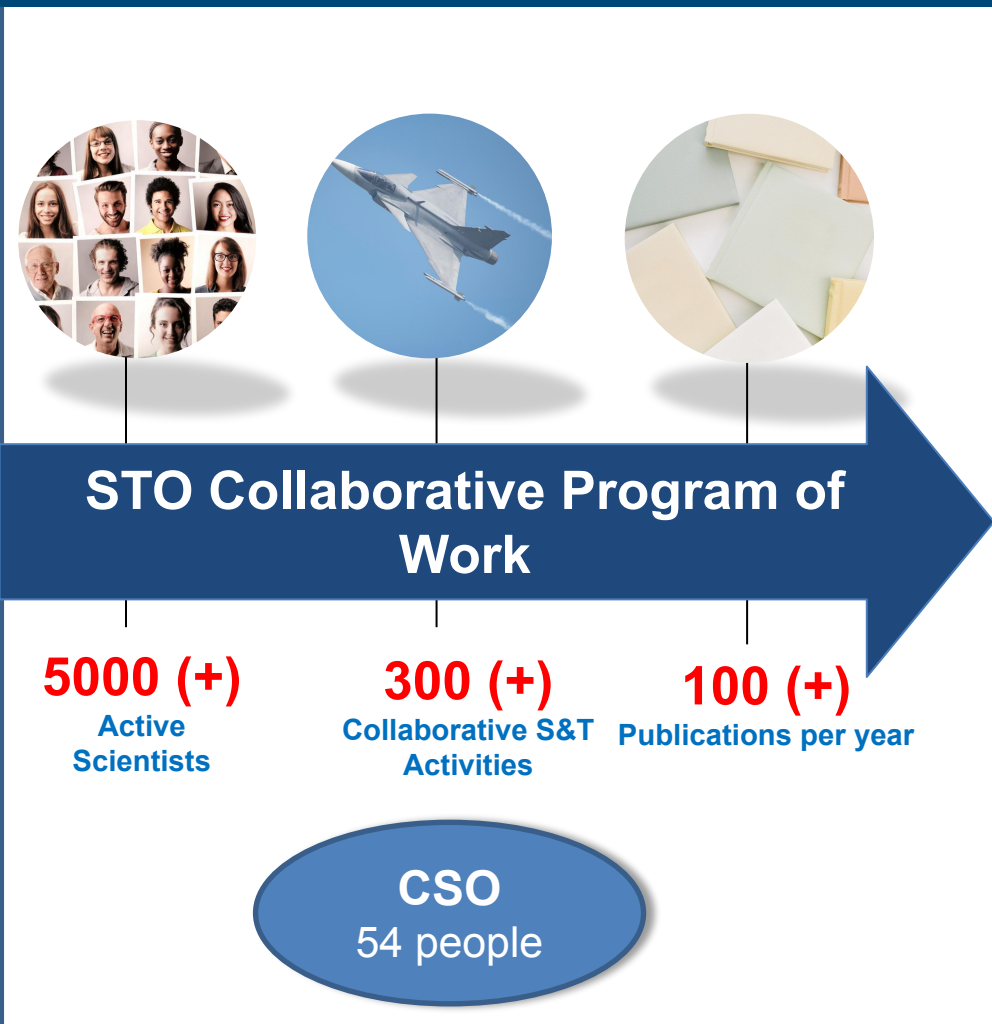
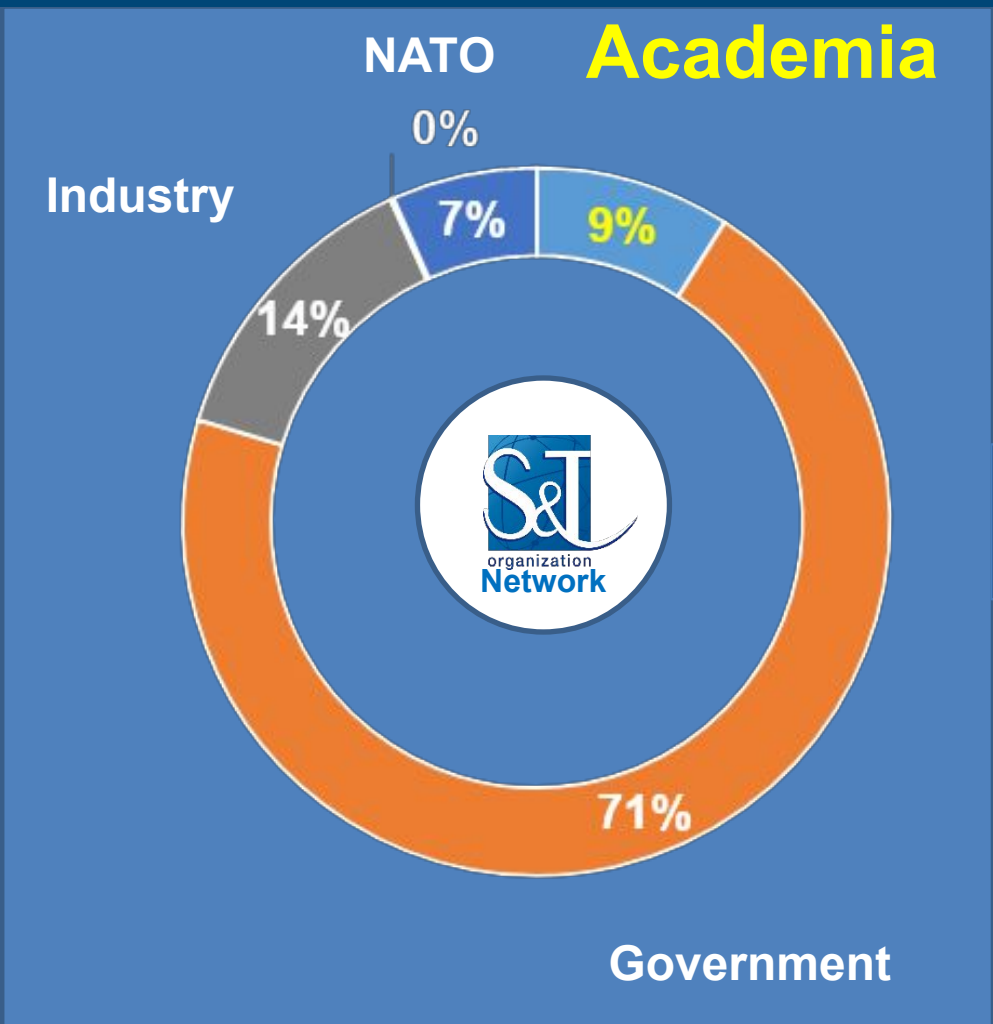


