

STO/AVT Panel



Briefing for Newcomers

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North Atlantic Treaty Organization (NATO)

North Atlantic Treaty Organization

A POLITICAL AND MILITARY ALLIANCE

“NATO’s essential purpose is to safeguard the freedom and the security of its members through political and military means.”



POLITICAL - NATO promotes democratic values and encourages consultation and cooperation on defence and security issues to build trust and, in the long run, prevent conflict.

MILITARY - NATO is committed to the peaceful resolution of disputes. If diplomatic efforts fail, it has the military capacity needed to undertake crisis-management operations. These are carried out under Article 5 of the Washington Treaty - NATO’s founding treaty - or under a UN mandate, alone or in cooperation with other countries and international organizations.

www.nato.int

2017
(NATO-29)



Macedonia

2009
(NATO-28)



Albania



Croatia

2004
(NATO-26)



Bulgaria



Estonia



Latvia



Lithuania



Romania



Slovakia



Slovenia

1999
(NATO-19)



Czech Rep



Poland



Hungary

1982
(NATO-16)



Spain

1955
(NATO-15)



Germany

1952
(NATO-14)



Greece



Turkey

1949
(NATO-12)
Founding member



Belgium



Canada



Denmark



Iceland



Italy



Luxembourg



USA



UK



Portugal



Norway



Netherlands



France

Article 10: “...any other European State in a position to further the principles of this Treaty and to contribute to the security of the North Atlantic area...”

The Science and Technology Organization



NATO's STO: A long heritage of S&T cooperation

AGARD

1952

Defence Research
Directors Committee
1963

NATO Science
Committee
1957

★ Sputnik 1



1959



1967



1987



2002



1997

NATO SPSP
2006

S&T Reform
2012



The Science and Technology Organization

The STO is composed of:

- The Science and Technology Board
- Scientific and technical committees
- Executive bodies



