# ESA’s FutureEO post-CM25

CCI colocation & CMUG integration meeting 2026

24 March 2026

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Head of Climate Action, Sustainability & Science Department

# Agency-wide CM25 Outcome

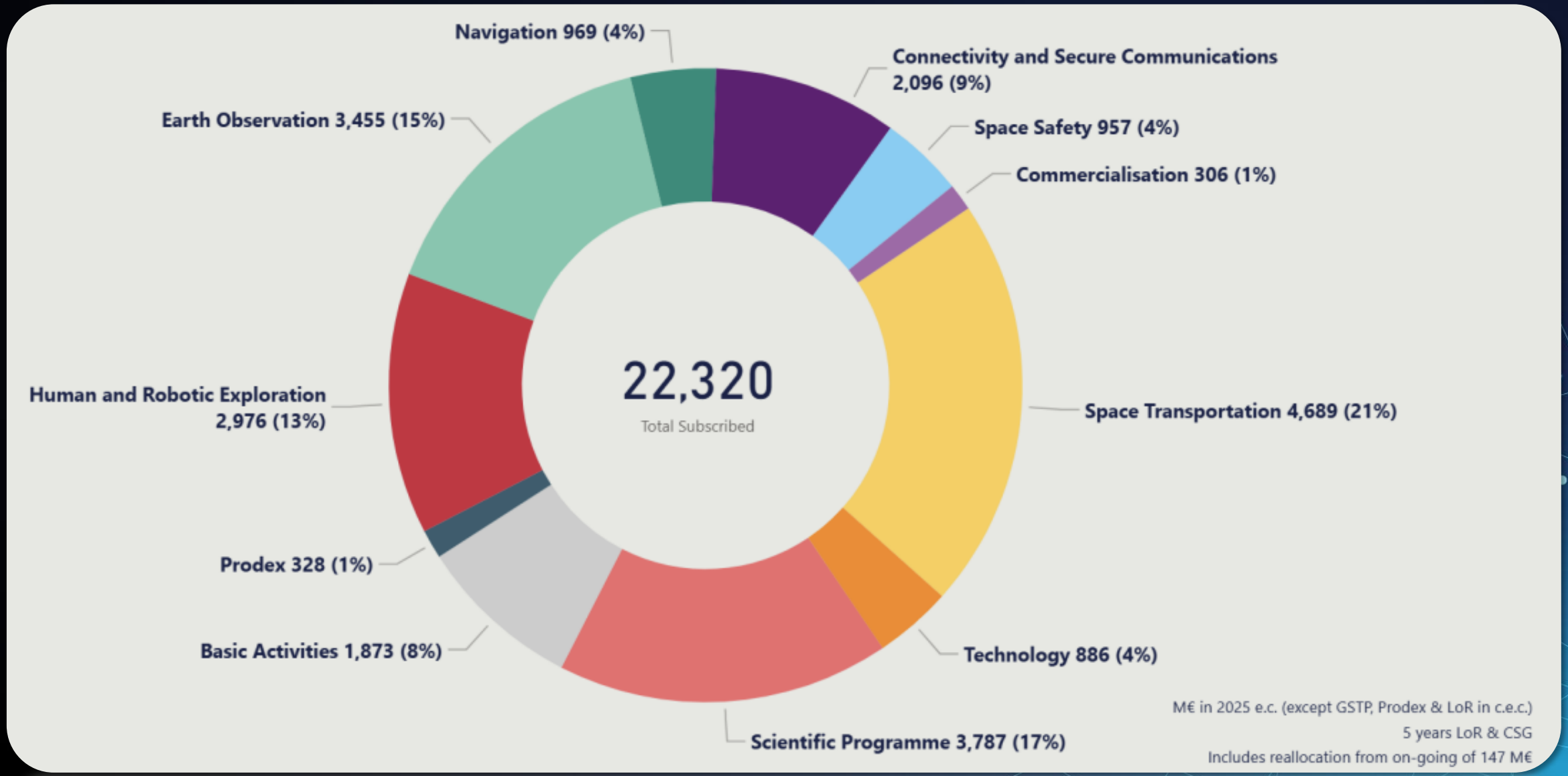
## A very successful CM25 demonstrating:

- Trust and confidence of Member States in ESA for developing and strengthening space in Europe
- Strong signal of support made by the European Commission
- Provision of mandate given for engaging in defence and security
- Clear support for Europe to maintain leadership in Earth Observation
- Fundamental importance of European autonomy

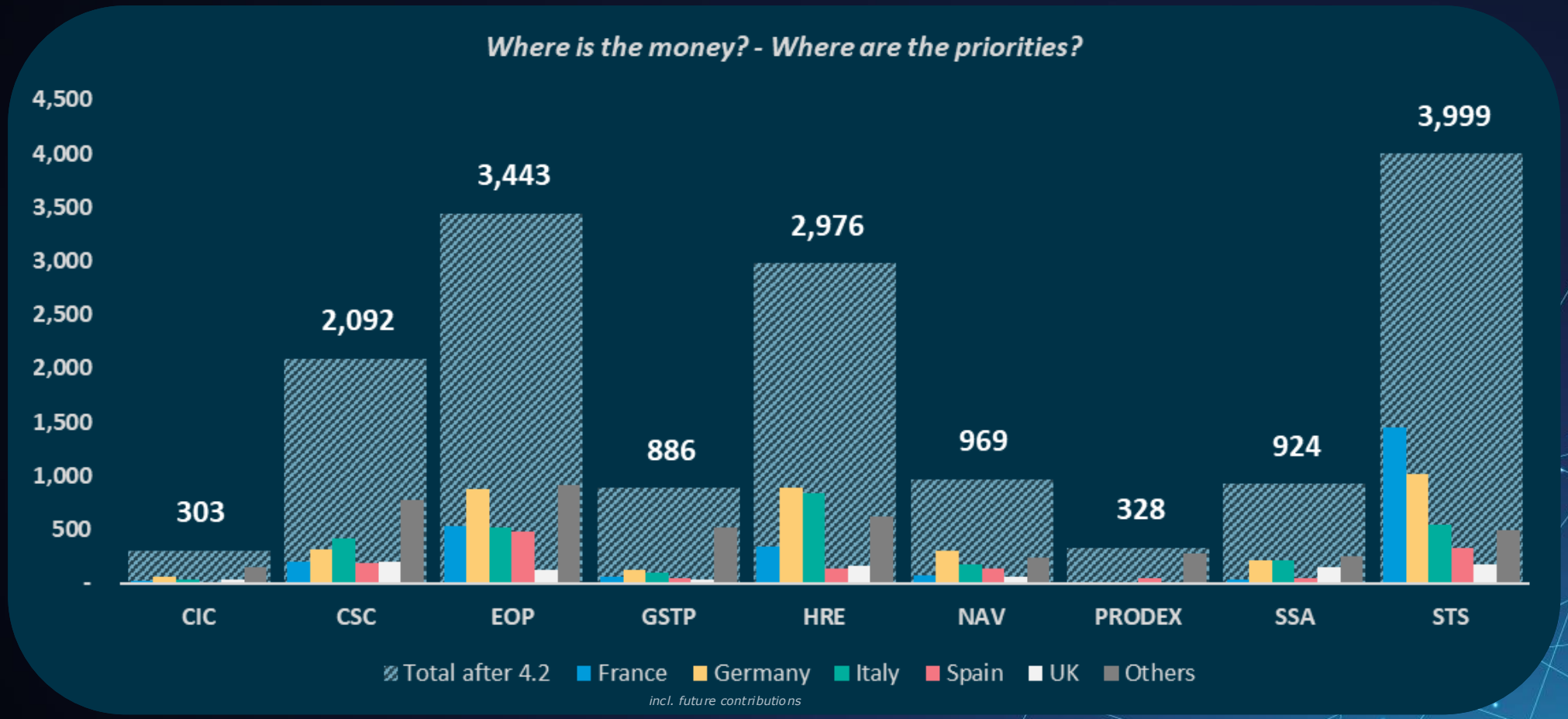
**A record 22.3 B€ budget for ESA at CM25**