**30 Allies
+ 4 EOPs**



**10:1
Return-On-Investment
from International S&T
Collaboration**

The NATO S&T Collaborative Business Model










**30 Allies
+ 4 EOPs**



**1:10
Return-On-Investment
from International S&T
Collaboration**

The NATO S&T Collaborative Business Model

The seven STO Panels and Group

| | | |
|------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
|  | AVT – Applied Vehicle Technology Panel | Vehicle, platform, propulsion and power systems – land, sea, air and space |
|  | HFM – Human Factors and Medicine | Optimize health, safety, well-being and performance of humans in operational environments |
|  | IST – Information Systems Technology Panel | Information warfare & assurance; Communications & networks; Architecture & enabling technologies |
|  | SAS – System Analysis and Studies Panel | Studies & analysis of operations & technology; Develop methods & tools |
|  | SCI – Systems Concepts and Integration Panel | System of systems approach across spectrum of platforms & operating environments; Integrated defense systems |
|  | SET – Sensors and Electronics Technology Panel | Reconnaissance, surveillance & target acquisition; Electronic warfare; Communications & navigation; Multi-sensor integration/fusion |
|  | NSMG – NATO Modelling and Simulation Group | Maximize the effective utilization and co-ordination of M&S |

The NATO S&T Collaborative Business Model

Cognitive Warfare **Brain manipulation of individuals or groups of individuals**

Cognitive Warfare Team

NATO Allied Command for Transformation

STO

- HFM Human Factors
- IST Artificial Intelligence & Data Sciences
- SAS Scientific and Operational Studies

Ecole Nationale Supérieure de Cognitique
French National Institute for Cognitive Sciences

