SMPAG status

D. Koschny, Planetary Defence Office

09 Feb 2022

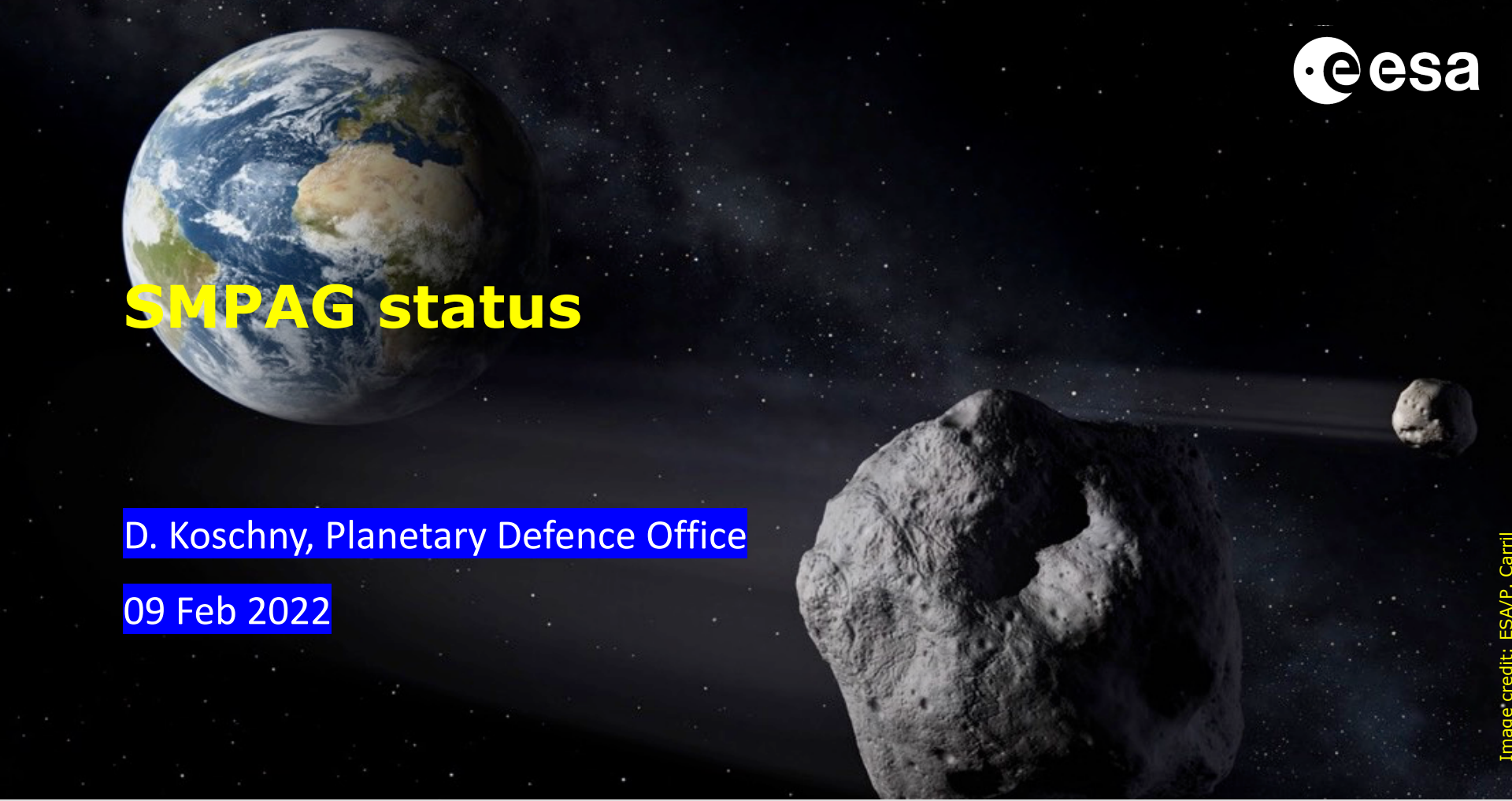

Image credit: ESA/P. Carril

Mandate of SMPAG

- SMPAG was officially established in February 2014
- SMPAG Terms of Reference were finalized in June 2014
- SMPAG has established a work plan in November 2015, which is a living document
- The most recent SMPAG meetings:
  - Meeting #14 (Feb 2020) – in Vienna, Austria
  - Meeting #15 (Sep 2020) - virtual
  - Meeting #16 (Mar 2021) – virtual
  - Meeting #17 (Oct 2021) - virtual