**over three years on optional programmes**
**and five years for mandatory activities**

# CM25 Contributions by domain: 15% for EOP



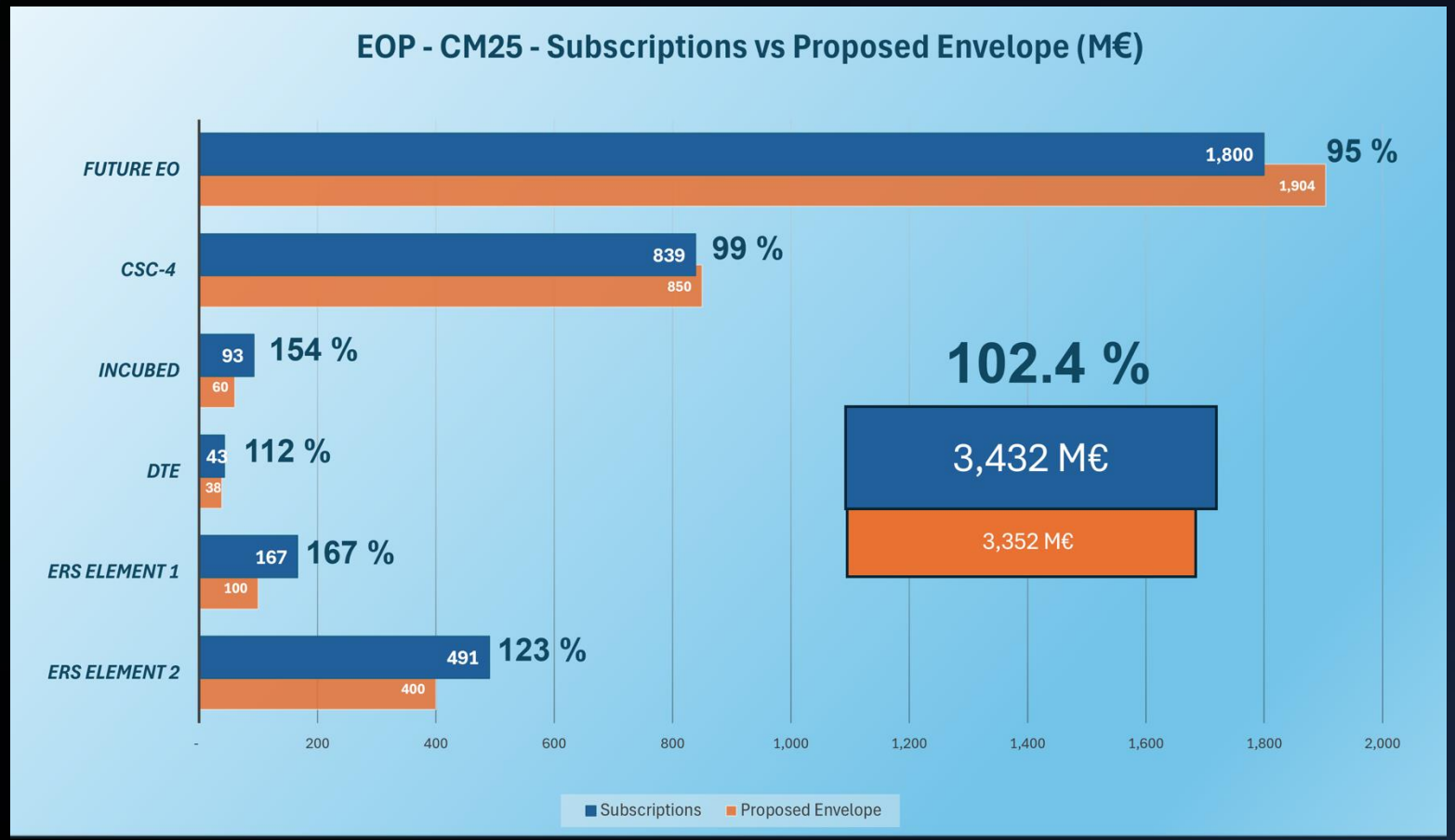
# The overall ESA story at CM25




## Earth Observation

**A clear priority for many participating states**

# CM25 Outcome for EOP




**All programmes and activity lines are secured**

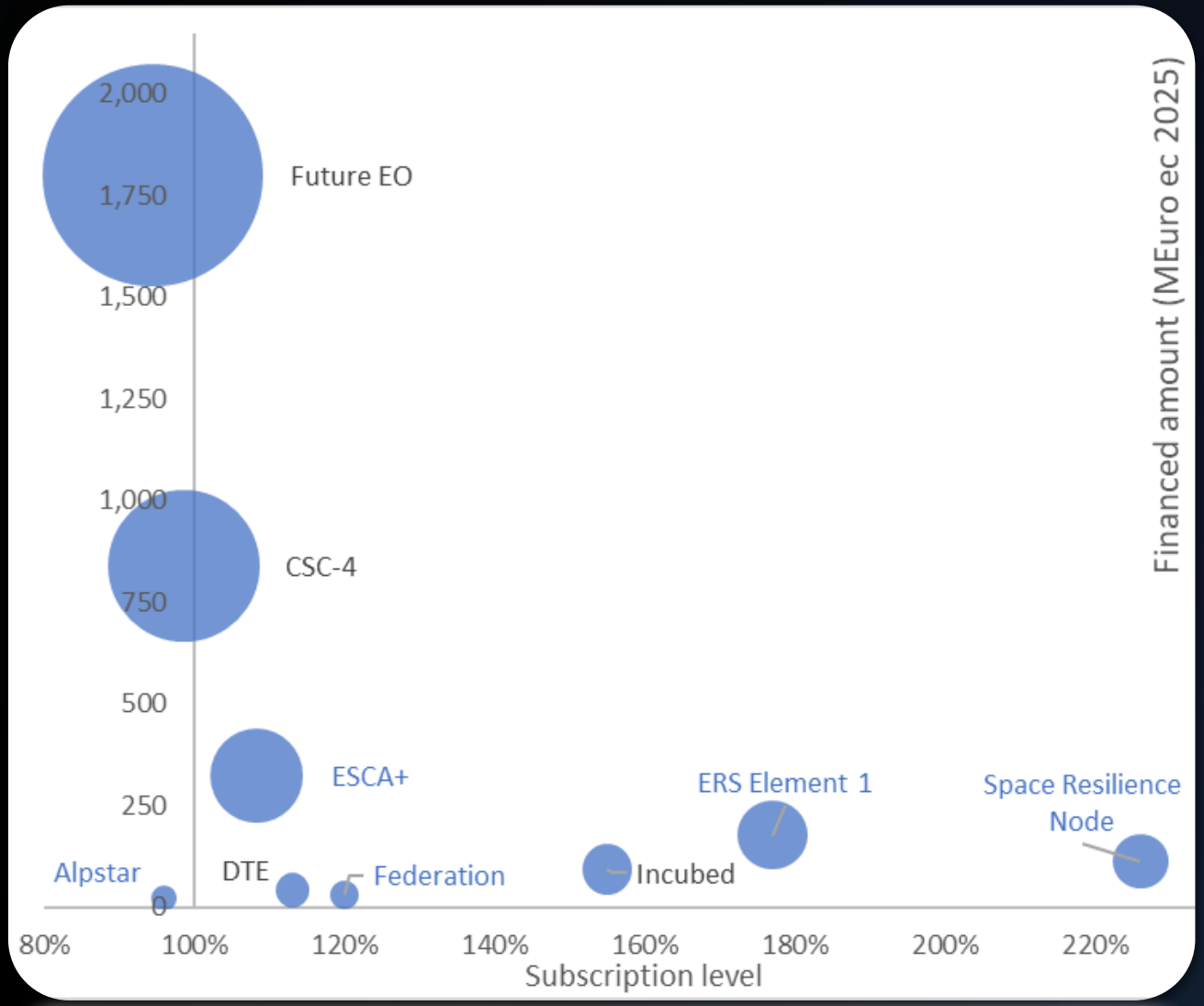
- S2 NG, S3 NGO
- NGGM (B2/C phases), WIVERN (phase B only), Scouts 3rd wave, Harmony (launchers and phase E1)
- Mission ops, cal/val, campaigns, data quality
- **Earth Action** (science, climate action, sustainability, downstream sector competitiveness)

