

ESA's EO Programmes

FUTURE EO

Continuing to deliver world class Earth Observation systems and earth science

EO
FOUNDATIONS

EO MISSIONS
AND DATA

EARTH
ACTION

Full spectrum of preparatory activities required for all ESA EO missions

- Mission concept identification and elaboration, preliminary definition
- EO-science: from strategy to mission specific
- Technology developments and risk reduction

EO Missions and Data Pillar embraces all activities in implementation, launch, mission and data management

Address 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



Full spectrum of **preparatory activities** required for **all ESA EO missions**

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1. **Generic preparatory and pre-Phase 0 activities**: identify, explore, map, prepare future mission concepts and architectures
2. **Mission Definition and concept studies**
 - Phase 0 Earth Explorer 13, Meteosat 4th Generation, Mission of Opportunity
 - Phase A Earth Explorer 12 ; Copernicus Sentinel-6 NG PhA/B1
 - 3rd Scout cycle
 - Φ-sat-3
 - Preparation and definition phase of **EO Stepping Stones**
3. **Innovation for EO systems and instruments** to develop new capacities for systems and sensors
4. **Frequency management activities** to protect frequency allocations for EO sensors
5. **Standardized EO Technology Development** to derisk, reduce cost, increase competitiveness – **M-IND**

EARTH ACTION

Defining our priorities along the following verticals:



**1. Earth System
and Climate Science**



2. Enabling Policies



Transversal Elements Supporting All FutureEO Activities:



**A. Industrial Strategy
& Competitiveness**



**B. Disruptive
Innovation
& Digital Enablement**



**C. Knowledge
Exchange
& Capacity Building**



**D. Partners
& Cooperation**

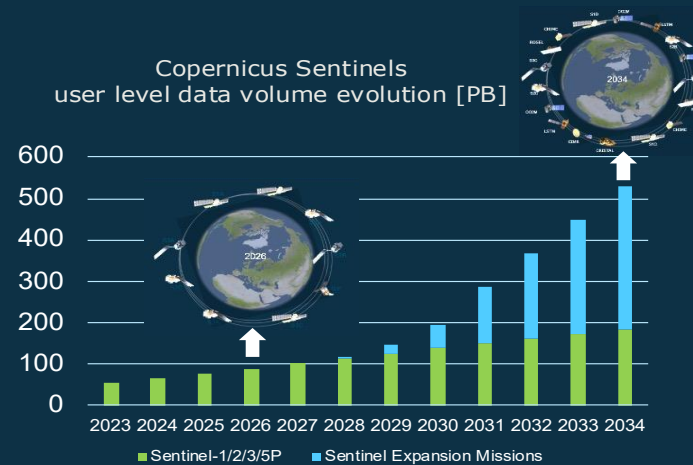
Powering the future of European EO Competitiveness

Looking ahead

From traditional EO product access to efficient data analytics

Exponential increase of EO data volumes


Enhanced evolution of AI & technology capabilities



EO commercialization, where does **ESA Third Party Missions** and **Copernicus Contributing Missions** create the most value in enabling commercial success, and where do you still see **critical gaps**?

CCM Companies as of 2026

Sevilla, 2024
 Pleiades, Airbus
 CCM VHR 2024 Coverage (2m GSD)

 ESA InCubed Participation
 (upcoming, current or past)

Emerging providers

Established providers

Category-1

Category-2 (EU)

Category-3 (non-EU)

Multispectral - $\leq 1m$



Multispectral - $\leq 4m$



SAR



Atmospheric Composition



Thermal IR



Hyperspectral



Radio Frequency





Joint Earth Observation Mission Quality Assessment Framework - SAR Guidelines



National Aeronautics and
Space Administration



- Strong ESA – NASA collaboration on commercial data evaluation
- Joint data assessments
- Joined signature of data guidelines, SAR signed, optical planned at JACIE 2026 (April)



Benefits of CCM and TPM



PROGRAMME OF THE
EUROPEAN UNION

copernicus
Europe's eyes on Earth

co-funded with



The impact of ESA's Copernicus Contributing Missions and Third Party Missions Programmes on Earth observation commercial data suppliers



Boosted revenue, with a 81% (same year) to 125% (following year) rise in revenue* for companies participating in the programmes
**inclusive of ESA contract revenue*



Accelerated employment in companies, with a 15–17% increase in employment



Acceleration of constellation development



Strengthened credibility and trust of customers and investors



Boosted brand reputation



Retention of companies in Europe and attractiveness of the programmes - 67% of European Earth observation emerging data suppliers participating in the Copernicus Contributing Missions Programme would have reduced European involvement without it



Substantial benefits from widened network and technical support

- These results stem from a study commissioned by the European Space Agency to **London Economics and Novaspace**
- Study was conducted among **41 Earth observation companies**. Nearly half (**49%**) had participated in ESA customer activities, while **51%** had not
- The findings highlight that the **success and benefits of programmes such as CCM and TPM are tangible**.
- **Continued monitoring will be important to further consolidate these estimates**, particularly since many of the benefits are expected to materialise over the longer term.



