



POLITECNICO  
MILANO 1863



Agenzia Spaziale Italiana

COMPASS



European Research Council  
Established by the European Commission

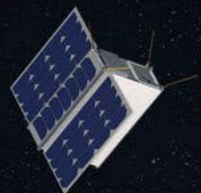
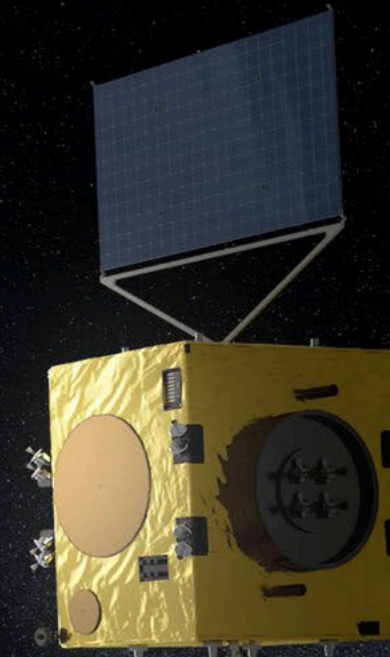


Image credits: ESA Space in Images – 2015 – Hera in orbit



# Sprint #2 First SMPAG hypothetical threat exercise

Camilla Colombo, Marco Castronuovo

*ASI delegation*

*Space Mission Planning Advisory Group, 10/10/2023*



**POLITECNICO**  
MILANO 1863



Agenzia  
Spaziale  
Italiana



# UPDATE SPRINT 1

# Outcome of first sprint



Agenzia  
Spaziale  
Italiana



- Report ready
- Several delegations responded to the exercise

Country	Agency	Role	Status	Report	Comment
Austria	FFG	Participant	Contribution approved	yes	
China	CNSA	Participant	Not approved	no	
Czech Republic		Participant	Not submitted	no	
ESA	ESA	Participant	Contribution approved	yes	Add refs to ESA current threat response plan
France	CNES	Participant	Contribution approved	yes	
Germany	DLR	Participant	Contribution approved	yes	
Israel	ISA	Participant	Contribution approved	yes	
Italy	ASI	Participant	Contribution approved	yes	
Pakistan	SUPARCO	Participant	Not submitted	no	
Romania	ROSA	Participant	Not submitted	no	
US	NASA	Participant	Contribution approved	yes	Add refs to NASA current threat response plan
UK	UKSA	Participant	Not approved	no	
South Korea	KARI	Participant	Not approved	no	
Japan	JAXA	Participant	Not submitted	no	

# Outcome of first sprint

- For many delegations a structured procedure for answer to a NEO threat is not in place yet
- The exercise served/is serving as means of
  - Identifying the requested steps at national level
  - Started the process of survey at national level
  - Started or will start steps for definition of working group
  - Re-iteration is needed in most cases

# Outcome of first sprint

- Report ready
  - Delegation who did not approved but sent some finalised contribution in the past were maintained
  - Delegation who did not approved but sent some not finalised contribution were removed
  - Report shared with the minutes
  - Comments by 30 October to [camilla.colombo@polimi.it](mailto:camilla.colombo@polimi.it) (cc: [romana.kofler@un.org](mailto:romana.kofler@un.org); [detlef.koschny@tum.de](mailto:detlef.koschny@tum.de); [marco.castronuovo@asi.it](mailto:marco.castronuovo@asi.it); [eduardomaria.polli@polimi.it](mailto:eduardomaria.polli@polimi.it))
  - Will be published on SMPAG website on 01 November 2023



**POLITECNICO**  
MILANO 1863



Agenzia  
Spaziale  
Italiana

**COMPASS**



erc

# EXERCISE TASKS

- The **first sprint** will focus on the national organisation and coordination and on defining the lists of tasks to be performed in response to a real threat scenario.
- To harmonise the national (SMPAG-level) efforts into a SMPAG coordinated action this must be organised at communication level, technical level, decision level. The **second sprint** will focus on discussing how the coordination is done among different SMPAG delegations.
- The **third sprint** will deal with communication and coordination issues within SMPAG.



### ■ Task 4

- Integrate the task lists defined by each SMPAG member [Task 1] in [the SMPAG list \[Task 4\]](#)
- Compare and discuss the entities involved at national (SMPAG-member) level for the completion and coordination of these tasks at national (SMPAG-member) level [Task 2] and define the delegation involved in the [SMPAG list of tasks \[Task 4\]](#)
- Compare and discuss the internal (SMPAG-member) procedure for performing and advancing the tasks (already in place or desired) identified at Task 1 at national (SMPAG-member) level [Task 3] and define the procedure for performing them internationally [SMPAG list \[Task 4\]](#)
- For each Task or group of Tasks
  - define Working Groups (WG), WG leader and deputy
  - define participating delegations and activities
  - define timeline
- SMPAG common coordination plan



# Exercise organisation

Sprint 2/3



## ■ Task 5

- Data for exchange of information
- Format of data, e.g. orbits, spacecraft design, orbit determination, analyses
- Architecture support for sharing data,
  - E.g. ESA or NASA SharePoint, UN?
  - Accesses, data etc.

- The SMPAG NEO threat exercise will be performed
  - through **monthly telecons** among participating SMPAG members and
  - through work at the international SMPAG-member level work
  - **Telecon slot: 3<sup>rd</sup> Thu of each month starting from Oct 2023 at 12pm UTC**
  - **First meeting Thu 19 Oct 12 pm UTC**

- The output of the exercise will be a final report containing all the output of Sprint 2/3 on SMPAG collaboration and sprint 3/3 on SMPAG coordination and communication.
- The results of the analysis and the collective analysis of each delegation will be coordinated in a unique presentation at SMPAG meeting in Feb 2024.
- The resulting report and presentation could form a conference paper for information under NEO agenda item of the Scientific and Technical Subcommittee of COPUOS.



POLITECNICO  
MILANO 1863



Agenzia Spaziale Italiana

COMPASS



European Research Council  
Established by the European Commission



Part of the research presented has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No 679086 – COMPASS)

Image credits: ESA Space in Images – 2015 – Hera in orbit

## First SMPAG NEO threat exercise

[camilla.colombo@polimi.it](mailto:camilla.colombo@polimi.it)

[marco.castronuovo@asi.it](mailto:marco.castronuovo@asi.it)



@COMPASS\_ERC

[www.compass.polimi.it](http://www.compass.polimi.it)