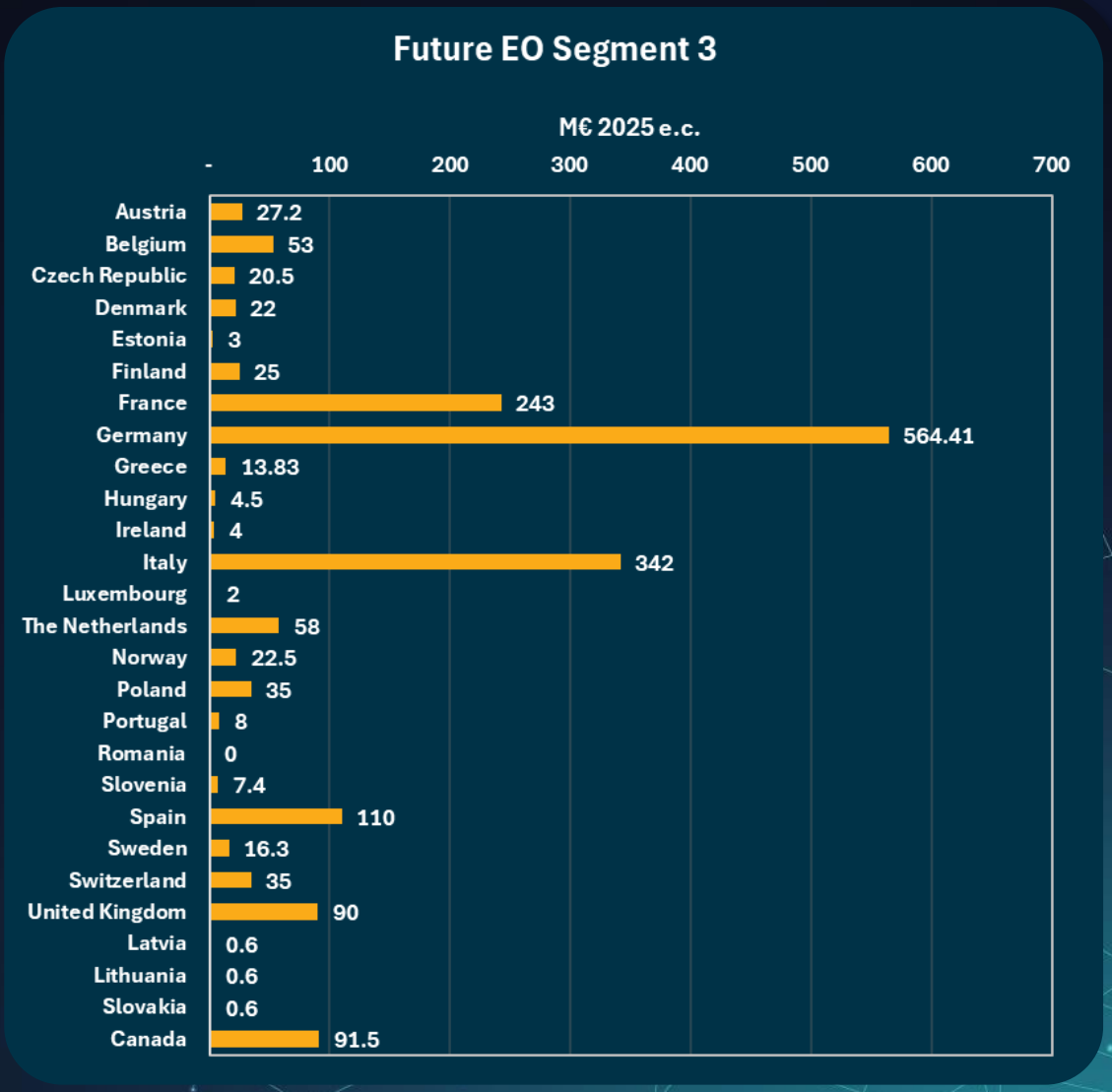
**A new programme is born: European Resilience from Space (ERS)**

- Massively subscribed
- Preparation of EOGS
- 2 Clusters to be initiated
- Space Resilience Nodes

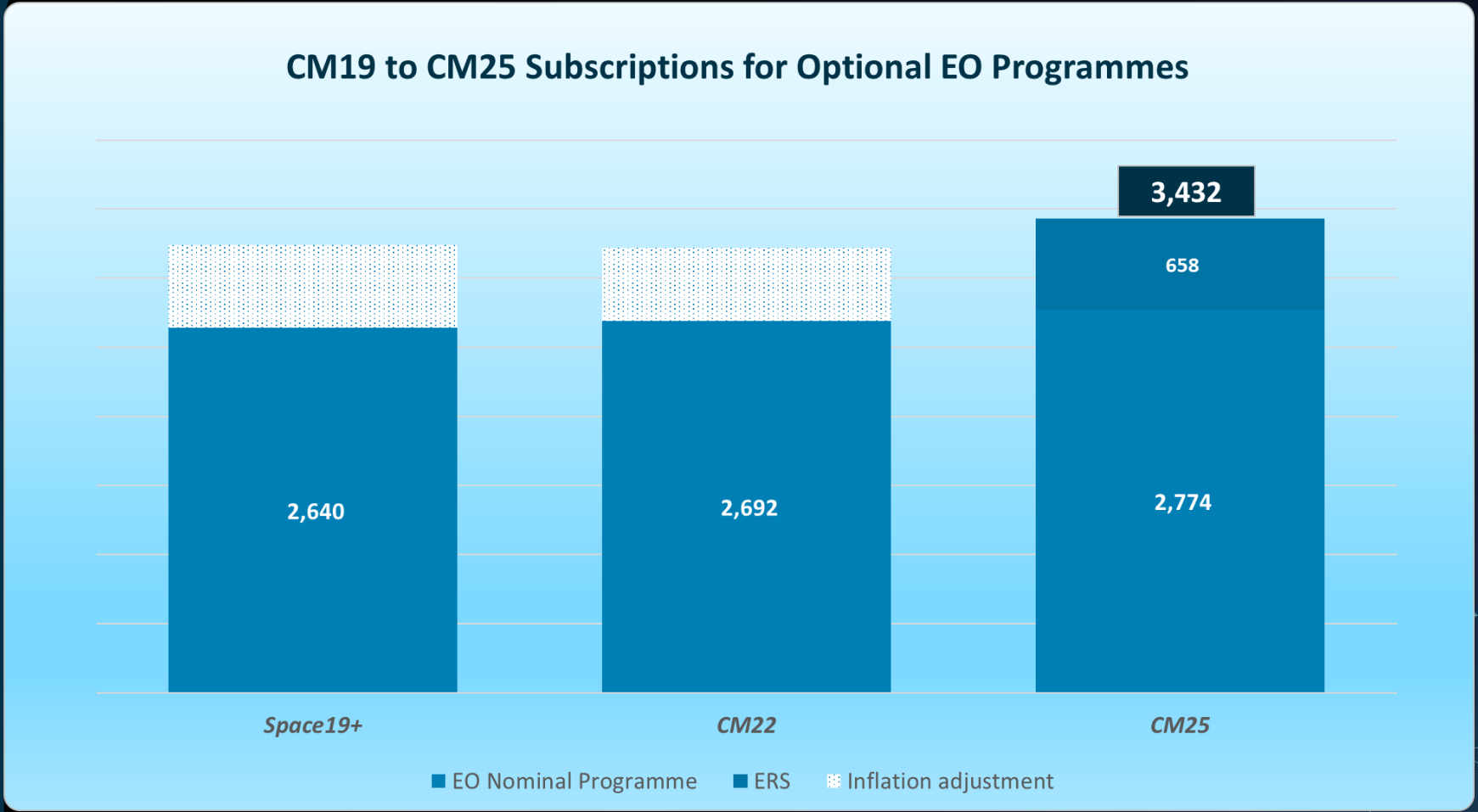
**Extremely positive results for Earth Observation: 3.4B€ subscribed to EOP, guaranteeing continuity of current programmes and activities plus allowing the start of new projects**

# CM25 – EO Enters Defence While Preserving its DNA



# EO CMs Subscriptions evolutions




***Consistent subscriptions to nominal EO activities over 3 Ministerial Councils***

***From CM22, the EO subscribed programmes increase by 27% (+8% if we consider the inflation)***

# FutureEO at a glance entering the new phase (Segment 3)

**WORLD-LEADING RESEARCH & DEVELOPMENT PROGRAMME**
for the preparation, development, management and utilisation of ambitious EO research missions and data

**ENVELOPE PROGRAMME, BEATING HEART** of ESA's Earth Observation

Delivering **GROUNDBREAKING SCIENCE,** while forging cutting-edge technology and applications

Addressing **KEY SCIENTIFIC QUESTIONS AND GLOBAL SOCIETAL CHALLENGES**

**SHAPING TOMORROW'S EARTH OBSERVATION**

| | |
|---|---|
| **22** | Missions currently in preparation and development |
| **9** | Missions launched so far |
| **7** | Missions currently in orbit |
| **15** | Scientific campaigns currently on-going |
| **1,5 B€** | Delivered to industry in contracts in the last 5 years |
| **20,000** | Jobs expected to be supported by FutureEO (2023-30) |
| **10%** | Growth rate of the value-added chain |
| **ca 1PB** | Data downloaded (in 2023) |
| **400+** | Scientific publications / year based on EE data |