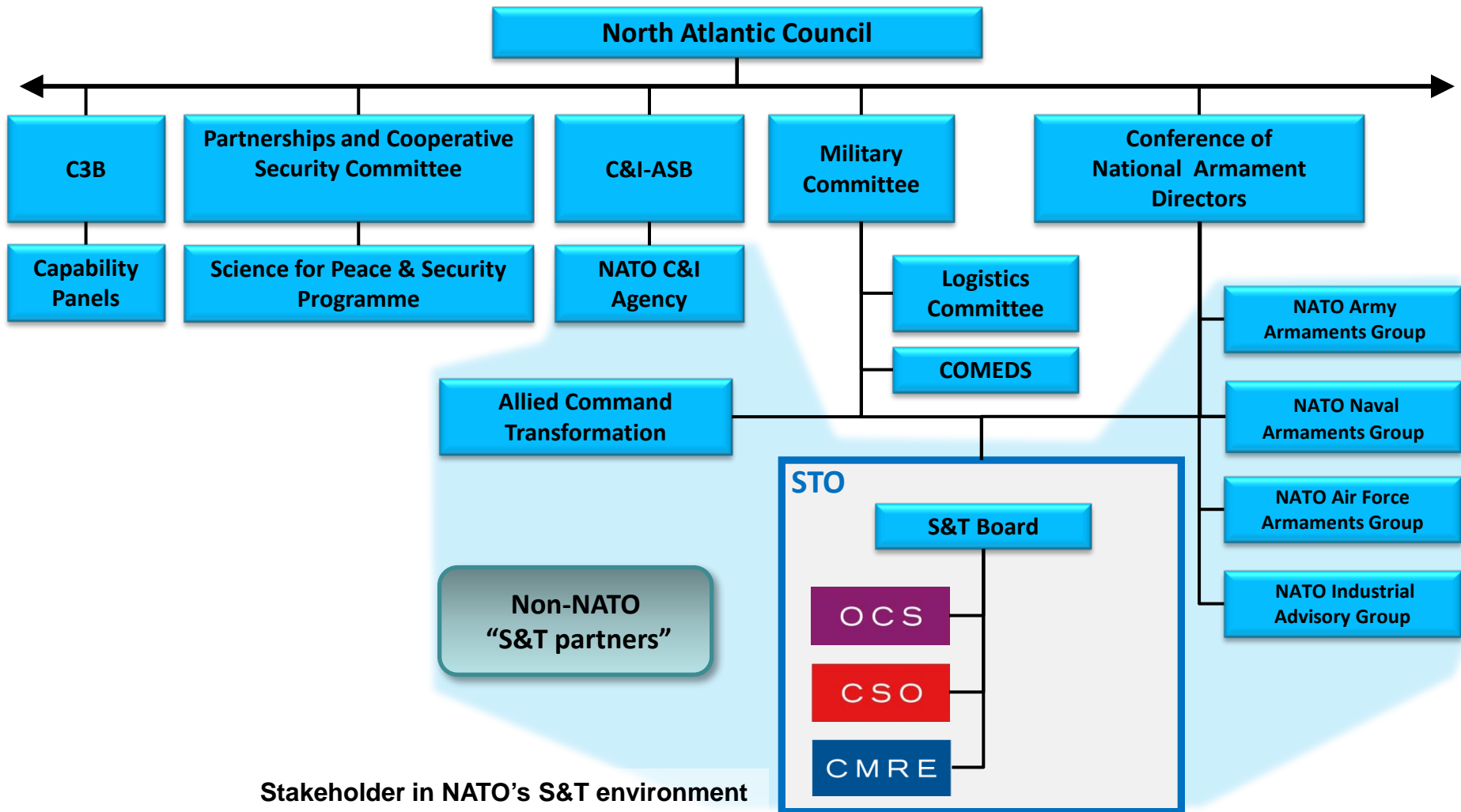
Two business models

- “Collaborative S&T” model
- “In house-delivery” model

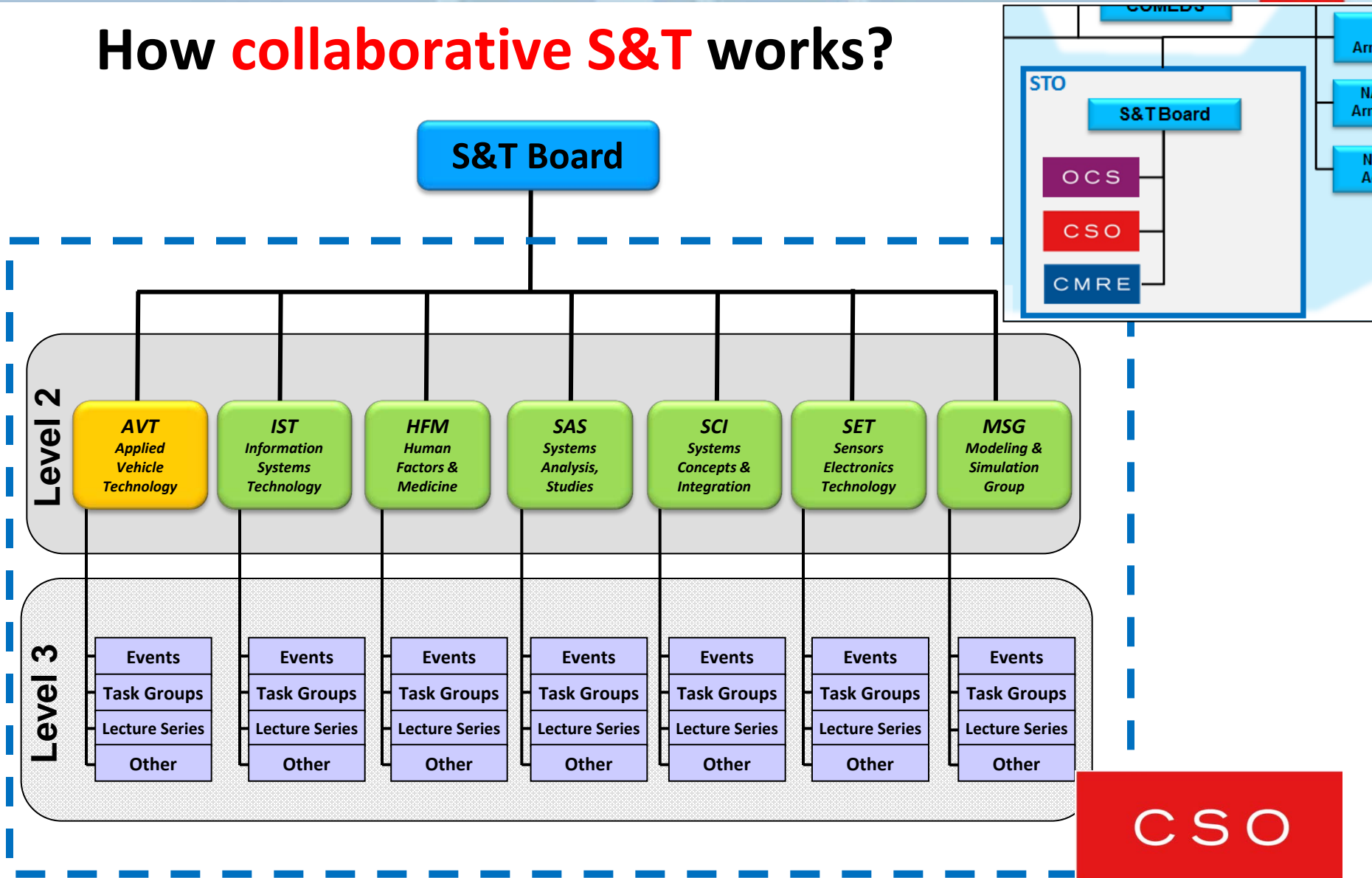
Three executive bodies



The NATO's S&T Community embedded since 2012



How collaborative S&T works?



CSO

AVT Panel Mission

“Improve **performance**,
affordability,
and **safety**

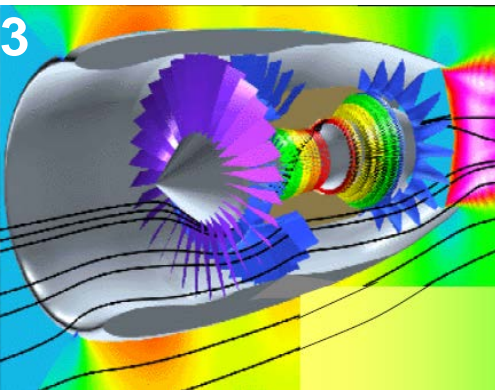
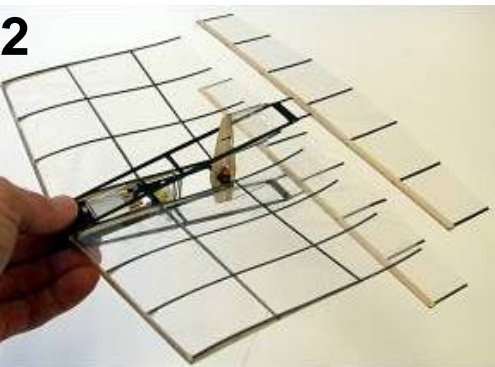
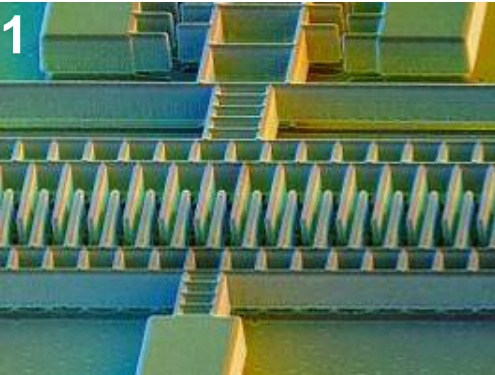
of **vehicle**, **platform**, **propulsion**
and **power systems**

operating in **all environments**

for **new** and **ageing systems**

through **advancement**
of **appropriate technologies**”





Technology Areas

1 Mechanical Systems, Structures and Materials

vehicle and platform design; structural loads and dynamics; noise and vibration control; smart and multifunctional materials and structures; structural materials and manufacturing processes; non-structural materials; corrosion, fatigue and other degradation mechanisms; affordability, availability, survivability and supportability; reliability and maintenance

