



European Parliament: Conference on Space Traffic Management



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What is EU SST?

EU SST is:

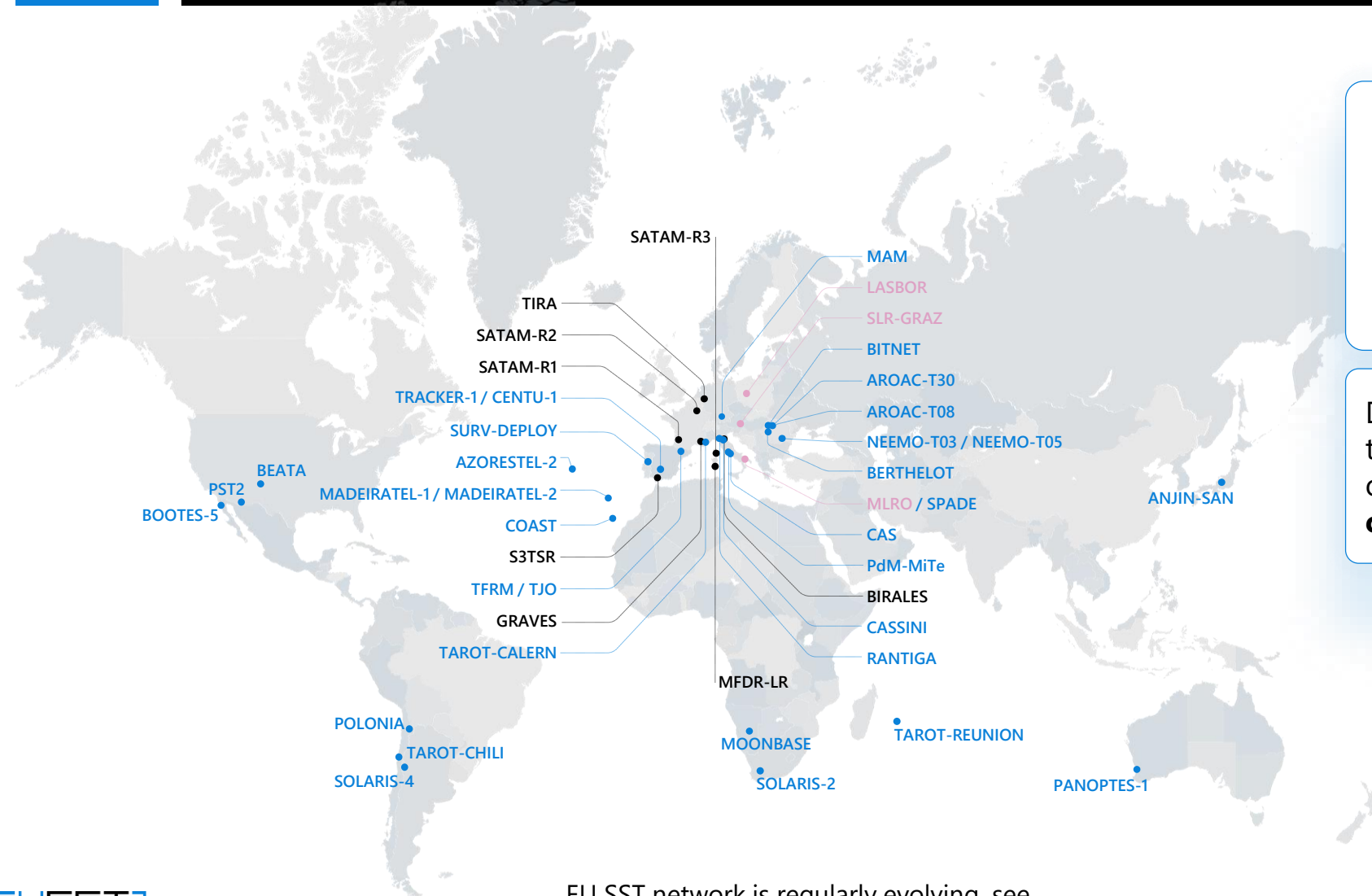
- A working example of multilateral cooperation at the intersection of space safety and space security
- A consortium of 7 Member States* expanding towards a new SST partnership composed of up to 15 Member States of the European Union

We:

- Are fully **operational 24/7**, we deliver high quality public services to users (CA, RE, FG)
- Perform **research and development** of capabilities to improve the level of performance and autonomy
- Foster innovation and **competitiveness** of the European industry and start-ups, we support the consolidation of a commercial ecosystem around SSA, strengthening strategic autonomy in Europe
- Are **security** relevant (e.g. data sharing) and we take into account the dual dimension
- Mature and expand as a fully-fledge security component of the **EU Space Programme 2021-2027**

*France, Germany, Italy, Poland, Portugal, Romania, Spain

Sensors for space surveillance and tracking



- 3 Lasers
- 8 Radars
(2 surveillance, 6 tracking)
- 33 Telescopes
(17 surveillance, 16 tracking)

Dual approach which enables the use of sensors of different origins: **scientific, military and commercial**

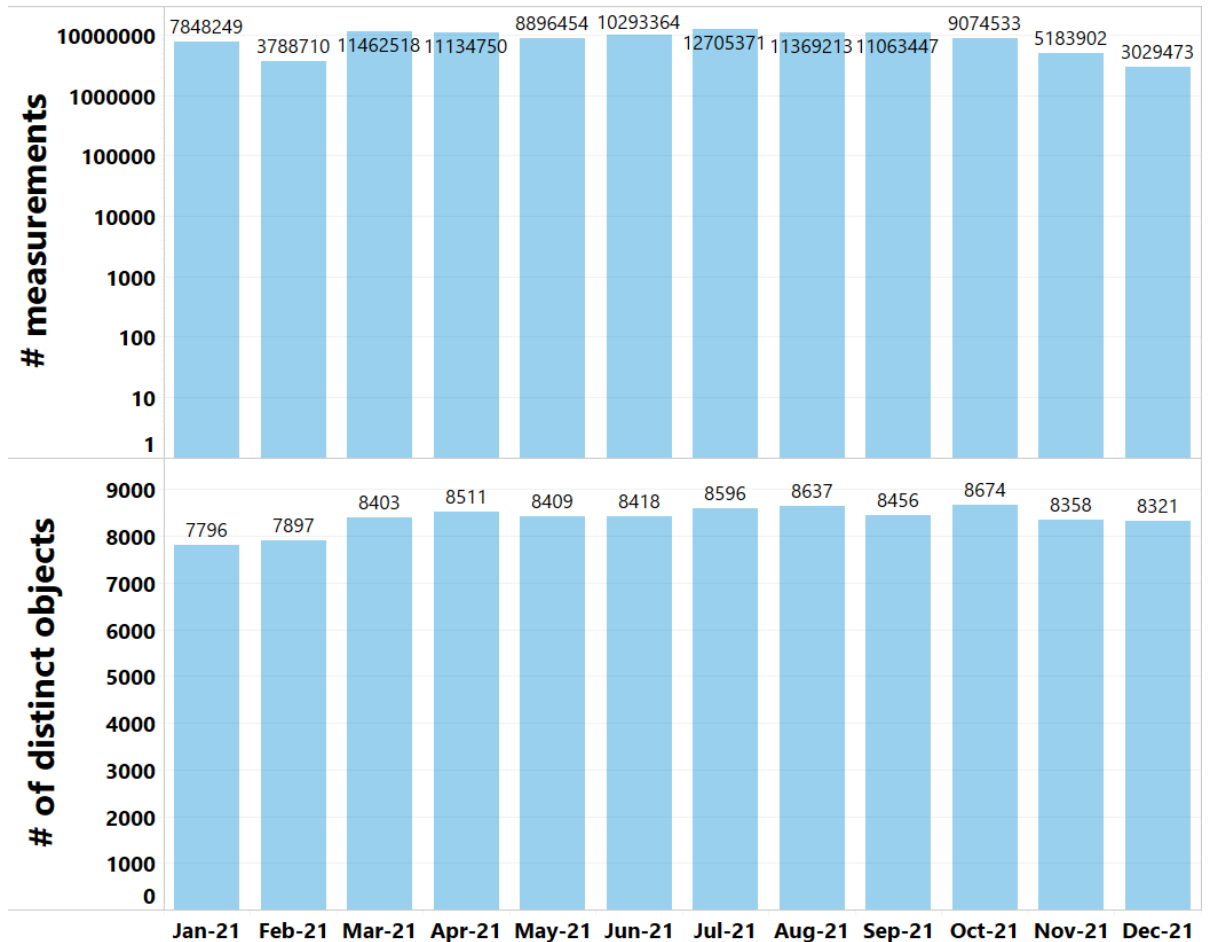
EU SST network is regularly evolving, see <https://www.eusst.eu/about-us/>