# EOP Key Strategic Objectives for CM25

***EO programmes provide critical information to understand and address major challenges such as climate, environment, natural disasters and resource crises at global, regional and citizen levels.***

This is the starting point for the EOP key strategic objectives:

1. Strengthen **science excellence** and **worldwide leadership** in EO **infrastructure** while ensuring **operational mission continuity**
2. Ensure availability and uptake of **valorised EO data & information products** to better understand – and more fully address – climate, environmental and natural resources crises
3. Promote **European industrial competitiveness** – both upstream and downstream – in the worldwide EO market and lead on **uptake of technology innovation** and **synergies with other digital domains**
4. Further develop **space solutions to enable Earth action**, addressing climate, sustainability, SDGs, food security, regulatory enforcement, water & carbon management

# EO Science and ESA Strategy - compass guidance towards 2040+

## FOUR AREAS OF ACTION

1. **Frontier Science & Discovery:**
   *a strong foundation*

2. **From Science to Benefits**
   *meeting society's needs*

3. **Reducing critical knowledge gaps**
   *taking immediate action*

4. **Filling critical observation gaps**
   *preparing for tomorrow starts today*

**+ Guiding Science Questions & their relevance to International Treaties, Agreements & Conventions**







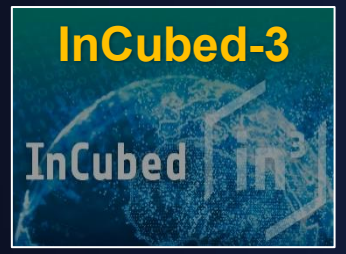


**Objective 2.1:** Elevate ESA's global leadership in Earth and space science to unravel the mysteries of our planet and the Universe. ➔ **Strategic Action: Implement EO Science Strategy**

# EO Programmes at CM25 leading to…

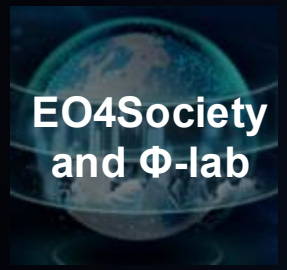
**European leadership & sovereignty for a more sustainable & secure planet**, by

- understanding Earth-system processes
- enabling disaster response, risk mitigation, sustainability and climate agenda
- fostering industrial competitiveness and economic growth
- providing trustworthy, timely and actionable information

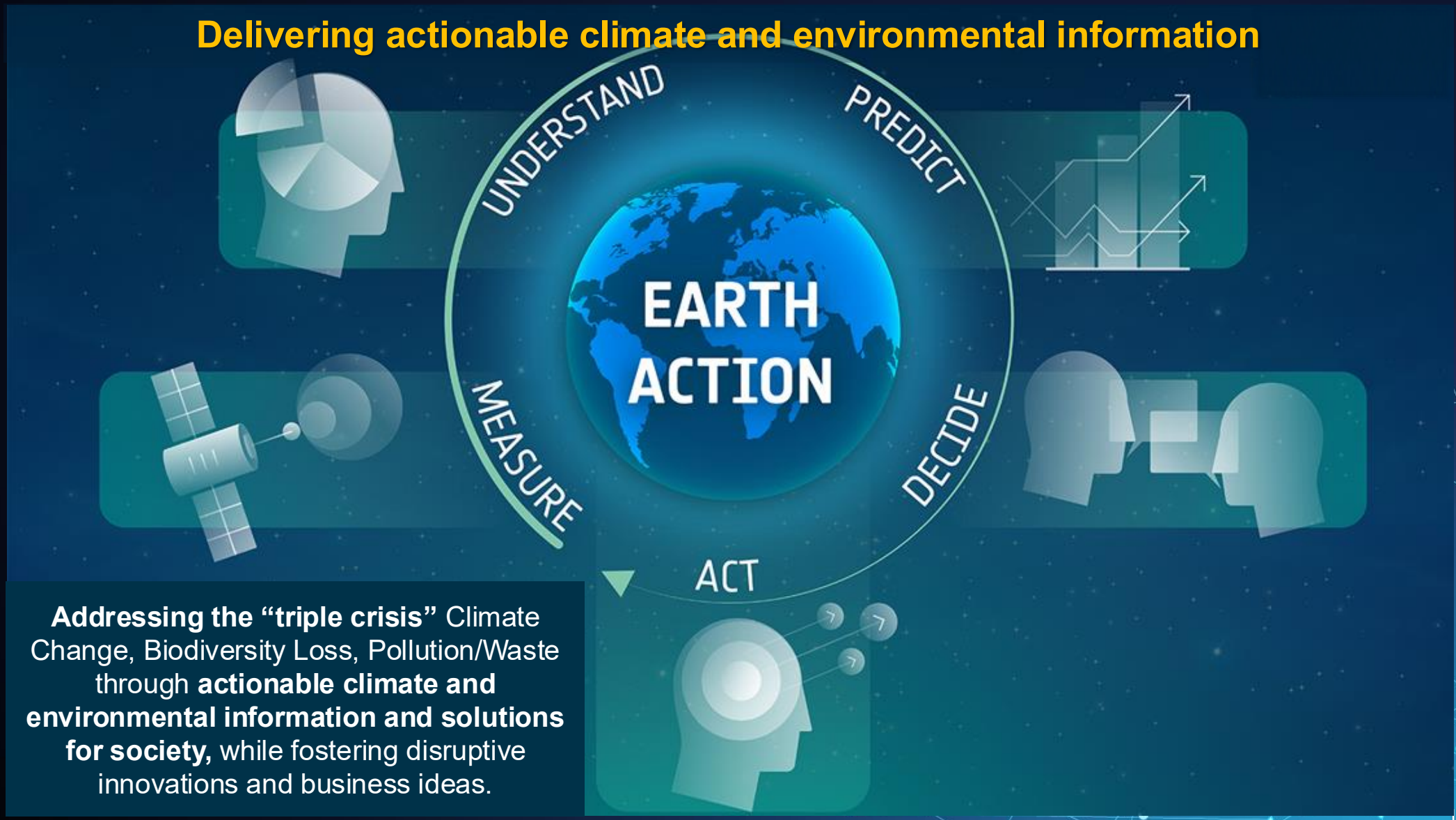


# FutureEO Earth Action




## Delivering actionable climate and environmental information




**Addressing the "triple crisis"** Climate Change, Biodiversity Loss, Pollution/Waste through **actionable climate and environmental information and solutions for society,** while fostering disruptive innovations and business ideas.

# Earth Action: A New Pillar of FutureEO

***Combines*** knowledge/expertise/experience gained from Block 4, CCI/Climate-Space/GDA and PhiLab

***Addresses*** the full life cycle of data exploitation under a single programmatic umbrella

***Responds*** to "all" relevant policy frameworks, Int'l. and European climate/sustainability legislation & Sevilla resolution

…and of course the EO2040 strategy

**Earth System and Climate Science** → *frontier science that **only ESA can address** across six over-arching themes; expert system models for future digital twins, green solutions; climate science (cross-ECVs, extreme events, tipping points)*

**Enabling policies** → **ESA** ***addressing complex, inter-linked policy framework at international, European and national levels***

**Transversal elements** → ***Disruptive innovation & Digital enablement***, *open calls & open innovation;* ***knowledge exchange, education and capacity building;*** **Partnerships & collaboration**; **Industrial competitiveness**.

# Earth Action Readiness

## Action Readiness for Global Cooperation – Selling Points

- Enables ESA and MS to take Earth Action at scale through partnerships – even beyond space & Europe
- Leverages and aligns development cooperation and green finance to invest in EO globally and across sectors (International Financial Institutions, Global Gateway, Green Climate Fund)
  - Current alignment with EOP programs ~150M€ DG RTD, 75M$ with IFI (GDA) and ~55M€ so far delegated by INTPA
  - Potential – active portfolio of partners: World Bank 80 B$, ADB 20B$, Global Gateway 300BEUR, Green Climate Fund 13.5 B$, Green Environment Facility 8.6 B$, Horizon Europe?
- Positions Europe as geopolitcal partner and increases its competitiveness by exporting European EO capabilities for global challenges & markets
  - Global Gateway (DG INTPA) and Global Development Assistance (GDA) allows to engage and even invest globally in EO solutions leveraging European EO Capabilities
- Earth Action strengthens ESA as the implementation agency of the EC for space – DG INTPA, DG CLIMA, DG RTD, DG JRC, DG ENV, DG CNECT

# Earth Action as Enabler of Commercialisation

**Science**
R&D

Academia/ Scientist
Research Institute

*Open Science*

**Earth Science**
Community
Understanding
the Earth

WHAT?