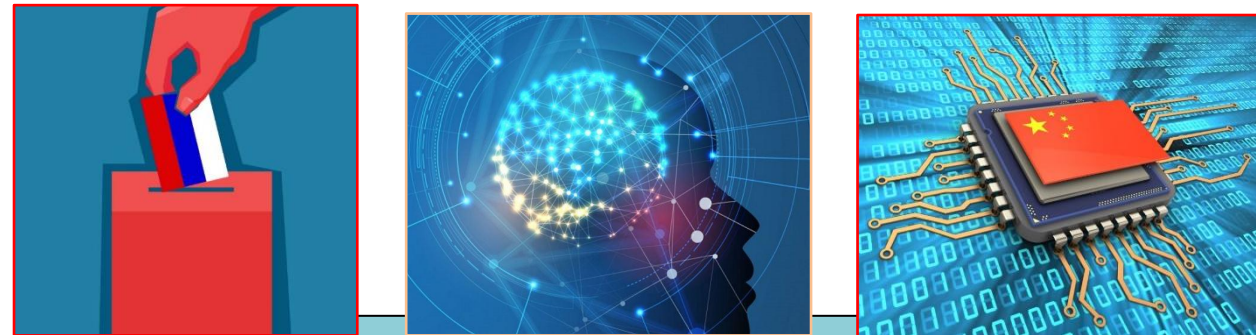
HUB



Bytes not bombs: Student team works with NATO to define, track cognitive warfare attacks

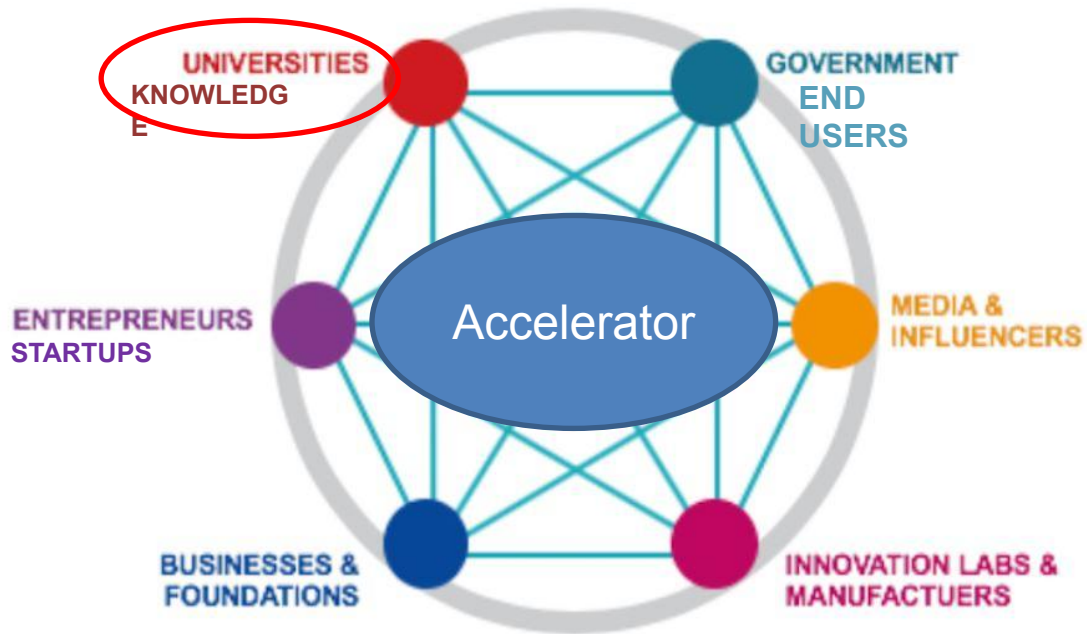
A group of Clark Scholars is designing a Cognitive Warfare Dashboard to show what information is being spread, where it's coming from, and why