European database: data sharing in 2021

■ Measurements exchanged in year 2021

- **TOTAL:**
 - 105 849 984 (> **100 million**)
 - 11 457 distinct objects**
- Average/day
 - 291 598 measurements/day
 - 3 595 distinct objects/day
- Maximum/day
 - 1 832 185 meas. (on 9 Aug)
 - 6 836 distinct objects (on 25 Oct)

** the number of distinct objects observed does not imply they catalogued or even well observed



Service provision - Users



**Collision
Avoidance**



**Fragmentation
Analysis**



**Re-entry
Analysis**



These three EU SST services will be open also to non-EU users by end of 2022/beginning of 2023

Satellites registered to Collision Avoidance (CA)



278
Satellites

LEO

112

- BIROS
- SAR-LUPE 1, 2, 3, 4, 5
- TET-1
- TANDEM-X
- TERRASAR-X
- REAKTOR HW, Sunstorm, W-CUBE
- DEIMOS 1, 2
- METOP B, C
- SENTINEL 1A, 1B, 2A, 2B, 3A, 3B, 5P, 6A
- PAZ
- UPMSat-2
- ION-SCV 1, 2, 3
- CHEOPS
- TRISAT
- Brik-II
- NEPT-1
- FossaSat 2E1, 2E2, 2E3, 2E4, 2E5, 2E6
- Suomi-100
- HELIOS 2A, 2B
- VENμS
- SARAL
- CSO-1, 2
- CALIPSO
- JASON 3
- PLEIADES 1A, 1B
- SMOS
- BRITE PL-1, PL-2
- EYESAT
- ANGELS
- CERES 1,2,3
- ELO3
- XR-1, ICEYE-X9, X8, X7, X6, X5, X4, X2, X1, X11, X12, X13, X14, X15, X16
- GMS-T, Odin
- NETSAT-1,2,3,4
- GomX-4A. 4B

MEO

48

- GSAT / Galileo 0101, 0102, 0103, 0104, 0201, 0202, 0203, 0204, 0205, 0206, 0208, 0209, 0210, 0211, 0207, 0212, 0213, 0214, 0215, 0216, 0217, 0218, 0219, 0220, 0221, 0222, 0223, 0224
- O3B PFM, O3B FM 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

GEO

118

- COMSATBW-1, 2
- XTAR-EUR
- SPAINSAT
- METEOSAT-8, 9, 10, 11
- HYLAS 1, 2, 4
- ASTRA 1KR, 1L, 1M, 1N, 1G, 2A, 2C, 2D, 2E, 2F, 2G, 3A, 3B, 5B
- AMC 1, 3, 4, 6, 8, 11, 15, 18, 21
- SES 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16/Govsat-1, 17
- NSS 6, 7, 9, 10, 11, 12
- SIRIUS 4, QUETZSAT 1, CIEL 2
- EDRS-C
- ATHENA-FIDUS
- SYRACUSE 3A, 3B, 4A
- HELLAS-SAT 2, 3, 4
- INMARSAT 3F1, 3F2, 3F3, 3F5, 4F1, 4F2, 4F3, AF1, 5F1, 5F2, 5F3, 5F4, GX5, 6F1
- EUTELSAT 10A, 16A, 172A, 21B, 25B, 28A, 28B, 36B, 3B, 5WA, 65W, 7WA, 70B, 7A, 7B, 8WB, 9A, 9B, HB 13B, 13C, 13D, KASAT 9A, 12WB, 172B, 7C, 5 WEST B, Connect, Quantum
- BULGARIASAT-1
- AMAZONAS 2, 3, 5, HISPASAT 30W-5, 30W-6, 36W-1, 74W-1, 143W-1
- Turksat 5B