**Applications**
R&D

Research Institute
Space Value Adder

*Open Source*

HOW?

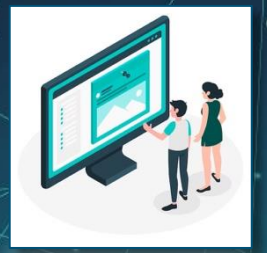
**Industrialization**
R&D

Space
Value Adder

*Open Innovation*

**Commercialization**
project

Non-Space
System Integrator



**Earth Action**
Community
Decision Making
Monitoring

# Earth Observation in ERS (ERS-EO)

**Enhanced situational awareness of EU & Member States:**

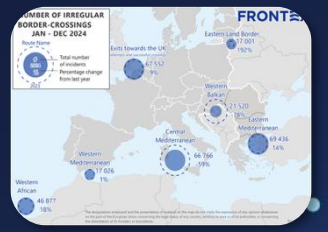
- Early detection of crisis,
- Intelligence, Surveillance, Reconnaissance,
- Geospatial support

**Contributes to preparedness, supports decision-making and action for security and defence**

- **Earth-Observation sensors**: VHR optical & radar, possibly advanced sensors
- **Fast revisit capability:** large EO constellations
- **Guaranteed, secure and fast access to data:** Global, Reactive, Reliable
- **Meeting both civil & military needs**









**ERS-EO PROGRAMME**

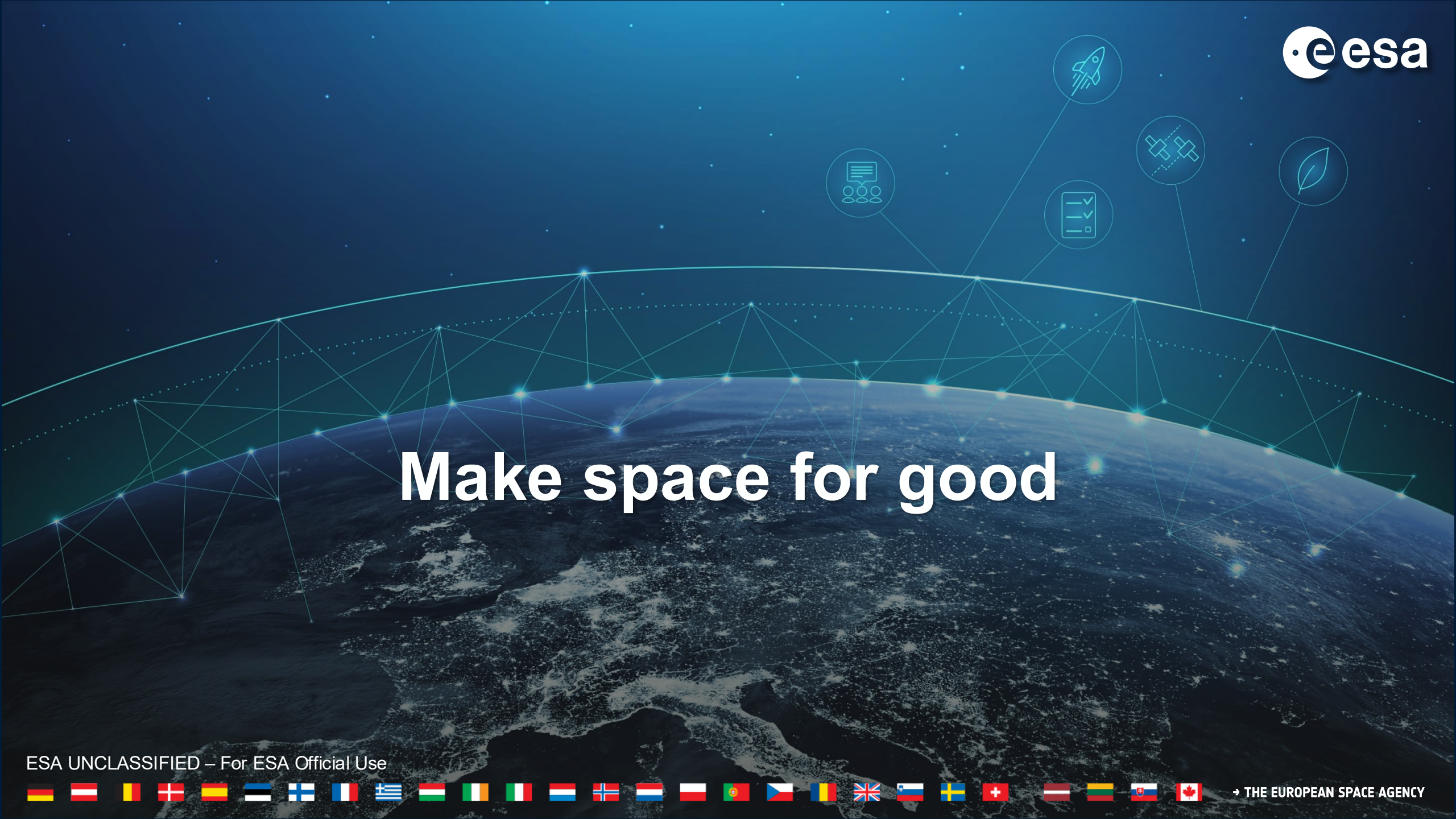
**Element 1**

**Prepare & accelerate** the EU's EO Governmental Services (EOGS), based on user needs & security requirements defined by the EC

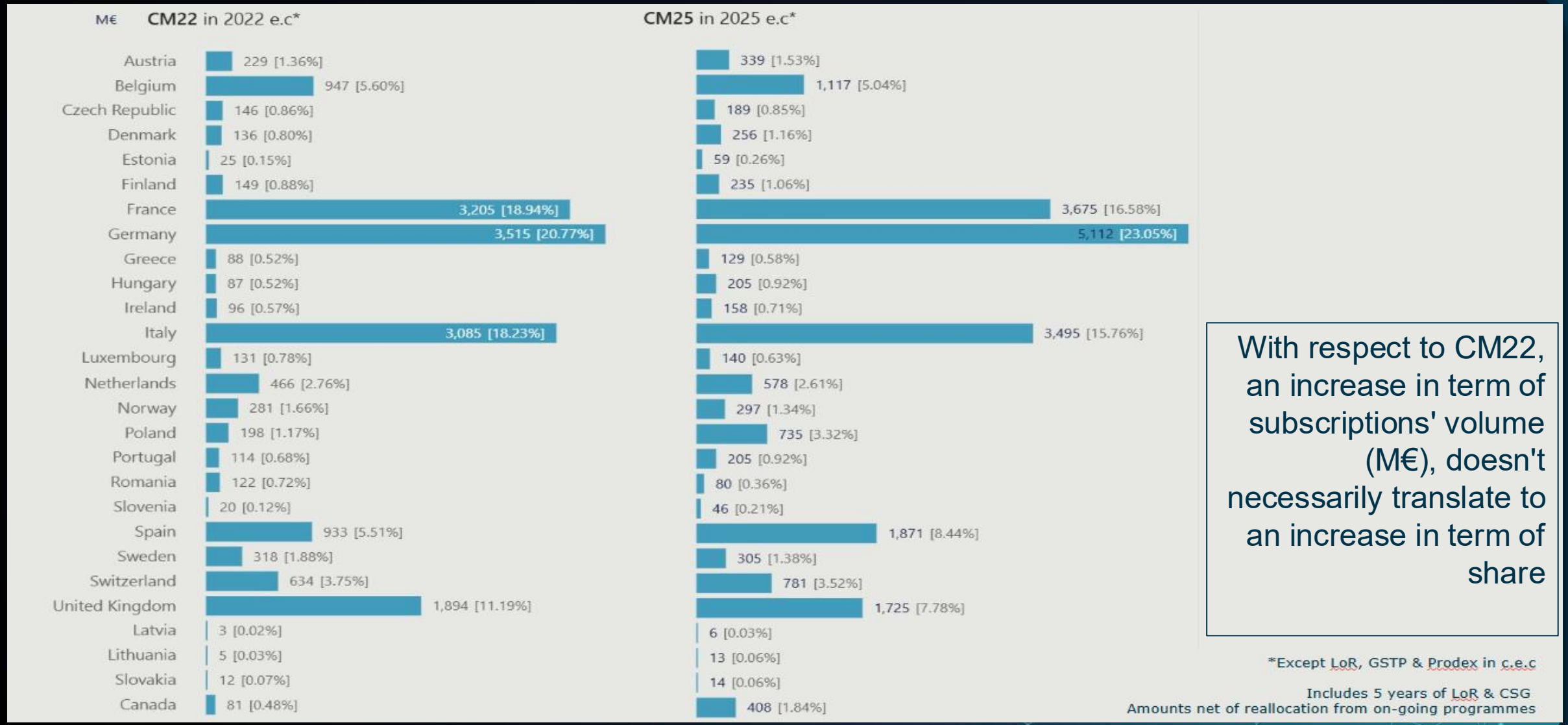
**Element 2**

**Federated system** of national and multi-lateral resources for a scalable & adaptable solution tailored to diverse user needs & operational contexts

