*Programmatic Context*

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## How to get a "monitor"

- ESA research programmes:
  - TRP (for first concept R&D)
  - GSTP, ARTES...programme-specific R&D
    - (=**OPTIONAL**, often "menu" type subscription)
    - Needs internal and **external** action (national delegation lobbying)
  - ("Internal" proposals, in competition;
  - "board" selection on basis of **need** and **technical quality**
  - helps to have external coordination/harmonisation)
- Project specific procurement (e.g. radiation monitors on Lisa Pathfinder, Bepicolombo, ***Galileo***)
- National programmes
- Coordination via SEENoTC

## SEENoTC and its Objectives

- Space Environments and Effects Network of Technical Competences
  - Grouping of the ***active*** players in Europe prepared to ***contribute*** to a coordinated effort.
  - Organisation:
    - Working Group and Steering Board
    - Representatives from member states' ESA and Eurospace,
    - Liaisons with ECSS-RWG, **SPINE**, SWWT
- Objectives:
  - Improve coordination of active players in Europe
  - Enhance value of activities;
  - Increase opportunities for community
  - Ensure activities address user needs

## SEENoTC Scope

***Space Environments & Effects on Space Systems***

- Radiation environments & effects
- Plasma environments & effects
- Space Weather, but:
  - Only as it affects space systems;
  - Excluding EM propagation and atmospheric effects;
- Explicitly excluded:
  - Space debris & micrometeoroids
  - Thermal
  - Surveillance (= "tracking")

## detailed SEENotC objectives

- support increased coordination among the activities carried out in Europe on space environments and their effects activities;
- provide for the execution of a coordinated programme of:
  - **in-orbit technological experiments;**
  - **ground facilities establishment and exploitation; and**
  - **analysis and modelling infrastructures;**
- coordinate planning of actions;
- share opportunities for experimentation in a more efficient manner;
- share resulting data for spacecraft development and operations;
- support activities performed in spacecraft development phases;
- initiate activities to:
  - **establish and maintain support infrastructures,**
  - **validate models and tools; and**
  - **verify the compatibility and coherence of the tools and facilities of the SEENotC's member; and**
- take into account the requirements and views of industry to ensure that the products developed by the SEENotC Participants result in improved efficiency and competitiveness for the European industry.

*Assumes responsibility for harmonisation in this area (delegated from the THAG: Techno Harmonisation Advisory Group)*

## GSTP-5

- General Support Technology Programme
- Expanded compared to previous GSTPs
- Establishment of extra "lines":
  1. General activities (as now) –permanently open AO
  2. Building blocks (equipment prepared to be available "off the shelf");
  3. Security-related
  4. In-Orbit Demonstration (IOD): flight experiments; technology missions;
- = Optional Programme: -> actions needed from ESA side and at national delegation (to "sign up for an activity")

## ARTES

- Telecommunications R&D programme
- ARTES-5 relates to platform technologies
  - best one for s/c-plasma interaction proposals
  - A call for ideas is open
  - Closes 13 June
  - National support necessary before an idea can be executed (implies they pay!)
- ARTES-8
  - Alphasat (cooperation with CNES)
  - Technology payloads include radiation environment and effects
  - No plasma payload
  - EP
- ARTES-11
  - small GEO satellite

## Galileo

- Internal definition
- Approved by PB-NAV

## Next Steps

- Provide to SEENoTC WG:
  - SPINE assessment of requirements
  - SPINE recommended approach (parts to be done nationally, parts to be done by ESA, strategy,…)
- Ensure that national delegations to WG, SB are briefed
- Ensure that national THAG and IPC/JCB delegations are briefed and will support any necessary proposal in optional programme (implies they pay!)
- Ensure that ESA staff put in proposals at the appropriate time