2 Performance, Stability & Control, Fluid Physics

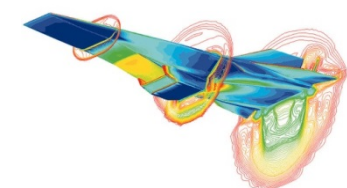
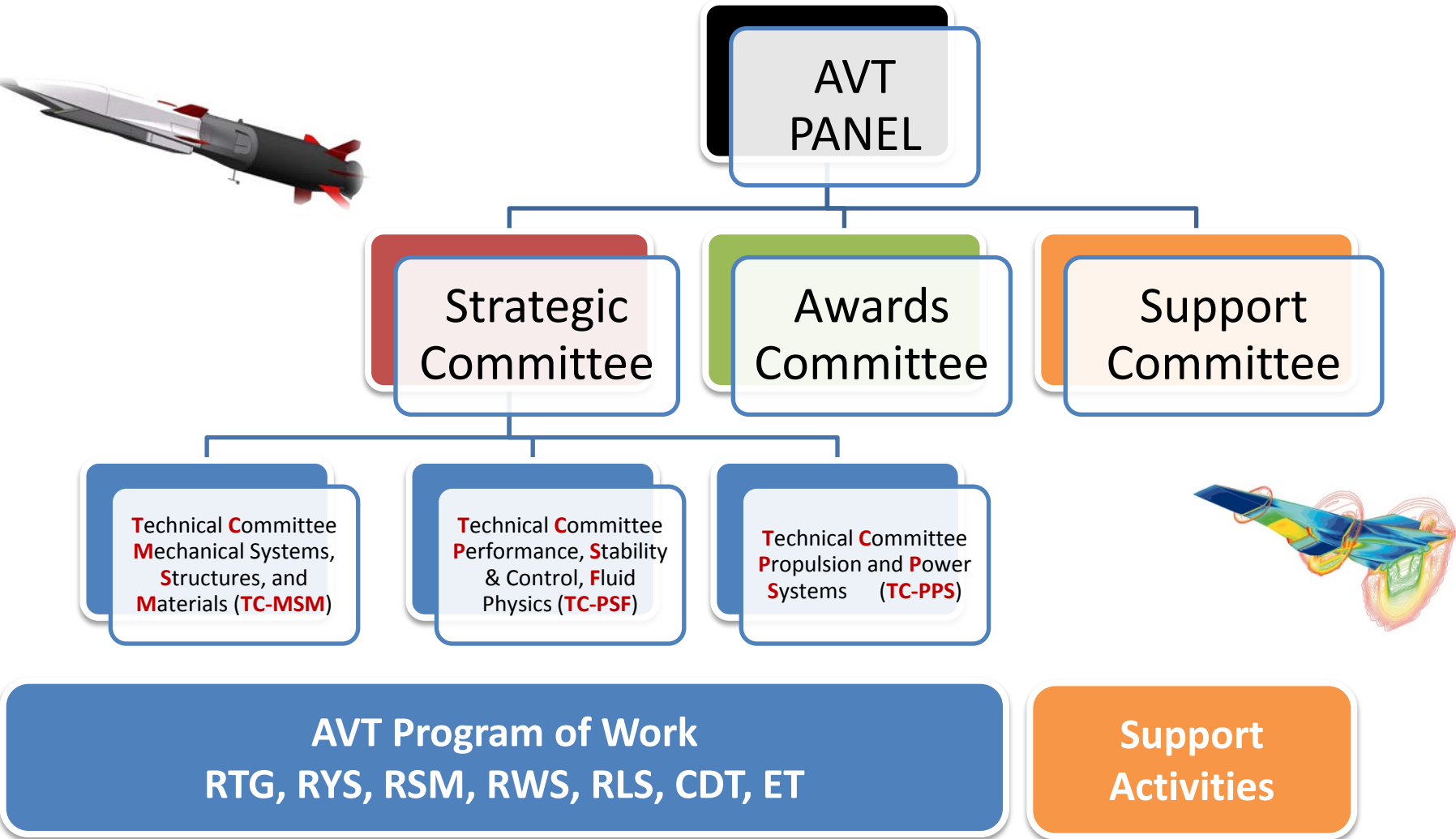
performance; stability and control; aerodynamic and hydrodynamic analysis and design; theoretical, experimental and computational fluid dynamics; aerothermodynamics; aero- and hydro-acoustics; aeroservoelastics