- Federation of National Observation Capabilities
- Cluster 1 Alpstar
- Cluster 2 ECSA+
- Space Resilience Nodes



# CM25 – ESA - States dynamic

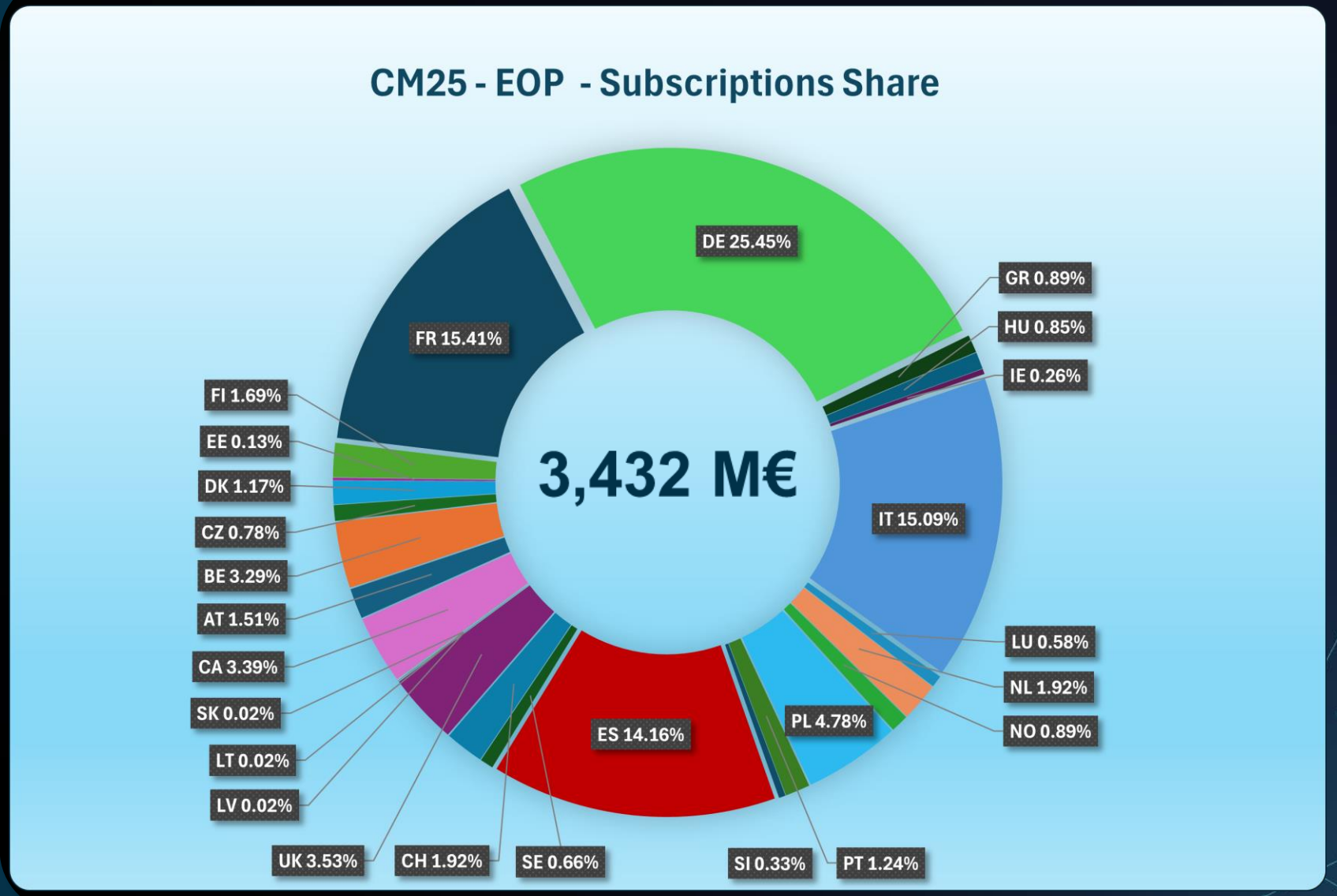



With respect to CM22, an increase in term of subscriptions' volume (M€), doesn't necessarily translate to an increase in term of share

*Except LoR, GSTP & Prodex in c.e.c

Includes 5 years of LoR & CSG
Amounts net of reallocation from on-going programmes

# CM25 Outcome for EOP




**26 Countries Contributing to CM25 EO activities and programmes**

# CM22 to CM25 evolution - FutureEO

***FUTURE-EO***

| Contributor | CM22 Subscriptions M€, 2022 economic conditions | CM22 Share per Contributor | CM25 Subscriptions M€, 2025 economic conditions | CM25 Share per Contributor | Δ% CM25 vs CM22 (incl. inflation) |
|---|---|---|---|---|---|
| Austria | 17 | 1.4% | 27 | 1.5% | +38% |
| Belgium | 48 | 3.9% | 53 | 2.9% | -7% |
| Czech Republic | 8 | 0.7% | 21 | 1.1% | +116% |
| Denmark | 13 | 1.1% | 22 | 1.2% | +43% |
| Estonia | 1 | 0.0% | 3 | 0.2% | +353% |
| Finland | 15 | 1.2% | 25 | 1.4% | +41% |
| France | 225 | 18.4% | 243 | 13.5% | -9% |
| Germany | 347 | 28.4% | 564 | 31.4% | +38% |
| Greece | 3 | 0.2% | 14 | 0.8% | +290% |
| Hungary | 3 | 0.2% | 5 | 0.3% | +27% |
| Ireland | 1 | 0.0% | 4 | 0.2% | +576% |
| Italy | 260 | 21.3% | 342 | 19.0% | +11% |
| Luxembourg | 4 | 0.3% | 2 | 0.1% | -52% |
| Netherlands | 47 | 3.8% | 58 | 3.2% | +4% |
| Norway | 23 | 1.8% | 23 | 1.3% | -15% |
| Poland | 9 | 0.7% | 35 | 1.9% | +248% |
| Portugal | 5 | 0.4% | 8 | 0.4% | +35% |
| Romania | 8 | 0.7% | - | 0.0% | -100% |
| Slovenia | 4 | 0.3% | 7 | 0.4% | +56% |
| Spain | 20 | 1.6% | 110 | 6.1% | +365% |
| Sweden | 12 | 1.0% | 16 | 0.9% | +15% |
| Switzerland | 32 | 2.6% | 35 | 1.9% | -8% |
| United Kingdom | 110 | 9.0% | 90 | 5.0% | -31% |
| Latvia | - | 0.0% | 1 | 0.0% | n.a. |
| Lithuania | 0 | 0.0% | 1 | 0.0% | +13% |
| Slovakia | 2 | 0.1% | 1 | 0.0% | -69% |
| Canada | 9 | 0.7% | 92 | 5.1% | +789% |
| **Total** | **1,223** | **100.0%** | **1,800** | **100.0%** | **24.5%** |

Share per Contributor:

Percentage of the individual country with respect to the total amount subscribed

*e.g. AT: the 27 M€ subscribed at CM25 represents the 1.5% of the 1,800 M€ subscribed to FutureEO*

Δ% CM25 vs CM22:

Represents the variation in terms of amount subscribed at CM25 vs CM22 (at same e.c., i.e. including inflation)

*e.g. AT: subscribed +38% more in M€ at CM25 compared to CM22.*
*Due to that AT increased its share in FutureEO from 0.6% to 0.8%*

# Mission Implementation after CM25


**FutureEO will deliver:**

- Development completion and launch (incl. IOC) of **Earth Explorer 10 “Harmony”**
- Concept consolidation and preliminary design (phase B) of **Earth Explorer 11 “Wivern”**
- Final design (phase B2/C) of the **New Generation Gravity Mission “NGGM”**
- Selection, implementation and launch (incl. IOC) of **SCOUT missions 5 and 6**
- Feasibility study (phase A) for **two Earth Explorer 12 candidate missions**
- Feasibility/Prelim. Definition (Phase A/B1) for **Copernicus Sentinel-6 NG**