SMPAG work status

- Exercise is ongoing – thanks to the ASI Delegation (in particular C. Colombo)
- No real progress in restructuring the work plan – keep in mind for exercise
- Again: Request for all (most already did it): Check the Excel sheet with the SMPAG member list – each Delegation should have leader identified, and 3-4 members
- Similar for updates to the list of participants for the exercise
- In Oct 2022 we will have to define a new SMPAG chair – start thinking on whether you are interested

Mandate of SMPAG

- **Official members with nominated delegations:**

AEM (Mexico)
ASI (Italy)
Belspo (Belgium)
CNES (France)
CNSA (China)
Czech Republic
DLR (Germany)
ESA
FFG (Austria)
IAWN (ex officio)
ISA (Israel)
JAXA (Japan)
KASI (South Korea)
NASA (USA)
ROSA (Romania)
ROSCOSMOS (Russian Federation)
SSAU (Ukraine)
SUPARCO (Pakistan)
UKSA (UK)

- **Permanent Observers: ASE, IAA, IAU, UNOOSA, ESO, COSPAR**

SMPAG work status

- Task 1 – Criteria and thresholds for threat response (NASA) – Done, see SMPAG-RP-003
- Task 2 – Mitigation mission types + technologies (UKSA) - ongoing
- Task 3 – Mapping of threat scenarios to mission types (ESA) - unchanged
- Task 4 – Reference missions (ASI) - ongoing
- Task 5 – SMPAG action in case of credible threat (NASA/ASI) – see exercise
- Task 6 – Communication guidelines (NASA) - ongoing
- Task 7 – Road map for future work (DLR) - ongoing
- Task 8 – Consequences of mitigation missions (ESA/FFG) - ongoing
- Task 9 – Criteria for deflection targeting (ROSA) - ongoing
- Task 10 – The nuclear device option – literature - ongoing
- Task 11 –Toolbox for characterisation payload (CNES) – ongoing

Proposal for restructuring work plan

Annex 1

SMPAG Workplan Items (including Chair's proposal, Point 3 of meeting minutes)

- 5.1 Criteria and thresholds for impact response actions (NASA)
  - Criteria have already been implemented in several documents of member states
- 5.2 Mitigation mission types and technologies to be considered (UKSA)
- 5.3 Mapping of threat scenarios to mission types (ESA)
- 5.4 Reference missions for different NEO threat scenarios (ASI)
- 5.5 A plan for action in case of a credible threat (NASA/IAA)
  - SMPAG has supporting role as defined in ToR
- 5.6 Communication guidelines in case of a credible threat (NASA)
  - Could be combined with IAWN activity on communication
- 5.7 Roadmap for future work on planetary defense (DLR)
  - Living document
- 5.8 Consequences, including failure, of NEO mitigation space missions
  - Draft will be distributed soon for review
- 5.9 Criteria for deflection targeting (ROSA)
- 5.10 Study the nuclear device option (all)
  - Provide more references and text for introduction
- 5.11 Toolbox for a NEO characterization payload (CNES)

  Provide input for database of instruments and capabilities

- Activities 5.2, 5.9, and perhaps parts of 5.3 could be combined into 1 activity (Mitigation technologies)
- Activities 5.3, 5.4, and potentially 5.5 could be combined as well (Mitigation missions)

- The development of visible output should be accelerated.
- The aim is to produce reports, databases or tools for practical applications at the engineering level.
- Some activities could be completed with higher priority and support from all members. An update of the workplan is envisaged