3 Propulsion and Power Systems

focusing on engineering of propulsion systems; fuels and energy conversion; fluid and gas dynamics

addressing airbreathing engines, auxiliary onboard power generation units, solid and liquid propellant rockets, electrical systems, and fire protection and suppression

AVT Structure



What are STOs and AVTs formats?

For all activities we need at least four nations confirming their participation

Task Groups (RTG) – Three years

AGARDograph (AG) – Three years

Symposium (RSY)

Specialists' Meeting (RSM)

Workshops (RWS)

} Until end of the year after the event
Difference: Participants, Call for Paper procedure
But Meeting Proceedings are mandatory for all formats

Exploratory Team (ET) – one year from Fall to Fall PBM

Lecture Series (RLS) – Usually in cooperation with VKI

Activity NATO classification

No marking or Public Release

Open to the world and documents are releasable to the world

NATO Unclassified (NU)

Only open for NATO nation nationals

Documents are also only releasable to mentioned nation

NATO Restricted / Confidential / Secret (NR, NC, NS)

Special NATO classifications with higher lever security status

Additional Partners

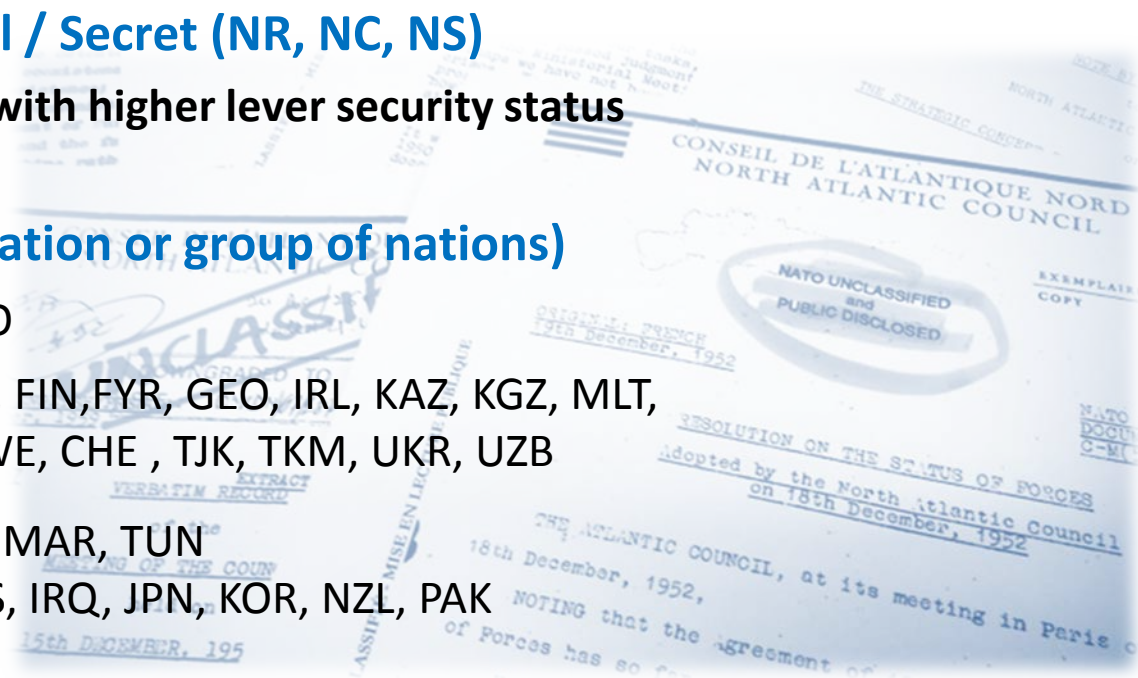
(NATO U/R/C/S plus partner nation or group of nations)