**Copernicus Space Component will deliver:**

- Final design and production (phase B2/C/D/E1) of **Sentinel-2 Next Generation**
- Final design and production (phase B2/C/D/E1) of **Sentinel-3 Next Generation Optical**

# Planned Launches in 2026

## Four planned launch campaigns





## National missions


# Programmatic Highlights: Science Missions in Operations

**Science Missions in operations continue to deliver crucial data for science, many exceeding their original scopes**

## SMOS

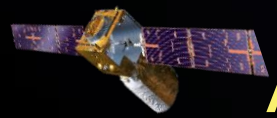
Excellent performance still after 16+ years in operation

## Swarm

Excellent performance still after 12+ years operations

## CryoSat

Excellent performance still after 15+ years in operation



## Aeolus

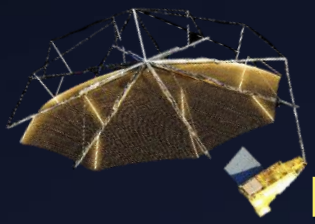
Development of Baseline 17 progressing nominally public release summer 2027

## Φsat-2

Nominal operations with slow orbital decay. End of operations planned March 2026

## EarthCARE

BBR operations adapted to match 10y lifetime estimate. L2 products released at Science & Validation WS 1-5 Dec., Tokyo

## BIOMASS

Commissioning completed Data now open to all

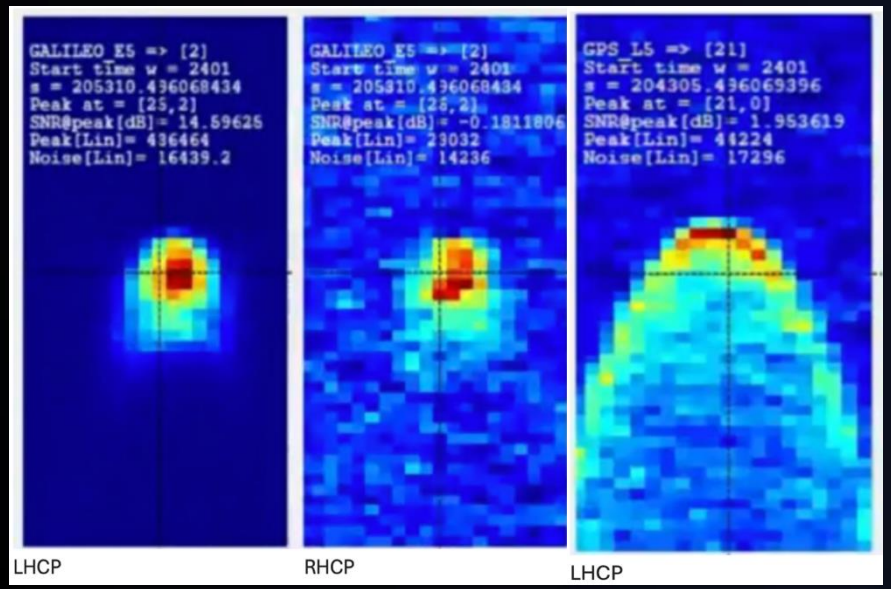

*Formal handover from ESA's Biomass Project Manager to Biomass Mission Manager*

# Programmatic Highlights: Science Missions

## Scout-2: HydroGNSS

Commissioning progressing well

Successful acquisition of the E5/L5 reflections, confirming acquisition of all frequencies & polarisations is working




*Galileo E5 reflections measured by HydroGNSS*

## Scout-3: NanoMagSat

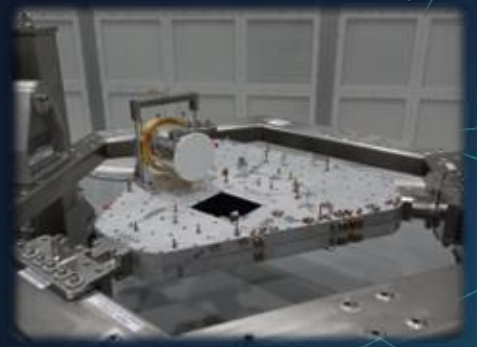
Progress in the launcher selection

## Scout-4: Tango

SRR closeout progressing well

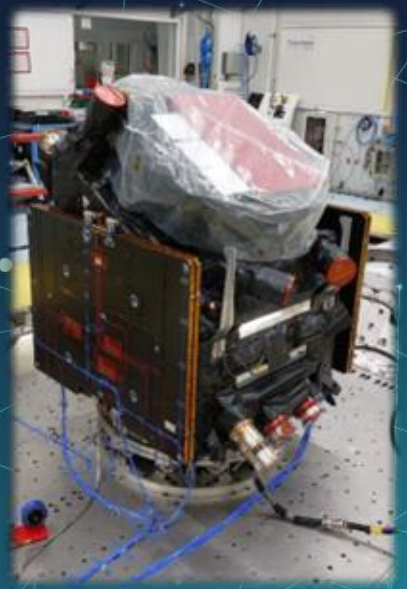
## Forum

System CDR Successfully closed



## FLEX

- Mission CDR Close-Out completed
- **ESA-ISRO signed collaboration agreement** for joint Cal/Val activities and scientific studies for EO missions with a specific focus on FLEX



# Programmatic Highlights: Science Missions

## ALTIUS

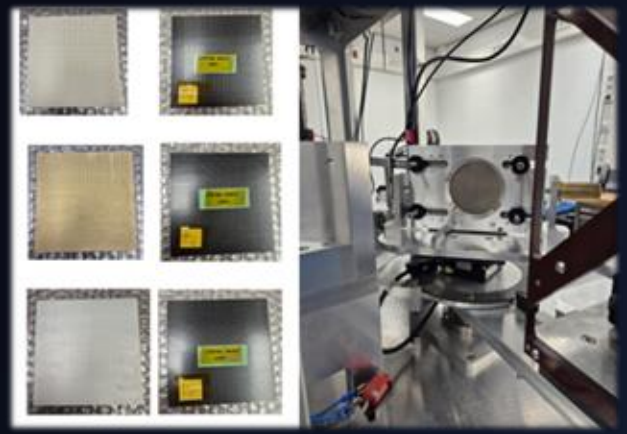
Flight platform now complete.

*NIR channel fully integrated and aligned*

## Wivern

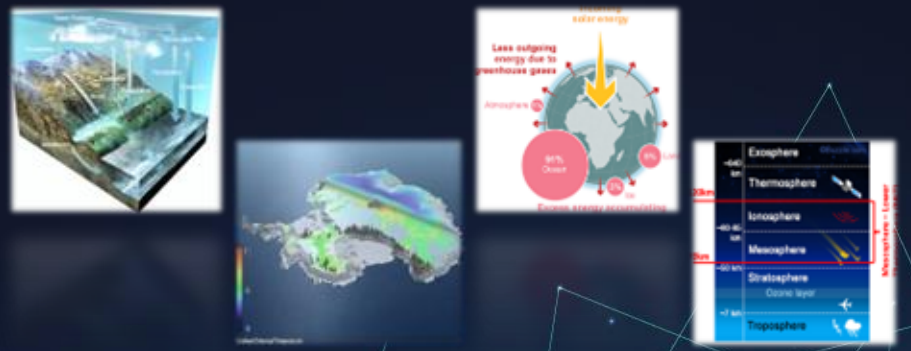
KO phase B1 with 2 parallel consortia in March with handover to project team

*RF test characterization of the metal coated reflector samples*



## Earth Explorer 12

- Ongoing Phase 0 ESA/industry/MAGs iterations on cost reduction measures and CaC estimates
  - Preparations ongoing for 8-9 July UCM





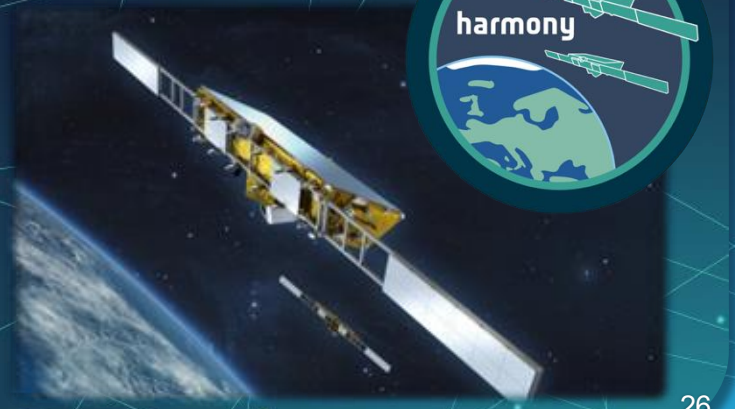
## NGGM

Kick-off Bridging phase held. ADS GmbH and TAS-I working jointly towards the SRR in summer 2026

