

# ASI ACTIVITIES ON SPACE DEBRIS

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# INTERNATIONAL COOPERATION AND NATIONAL PROJECTS

- ✈ Inter-Agency Space Debris Coordination Committee (IADC)
- ✈ European Space Agency (ESA) Space Safety Programme
- ✈ European Union Space Surveillance and Tracking (EU SST)
- ✈ National Funds and EU Recovery Funds



# NATIONAL COLLABORATION AGREEMENTS

- ✓ ASI and **Polytechnic University of Milan**

  - to support EU SST, in collaboration with the **Italian Air Force**

  - to support the **analysis of collisional and re-entry events**

  - to conduct laboratory **impact tests**

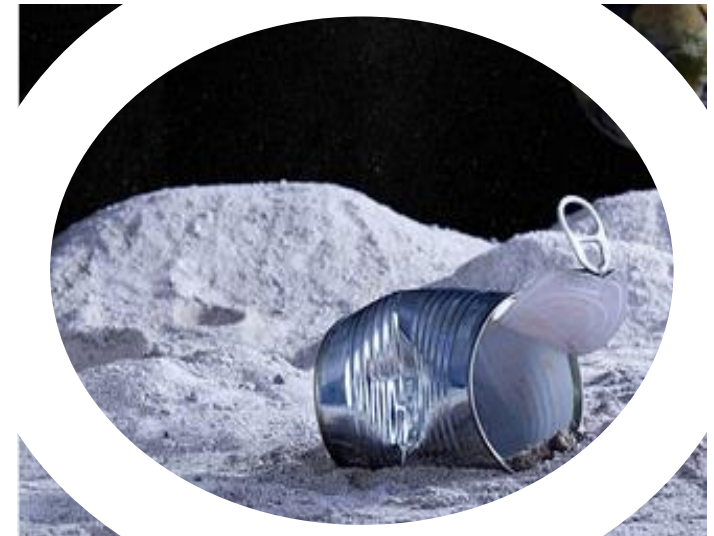
  - to study future **cislunar SSA activities**

- ✓ ASI and the **National Institute for Astrophysics**

  - to support **IADC** activities

  - to characterize space debris with **optical telescopes**

  - to study the **evolution of space environment**



# SPACE DEBRIS LARGE PROJECTS

Thanks to the **EU Recovery Fund**, three large projects devoted to the space debris have started



**Project n°1:** Development of an **optical telescope network** for detection and tracking

- 'Flyeye' telescope, already selected by ESA for NEO
  - 16 optical cameras and 45 square degrees
- ✓ To be placed **worldwide** thanks to **international collaborations**
- ✓ Deployment completed **by June 2026**



Credit: OHB S.p.A.

# SPACE DEBRIS LASER-RANGING STATION

**Project n°2:** development of a **Space Debris Laser-Ranging (SDLR)** sensor for tracking space objects, from LEO to GEO

- Based on new technology with **adaptive optics system**
  - ✓ high-resolution **lightcurves**
  - ✓ **tumbling** frequency measurements
  - ✓ imaging for object **characterization**
  - ✓ 24/7 operations
- Hosted at the **ASI Space Geodesy Center**, Southern Italy (City of Matera)
- Completed by June 2026.

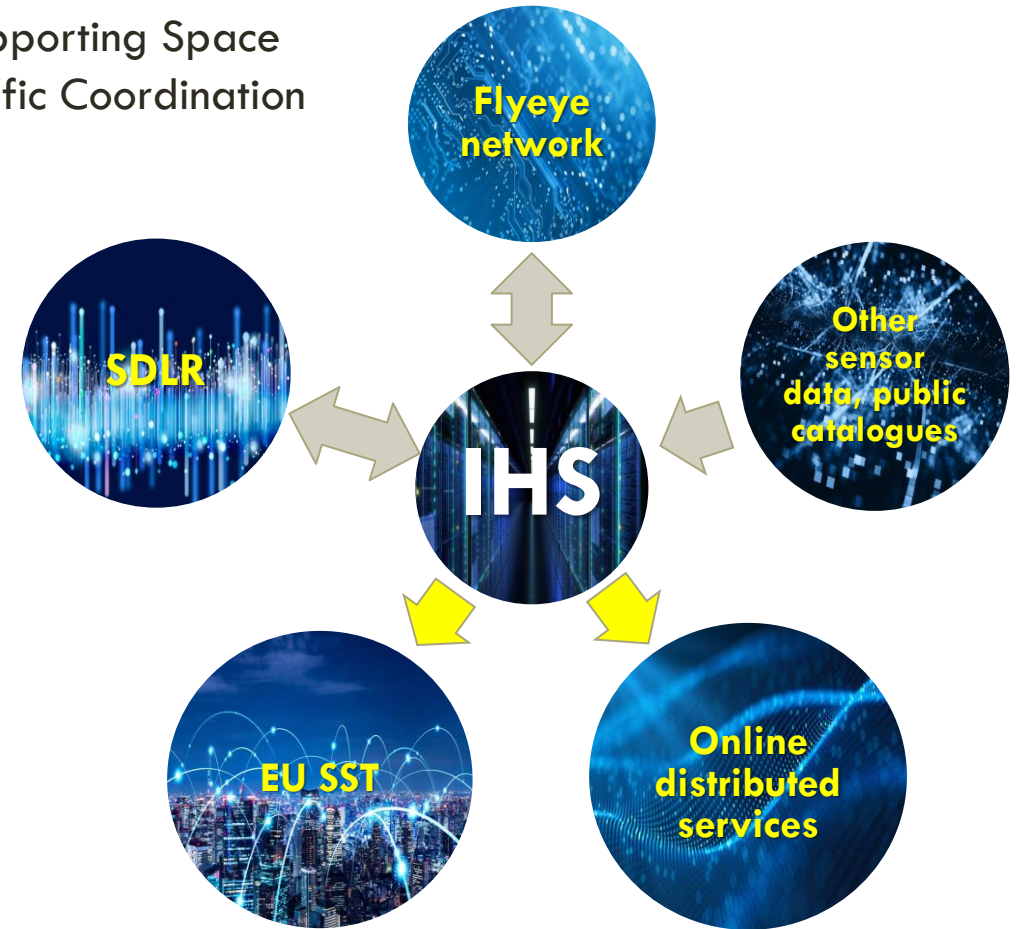


*Space Geodesy Center of ASI and Laser Ranging Station*

# HW AND SW INFRASTRUCTURE (IHS)

**Project n°3:** development of a Services and Control Center for supporting Space Surveillance and Tracking activities and future national Space Traffic Coordination

- **Complex system of HW and SW**
  - ✓ **tasking** ASI observational sensors
  - ✓ **collecting** and **processing data**
  - ✓ providing services:
    - re-entry, fragmentation and collision avoidance, collision avoidance manoeuvre and in-orbit servicing**
  - ✓ including Space Weather data and simulations
- Hosted in the **Space Geodesy Center** and **ASI HQ**
- Large companies, SME and National Universities involved



# Thank you!