Commercial

187

Govern./IGOs

62

Military

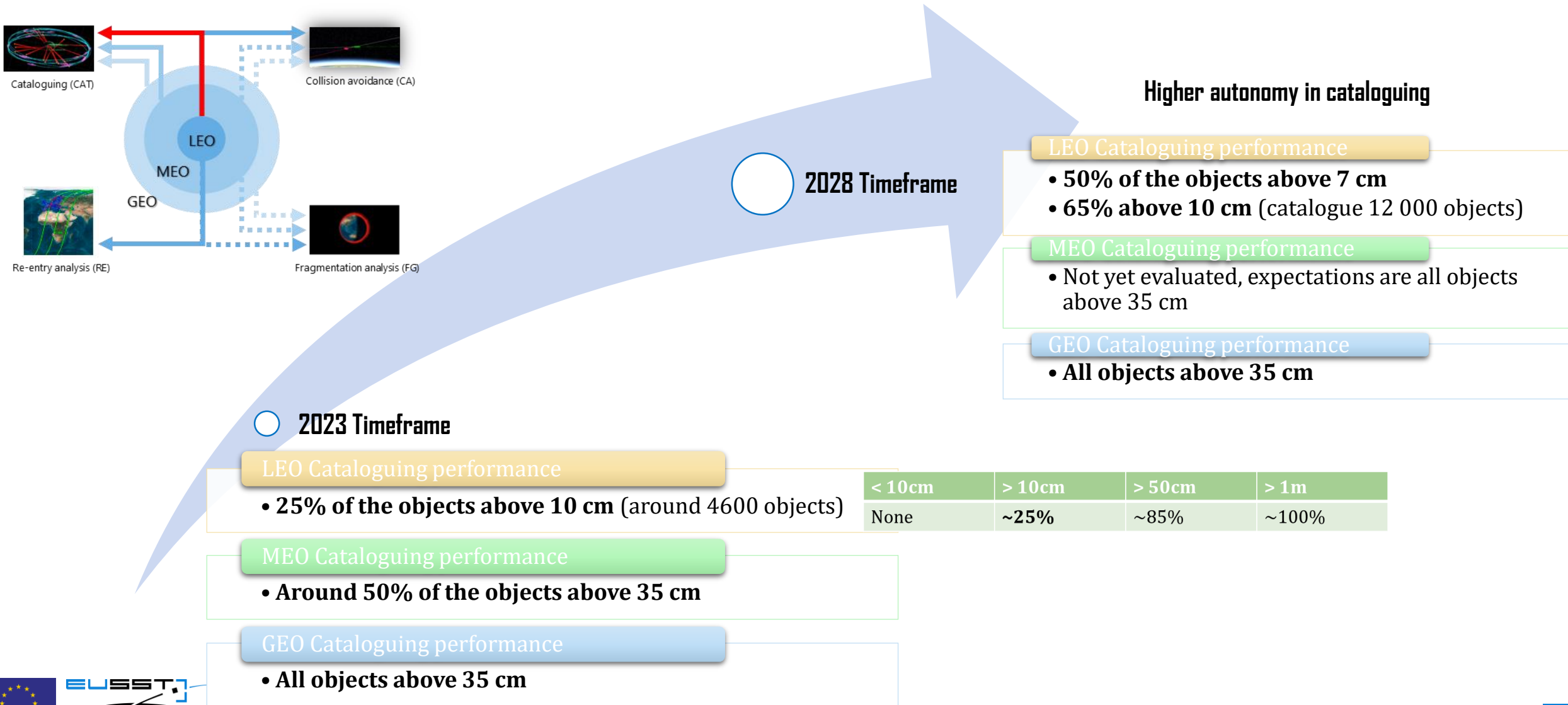
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Universities / Research