## HARMONY

On-track for end of year CDR

Launcher adaptor for dual launch kick off planned in Q1



# Programmatic Highlights: Sentinels 1st Generation


**Sentinel-1A:** Quasi nominal operations. Disposal approach under consolidation

**Sentinel-1C:** Nominal operations. Data collection proceeding nominally

**Sentinel-1D:** Commissioning Phase on-going. IOCR planned at the end of April

**Sentinel-2A:** Extended campaign ongoing since March 2025, until May 2026. Discussions on-going with COM for a further 19 months extension until end 2027 (pending funding availability)

**Sentinel-2B/C:** Nominal operations

**Sentinel-2D:** successful Flight Acceptance Review, satellite in storage

**Sentinel-3A/B**: Nominal operations

**Sentinel-3C**: De-storage activities on-going, agreed launch period: 1 Sept.-30 Nov 2026

**Sentinel-3D**: Acceptance test campaign completed and satellite in storage

**Sentinel-4:** PFM Commissioning Board scheduled on 19 February. FM2 on-ground calibration and characterisation campaign started

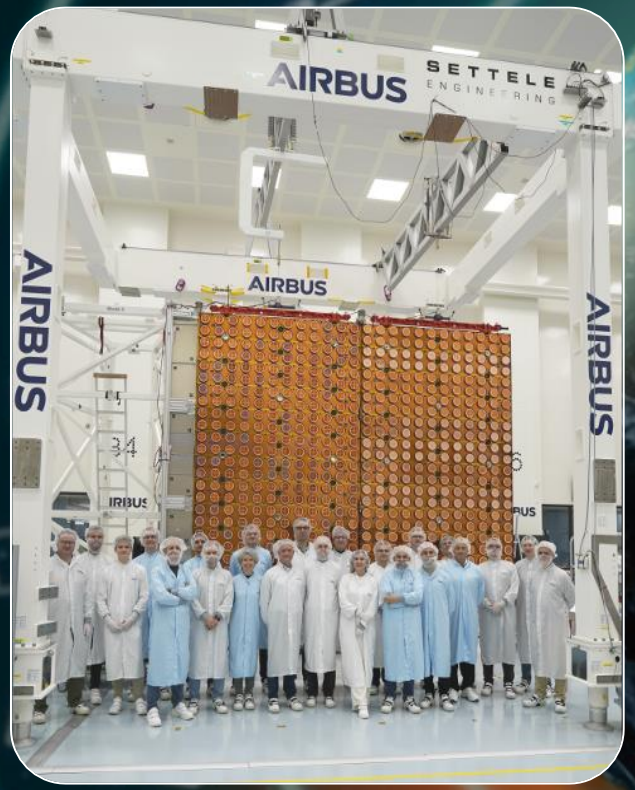
**Sentinel-5:** In-Orbit Commissioning Review held successfully. FM2 on-ground calibration and characterisation campaign started, FM3 integration completed

**Sentinel-5P:** Nominal operations with continuous high performance of the payload and ground segment.

**Sentinel-6B:** spacecraft In-Orbit Validation completed in early February, excellent performances confirmed

**Sentinel-6C:** due to the uncertainties on the EUMETSAT contribution and on the availability of the NASA radiometer, contract proposal has not been approved. ESA working on a new approach based on S6 NG acceleration

# Programmatic Highlights: Copernicus Expansion & Next Gen.




*First SAR Antenna Wing (SM) deployment*

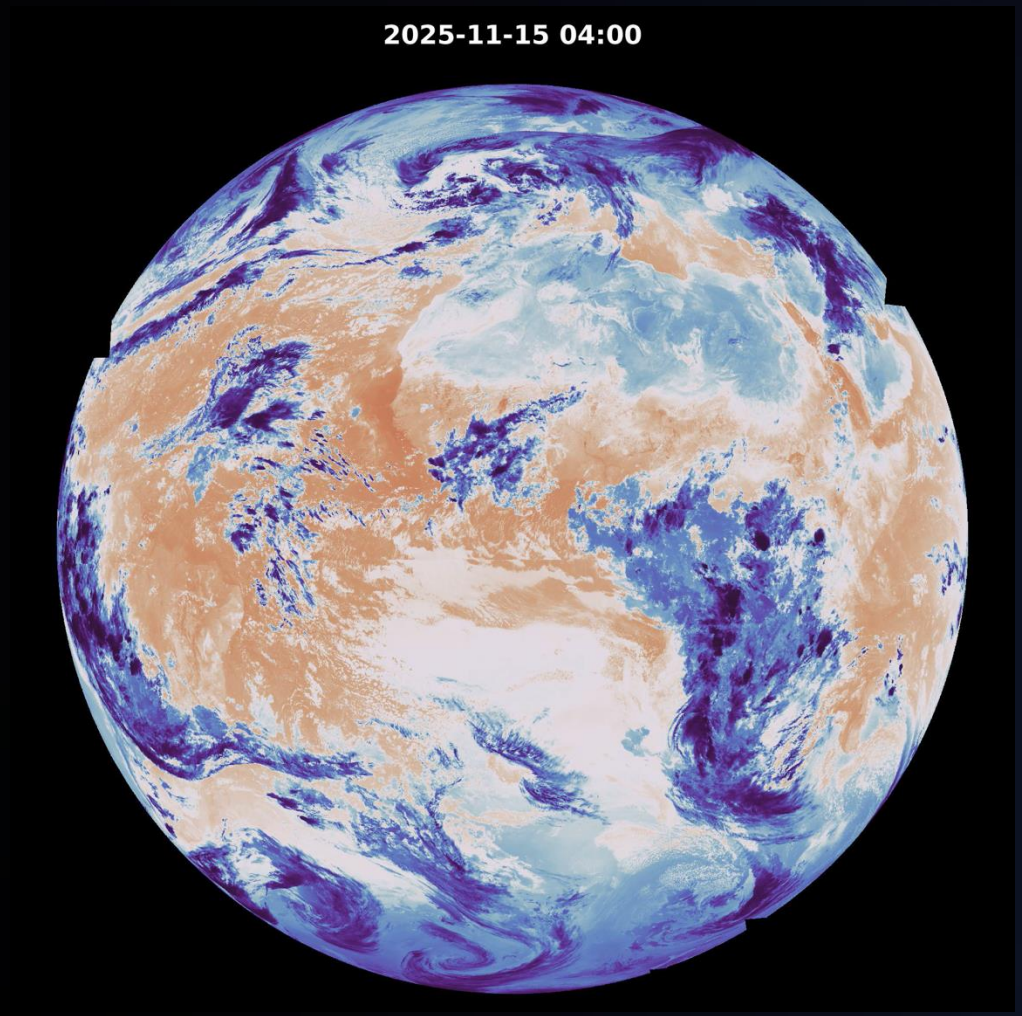
## Expansion missions highlights

- **CO2M:** platform and payload AIT proceeding
- **CRISTAL:** AOCS closed loop tests completed, EM instrument testing finalised
- **CHIME:** system CDR close-out progressing
- **CIMR**: Large Deployable Reflector EQM test readiness review on-going
- **LSTM:** platform mechanical integration of internal units finalised
- **ROSE-L:** successful SAR Structural Model Antenna Wing deployment

## Next generation highlights

- **S1-NG:** contract proposal approved at IPC and Proc Board. KO planned end March
- **S2-NG:** Phase B1 ISRR on-going
- **S3-NG TOPO:** Phase B2/C/D/E1 industrial offers received and under evaluation
- **S3-NG OPT:** Phase B1 progressing
- **S6-NG:** Phase A/B1 procurement proposal submitted to IPC

# Programmatic Highlights: Met Missions




*First Infrared Sounder images composition showing clouds of Storm Claudia over W and S Europe*

**MTG-S1:** First IRS images released on 27 January *(left video)*

**MTG-I2:** MTG-I2 FAR kicked-off 13 January, Board planned 19 March

**Met-Op-SG-A1:** Satellite In-Orbit Verification (SIOV) Review successfully completed on 4 December.

**MetOp-SG-B1**: FAR declared successful at the Board meeting on 29 January 2026 (no issues to report).

**Aeolus-2:** Preliminary Authorisation to Proceed (PATP) with Phase B2 unanimously approved by 359$^{th}$ IPC on 28 January 2026, covering industrial activities until October 2026

**AWS & EPS-Sterna:** Nominal AWS operations under ESA funding until Aug. 2026. EUMETSAT confirmed intention to fund thereafter.