Combined use of AI, Data Sciences and Neurosciences

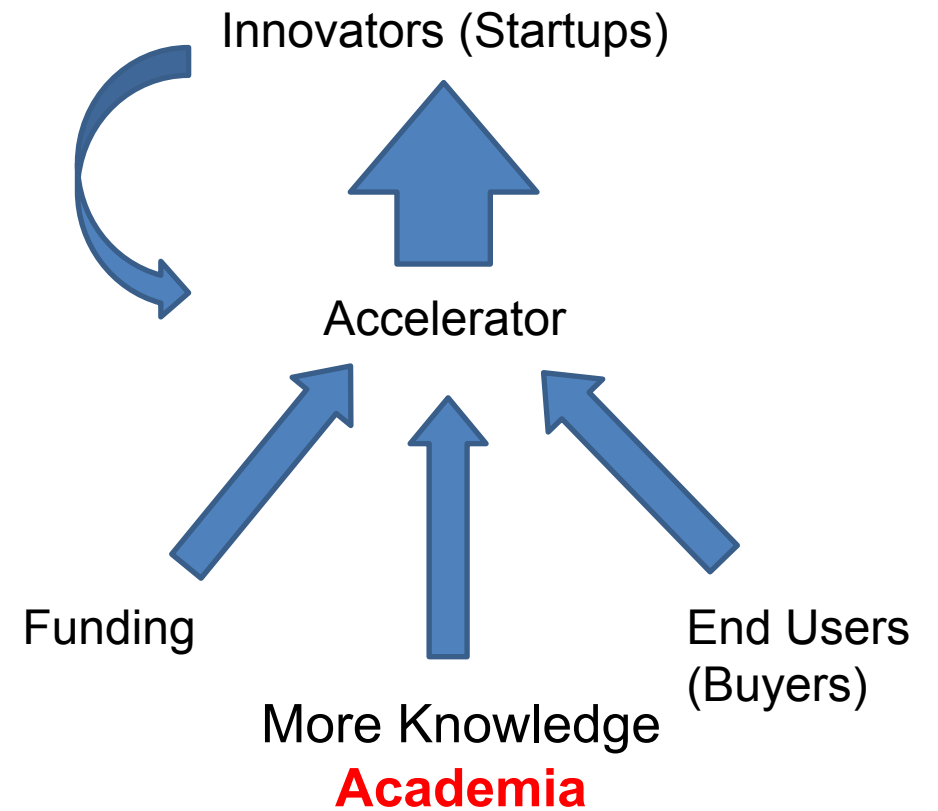


The NATO S&T Collaborative Business Model

NATO DIANA Concept

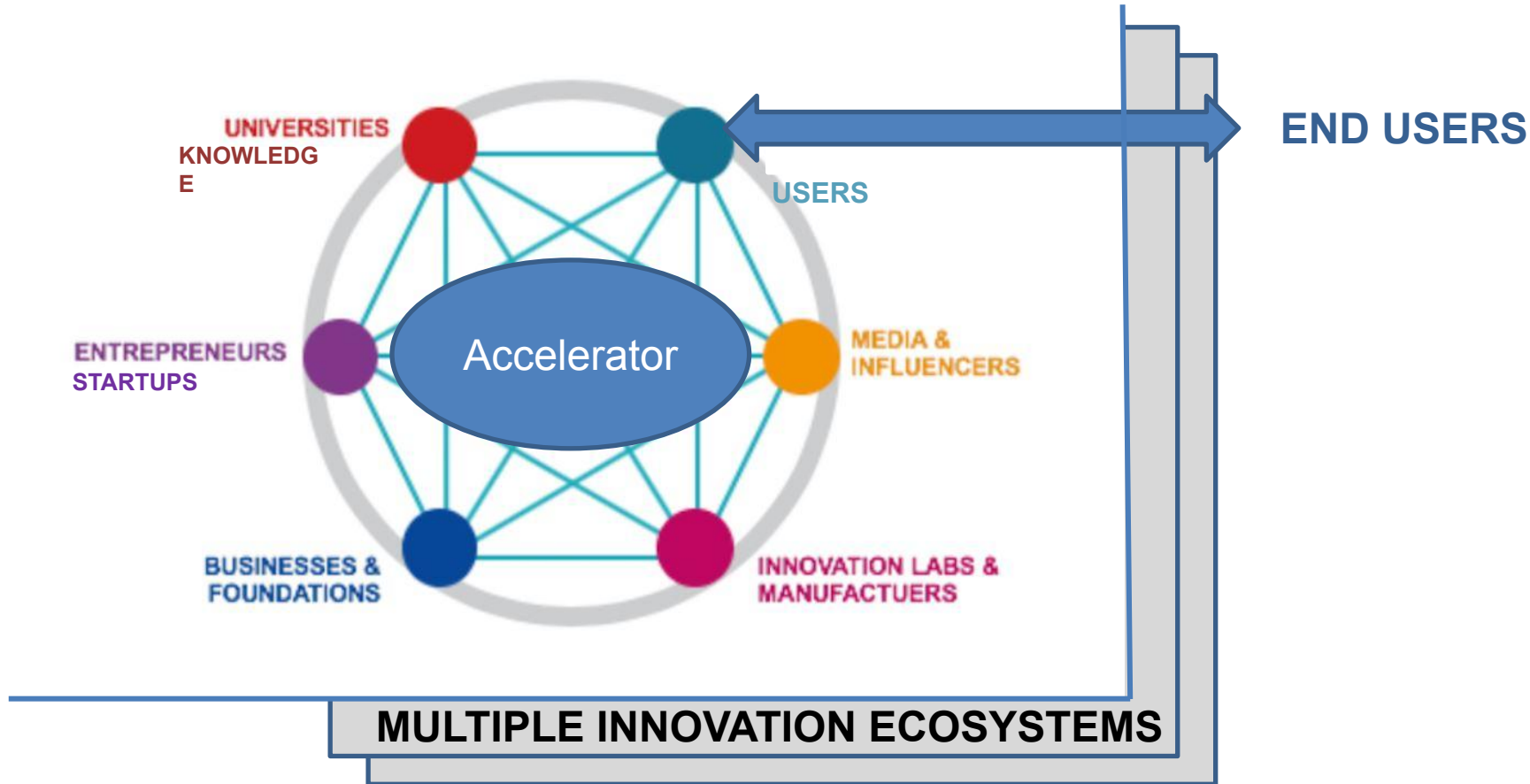


INNOVATION ECOSYSTEM



The NATO S&T Collaborative Business Model

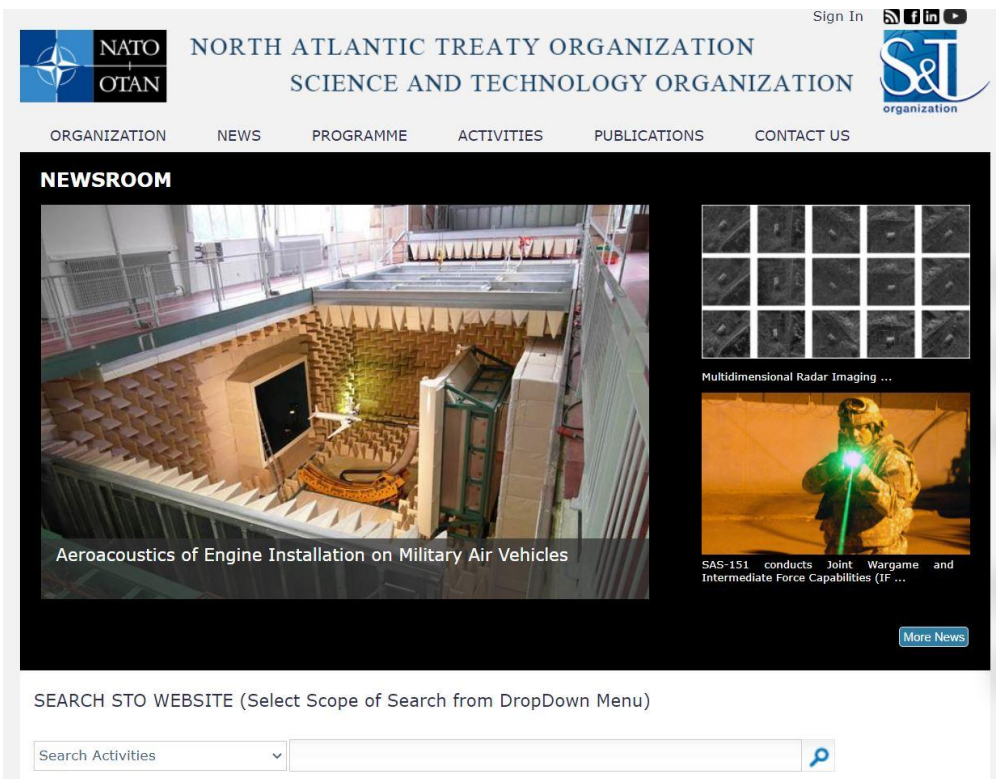
NATO DIANA Concept



The NATO S&T Collaborative Business Model

NATO Collaboration Support Office

Japan National Coordinator
Dr Tomohiro ANDO (ATLA)
ando.tomohiro.dw@cs.atla.mod.go.jp



The screenshot shows the NATO STO website's newsroom. At the top, there are logos for NATO OTAN and S&T organization, along with a 'Sign In' button and social media icons. A navigation menu includes 'ORGANIZATION', 'NEWS', 'PROGRAMME', 'ACTIVITIES', 'PUBLICATIONS', and 'CONTACT US'. The main content area is titled 'NEWSROOM' and features two news items. The first item is 'Aeroacoustics of Engine Installation on Military Air Vehicles' with a photo of an engine test cell. The second item is 'SAS-151 conducts Joint Wargame and Intermediate Force Capabilities (IF ...)' with a photo of a soldier in a wargame environment. A search bar at the bottom allows users to search the website, with a dropdown menu set to 'Search Activities'.

NATO STO
Web Site
www.sto.nato.int

NATO CSO mail address
mailbox@cs.nato.int