

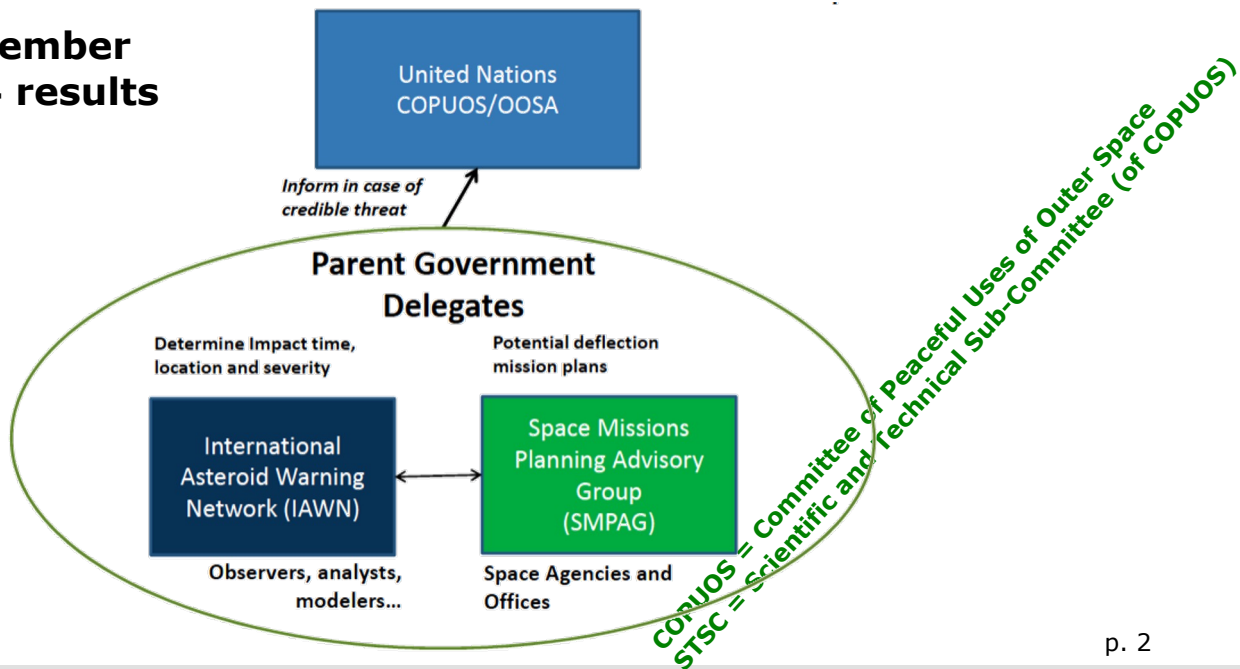
# SMPAG status

D. Koschny, SMPAG chair

Feb 2023

# Reminder – context

- ❑ 'Action Team 14' (AT14) created after the Unispace 99 conference – task: Define how we should deal with the asteroid impact threat
- ❑ 2008 – 2013: Definition phase – meetings in the margin of UN COPUOS STSC and UN COPUOS meetings
- ❑ 'NEO Working Group' of Member States discussed the AT14 results and produced a final recommendation
- ❑ The conclusion:
  - presented Feb 2014
  - adopted Oct 2014 by the General Assy



# Current status - 1



All documents and minutes are available via the web page:

<https://www.smpag.net>.

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Meeting #18 (Feb 2022)
Meeting #19 (to come)

SMPAG members

Documents and presentations

Statement on Asteroid Orbit Deflection Demonstration

Terms of Reference V2.0

[www.iawn.net](http://www.iawn.net)

UN Office of Outer Space Affairs NEO pages

## SUMMARY OF THE 18<sup>TH</sup> MEETING OF THE SPACE MISSION PLANNING ADVISORY GROUP (SMPAG)

9 & 10 FEBRUARY 2022

MS TEAMS VIRTUAL MEETING

The 18<sup>th</sup> meeting of the Space Mission Planning Advisory Group (SMPAG) took place on 9 and 10 February 2022, in a format of two half-day virtual meetings. The meeting was chaired by the European Space Agency (ESA), the current SMPAG Chair (2020-2022) and supported by the UN Office for Outer Space Affairs (UNOOSA) as the Secretariat.

### Adoption of the agenda and introduction of participants.

The agenda was adopted. The following agencies and institutions were represented at the meeting (AEM, ASI, CNSA, CNES, DLR, ESA, FFG, ISA, JAXA, KASI, NASA, ROSA, UKSA). Observers for ASE, COSPAR, ESO, IAA, IAU and UNOOSA, and the representatives of IAWN, *ex officio* member participated at the meeting. Representatives from the SMPAG Legal Working Group as well as a representative of the Secure World Foundation (SWF) also attended the meeting.