7



Strategic autonomy in Europe: Global performance evolution for cataloguing



New strategy to foster European competitiveness

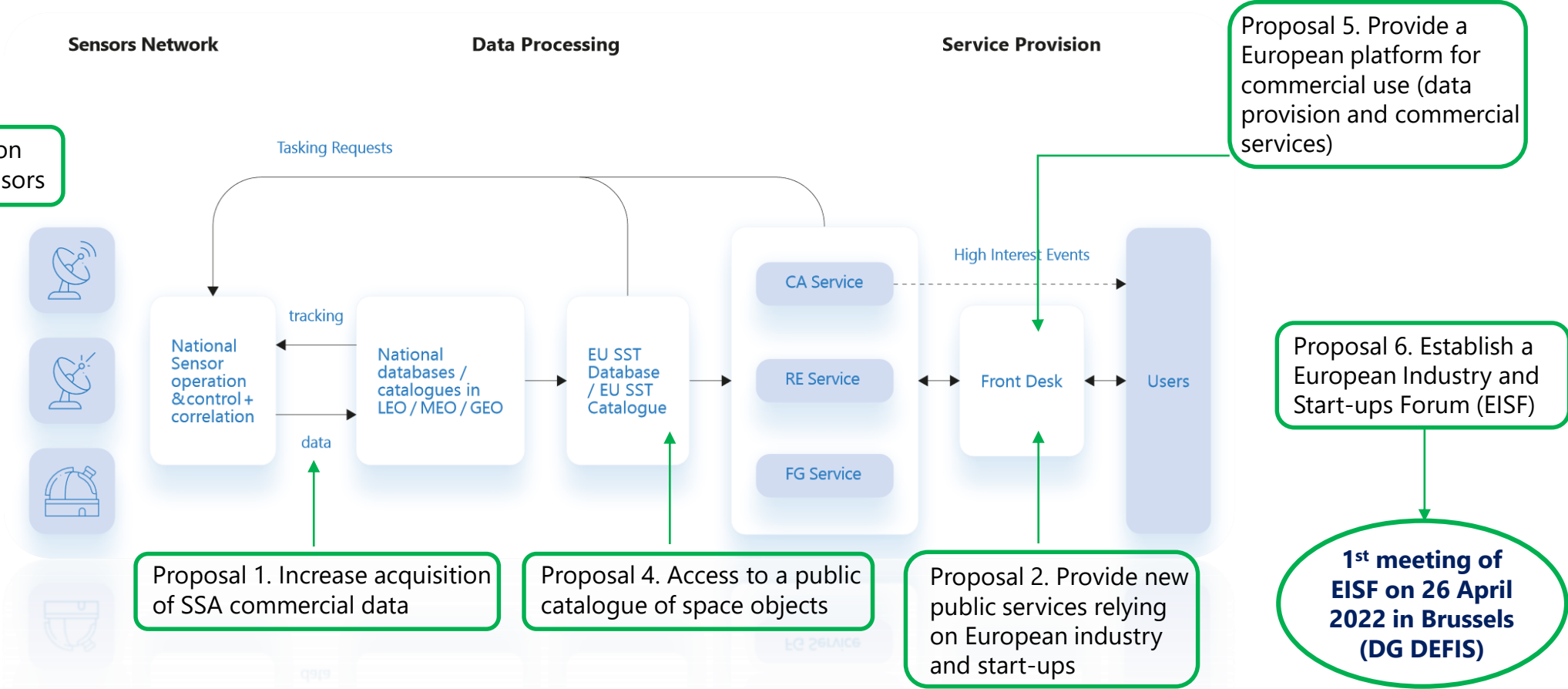
- Six proposals highly supported by industry and start-ups:
 1. Accelerate the acquisition of European commercial data for operational purposes
 2. Provide new public services relying on European Industry and Start-ups
 3. Support R&D on innovative commercial sensors
 4. Access to a public catalogue of space objects
 5. Provide a European platform for commercial use
 6. Establish a European Industry and Start-ups Forum (EISF)



- Two workshops with industry in February 2022:
- 152 participants
 - 1st workshop on operations
 - 2nd workshop on R&D

European industry intervenes in all the EU SST value chain from R&D activities to operations

80% of the funding is currently subcontracted to the industry, in addition to the important funding of Member States in the SSA domain (e.g. France 2030, Italy PNRR)



Conclusions

- Fully **operational capability 24/7**, the “best available SSA service in the world” (UK operator)
- Priority is to develop a **European strategic autonomy** in space surveillance and tracking of space objects in all orbit regimes with an incremental approach (e.g. 10 cm in LEO)
- New strategy to foster European **industry and start-ups** competitiveness
- Considered as the operational capability for the EU STM approach, EU SST will implement some actions proposed in the **joint communication on STM** by European Commission and High Representative of the Union for Foreign Affairs and Security Policy



Thank you

User Registration
<https://portal.eusst.eu/>

General Information
www.eusst.eu