EOP: SWE, FIN, AUS, JOR, GEO

PfP: ARM, AUT, AZE, BLR, BIH, FIN, FYR, GEO, IRL, KAZ, KGZ, MLT,
MDA, MNE, RUS, SRB, SWE, CHE, TJK, TKM, UKR, UZB

MD: DZA, EGY, ISR, JOR, MRT, MAR, TUN

GLOBAL PARTNERS: AFG, AUS, IRQ, JPN, KOR, NZL, PAK



How to attend an AVT event

You need to enroll on the **STO Website!!!**

- Go to www.sto.nato.int → events.sto.nato.int
- Select the event and follow the instructions
- Enrollment starts approximately three month before for the **Spring PBW in Jan / Feb** and for the **Fall PBW in Jul / Aug**

The screenshot shows the NATO Science and Technology Organization website. The navigation menu includes 'ORGANIZATION', 'NEWS', 'PROGRAMME', 'ACTIVITIES', and 'PUBLIC'. Under 'ACTIVITIES', there are links for 'Ongoing Activities', 'STO Events Website', and 'Book STO Events!'. A red arrow points from the 'Book STO Events!' button to the 'S&T events' page. The 'S&T events' page has a 'Login' form with fields for 'Username' and 'Password', and a 'Log in' button. A red box highlights the 'Login' form. Below the form, there is a 'Create an account' section with instructions for creating an account and booking an event.

Don't Miss the
DEADLINE!

How to attend to an AVT activity?

Participation in an existing activity

1. **Contact** the **Chairs** of these activities and obtain an invitation or contact **AVT Executive Office**
2. Participants of the activity agree? **Request** the **Application for Appointment Form** via the **AVT Executive Office**
3. **Send** the **Application for Appointment** to the AVT **National Principal Panel Member**

Appointment process is pending? For the first meeting you are welcome to participate as a guest

Please do not hesitate to contact with us.

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How to contribute to AVT?

Applying a new activity

1. Write an activity proposal (*Templates provided by the Executive Office*)
TAP – Technical Activity Proposal
 ToR – Terms of References (only for RTG and AG)
2. **Relevant for NATO** and at least **four nations** willing to participate?
3. If so, please **submit the proposal** to the **AVT Executive Office** and/or to one of the **Technical Committee Chairs**
4. Applications to be send annually by the 15th of August (ETs plus 15th of Febr.)

UNCLASSIFIED / UNLIMITED		Technical Activity Proposal (TAP)	
Activity reference number	AVT-201	Activity Title Extended Assessment of Reliable Stability & Control Prediction Methods for NATO Air Vehicles	Approval 2011
Type and serial number	RTG-065		Start January 2012
Location(s) and Dates		In conjunction with AVT Panel Business Weeks	End December 2014
Coordination with other bodies		NONE	
NATO Classification of activity		NU	Non NATO Invited Yes
Publication Data		TR	NU
Keywords		Vehicle dynamics, CFD, Predictive capability, Flight dynamics, Roll and pitch damping, Flight simulation	

I. Background and Justification (Relevance to NATO):

The ability to accurately predict both static and dynamic stability characteristics of air vehicles using computational fluid dynamics (CFD) methods could revolutionize the vehicle design process for NATO air vehicles. A validated CFD capability would significantly reduce the number of ground tests required to verify vehicle concepts and, in general, could eliminate costly vehicle 'repair' campaigns required to fix performance anomalies that were not adequately predicted prior to full-scale

How does an activity get approved?

Proposal application process

3. **AVT Panel** consist of 66 experts from currently 23 of the 28 NATO nations plus Sweden, Finland & Australia
 - Panel endorsed (RTG,RSY....) and approves (ETs) AVT activity applications
 - Each nation has a maximum of three Panel members
 - Each NATO nation has one vote (Principle Voting Member)
2. **Strategic Committee**
 - **Observing the relevance** of the AVT activities & proposals for NATO
 - Evaluates the **overall balance** of the activities
 - Provides answers for the Panel to the STB and other NATO bodies
1. **Three Technical Committees**
 - Representing the three major subject areas
 - **Evaluating** the technical contents of the AVT activities & proposals

Proposal Input

Where do you find reports?