### DAY 1, 9 February

#### 1) SMPAG Status and General Items

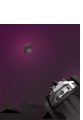
SMPAG Chair, Detlef Koschny, presented the status of SMPAG members and observers. The status is available at [http://www.smpag.net/smpag\\_members](http://www.smpag.net/smpag_members). The Brazilian Space Agency (AEB) submitted a letter to become SMPAG member, presentation of their activities is expected at the next SMPAG meeting. The Chair also informed that the Secure World Foundation applied for observer status and will present its activities at this meeting.

#### 2) Report by IAWN

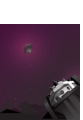
IAWN Coordinator, Kelly Fast, NASA PDCO, reported on the status of IAWN since last SMPAG meeting. There are currently 38 signatories to the IAWN Statement of Intent, representing independent astronomers, observatories, and space institutions from Brazil, Canada, Chile, China, Colombia, Croatia, France, Greece, Israel, Italy, Latvia, Mexico, Poland, Spain, the Republic of Korea, the Russian Federation, the United Kingdom, the United States, as well as international European organisations. She informed that in 2021, IAWN successfully conducted a coordinated campaign to observe near-Earth asteroid 2019 XS, in order to evaluate the quality of the technical capabilities of this worldwide observing network and to identify areas for improvement. The observing campaign was coordinated with the IAU's Minor Planet Center; with participation of 69 observatories across the globe. Preliminary results indicated largely high-quality data from the worldwide network, the results will be fully analysed and published in a peer-reviewed publication, and posted on the IAWN website at <https://iawn.net> by summer of 2022.

IAWN Coordinator also informed that IAWN at their latest meeting of the Steering Committee held on 8 February, among others, considered a proposal for an international year focusing on near-Earth asteroids and planetary defence activities, and was





- ❑ **18 member delegations** (see [https://www.smpag.net/smpag\\_members](https://www.smpag.net/smpag_members))
- ❑ **7 observers**
- ❑ **1 ex-officio member (IAWN)**
- ❑ **A few 'in the pipeline'**
- ❑ **Main activity: SMPAG hypothetical asteroid impact exercise**
  - **Prepared and coordinated by the Italian Space Agency ASI**
  - **Three 'sprints'**
- ❑ **Preparing for the Planetary Defense Conference 2023 – how would SMPAG react to the presented simulated asteroid threat scenario?**



- **Workplan items (discussion to combine some is pending)**
  - **Criteria and thresholds for impact threat response actions (done)**
  - **Mitigation mission types and technologies to be considered (work ongoing)**
  - **Mapping of threat scenarios to mission types (work ongoing)**
  - **Reference missions for different NEO threat scenarios (work ongoing)**
  - **A plan for SMPAG action in case of a credible threat (work ongoing)**
  - **Communication guidelines in case of a credible threat**
  - **Produce a 'road map' for future work on planetary defence (working doc available)**
  - **Consequences, including failure, of NEO mitigation space missions (work ongoing)**
  - **Criteria for deflection targeting (work ongoing)**
  - **Study of the nuclear device option**
  - **Toolbox for a characterisation payload (working doc available)**

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## DOCUMENTS AND PRESENTATIONS

This page links to relevant documents related to the work of the SMPAG.

### GENERAL DOCUMENTS

#### Plans

[SMPAG-PL-001 - Workplan V2.0, SMPAG-PL-001/2.0](#)

#### Reports

[SMPAG-RP-001 - Roadmap of relevant research for planetary defense, SMPAG-RP-001/3.0, 15 Apr 2020](#)

[SMPAG-RP-002 - Draft report on work package 5.5, SMPAG-RP-002/D.0, 2018 Oct 10](#)

[SMPAG-RP-003 - Status report on work package 5.1 from workplan "Recommended criteria & thresholds for action for a potential NEO impact threat", SMPAG-RP-003/1.0, 2018 Oct 18](#)

[SMPAG-RP-004 - Report by the SMPAG Ad-Hoc Working Group on Legal Issues to SMPAG, SMPAG-RP-004/1.0, 2020 Apr 08](#)

#### Other

[Terms of reference for the ad-hoc legal working group, as agreed by the SMPAG #09 meeting on 11 Oct 2017.](#)

### PRESENTATIONS FROM THE SMPAG MEETING #18 (09/10 FEB 2022)

[Status of SMPAG \(ESA, Koschny\)](#)

[Status of IAWN \(NASA, Fast\)](#)

[Update on Japanese missions \(JAXA, Yoshikawa\)](#)

[Update on US missions \(NASA, Johnson\)](#)

[Update on Hera mission \(ESA\)](#)

[NEA-related activities in Germany \(DLR, Harris\) - see SMPAG #17 presentation slides.](#)

[NEA-related activities in Italy \(ASI, Gabrielli\)](#)

[Intelligent decision support system \(UK, Vasile\)](#)