- Almost all reports are located on the STO/CSO Website
- If you have an appointment
 - you will receive a user password to access the reports
 - or contact your National Distribution Center or local STO representative



The screenshot shows the website interface for the Science and Technology Organization (STO) and its Collaboration Support Office (CSO). The top navigation bar includes links for NEWS, PROGRAMME, ACTIVITIES, PUBLICATIONS (highlighted with a red box), and MY PAGE. Below this is a search bar for "Search STO Technical Reports" and an "Advanced Search" button. A secondary navigation bar contains links for Pubs Home (highlighted with a red box), Tech Reports, Symposia et al, Educational, Authors, Subjects, CMRE, AGARD, and National Catalogues. Below the navigation is a list of panels, with "Applied Vehicle Technology (AVT) Panel" selected. The AVT panel displays two reports:

- PRE-RELEASE: Assessment of Volcanic Ash Effects on Military Platforms**
No abstract available at time of publishing . . .
Published: Mar 2017
DOI: 10.14339/STO-TR-AVT-213
Access: NATO Unclassified
Releasable to: • NATO
[View Related Files](#)
- PRE-RELEASE: Joint Exercise on IR Signature Prediction**
N/A . . .
Published: Feb 2017
DOI: 10.14339/STO-TR-AVT-232

Two red arrows point to the "PUBLICATIONS" menu item and the "Pubs Home" link, respectively.

STO Support Programme

- The STO Support Programme is of benefit to the following Supported Nations:
Albania, Bulgaria, Croatia, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia, Slovenia and Turkey
- It includes:
 - Support Projects (cooperative activities); and
 - Financial support (travel expenses and per-diem) for the attendance of Panel/Group Members and experts from the Supported Nations at Panel/Group Business Meetings and Technical Team activities.
- As far as the Support Projects are concerned, the **financial support provides travel expenses and per diem** for scientists, technicians or engineers who need to travel in order to accomplish the objectives of the Support Project.
- Financial support **for purchasing hardware or software is also possible**; it is limited to **25% of the project cost**.

www.sto.nato.int

events.sto.nato.int

The screenshot shows the STO website homepage with several sections highlighted by red boxes and blue callout boxes:

- NEWSROOM:** Features a large image of a tent structure and a smaller image of a chemical process. A blue callout box labeled "News" points to this section.
- SEARCH STO WEBSITE:** A search bar with a dropdown menu for "Search Activities".
- UPCOMING STO EVENTS AND CALLS FOR PAPERS:** A section with a blue callout box labeled "Events".
- Collaborative Research covering 28 NATO Nations & 35 Partners:** A section with a blue callout box labeled "General info".
- Centre for Research and Experimentation (CMRE):** A section with a blue callout box labeled "General info".
- CONTRIBUTING TO SCIENCE & TECHNOLOGY IN NATO:** A section with a blue callout box labeled "Social media".
- PUBLICATIONS:** A section with a blue callout box labeled "Publications".

The screenshot shows the STO Events website with the following elements:

- Navigation:** Home, Event Summary, Upcoming Events, Contact us.
- Search:** A search bar in the top right corner.
- Getting Started:** A main heading with a background image of a presentation.
- Login:** A section with fields for Username and Password, and a "Log in" button. Links for "Create an account", "Forgot your username?", and "Forgot your password?" are also present.
- Welcome message:** "Welcome to the STO Events website. To book your first event on this website, you will need to have an account with us. Existing STO website accounts will not be imported."
- Creating an account:** A section titled "Creating an account" with instructions: "To create your account before you book an event:
 - Click **Create an account** from any page
 - Complete your profile. **All fields are mandatory.**
 - Click **Register**. You will receive an email notification for you to **activate your account**. Check your spam mail folder just in case this message was considered as SPAM.
 - Click the link inside this message to activate your account.
- Booking an event:** A section titled "Booking an event" with instructions: "Once you have activated your account, you can come back to this site any time and book an event.
 - First log on to this site. Use the credentials you entered when you created your account;
 - Then click **Book now** against the desired event from the **event summary**. Your booking form should be pre-filled with your user profile information.