Benefits of CCM and TPM



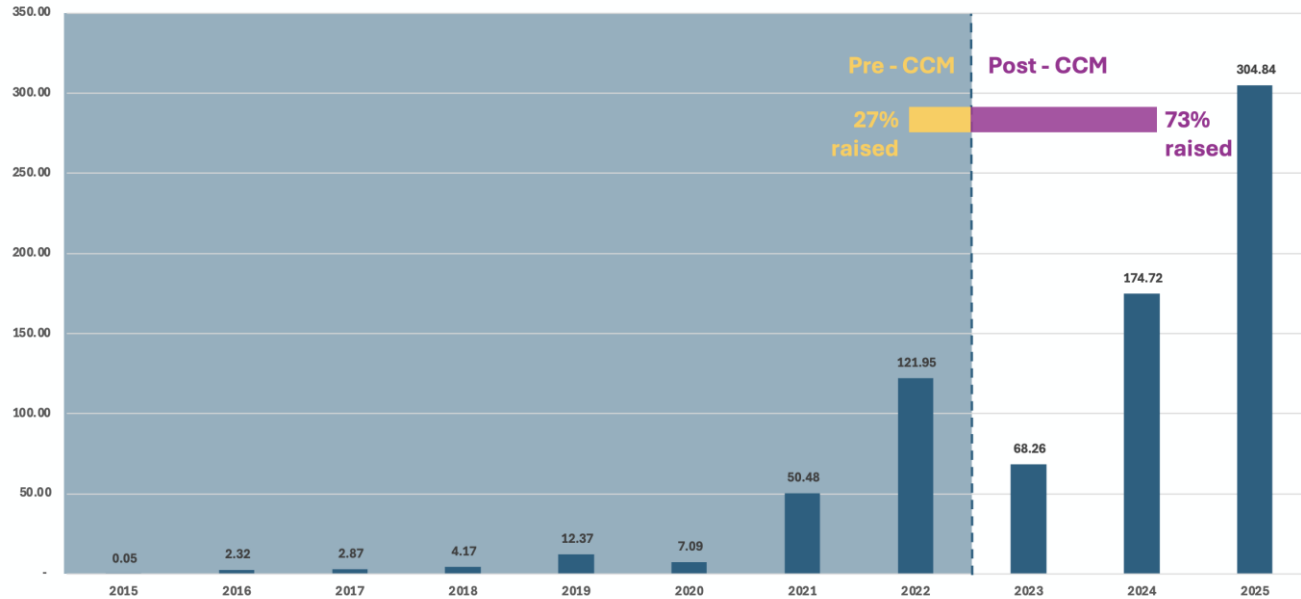
PROGRAMME OF THE EUROPEAN UNION



co-funded with



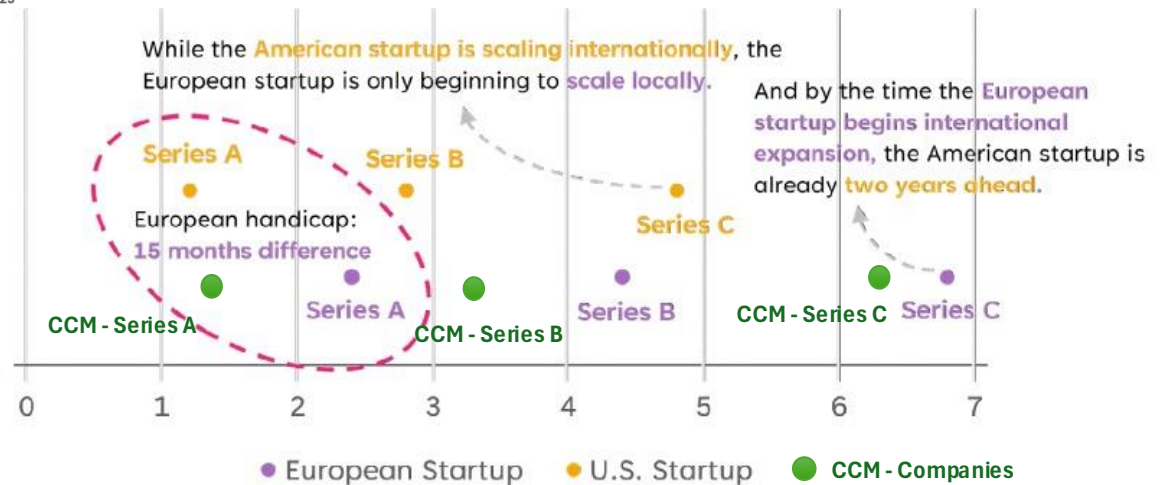
Funding raised by year (CCM Category 1) - M€



73% of fund raised by European Emerging CCM companies (Category 1) companies was done after their onboarding in Copernicus Contributing Missions Activity (period 2015-25)

European Emerging CCM companies (Category-1) outperform other European start-ups in fund raising timing, closing the gap with US start-ups

Assuming the startups raised the Seed round at the same time...



Voices of CCMs



CCM accelerated SATLANTIS' transition from optical payload provider to fully integrated Earth Observation mission operator.



Being recognised as a partner by CCM via an anchor customer contract instils trust on the customer side, while increasing cashflow stability; an important metric for private investment.



Joining Copernicus sends a strong signal of confidence by European Institutions in Aerospacelab. The independent MPC data assessment adds to this credibility.



ESA's role as anchor customer for the BALKAN constellation accelerates the full launch of EnduroSat's programme.



This is a remarkable opportunity to accelerate our growth while making a tangible impact on the preservation of our planet.



CCM has provided a trusted framework for institutional users to adopt commercial SAR data — de-risking procurement, enabling recurring usage, and building confidence among a wider user base.



Using PPPs to stimulate innovative project delivery models in the EO sector

Core objectives for ESA to use a PPP approach



Key elements for partnership success



Defining the pathway to a successful partnership

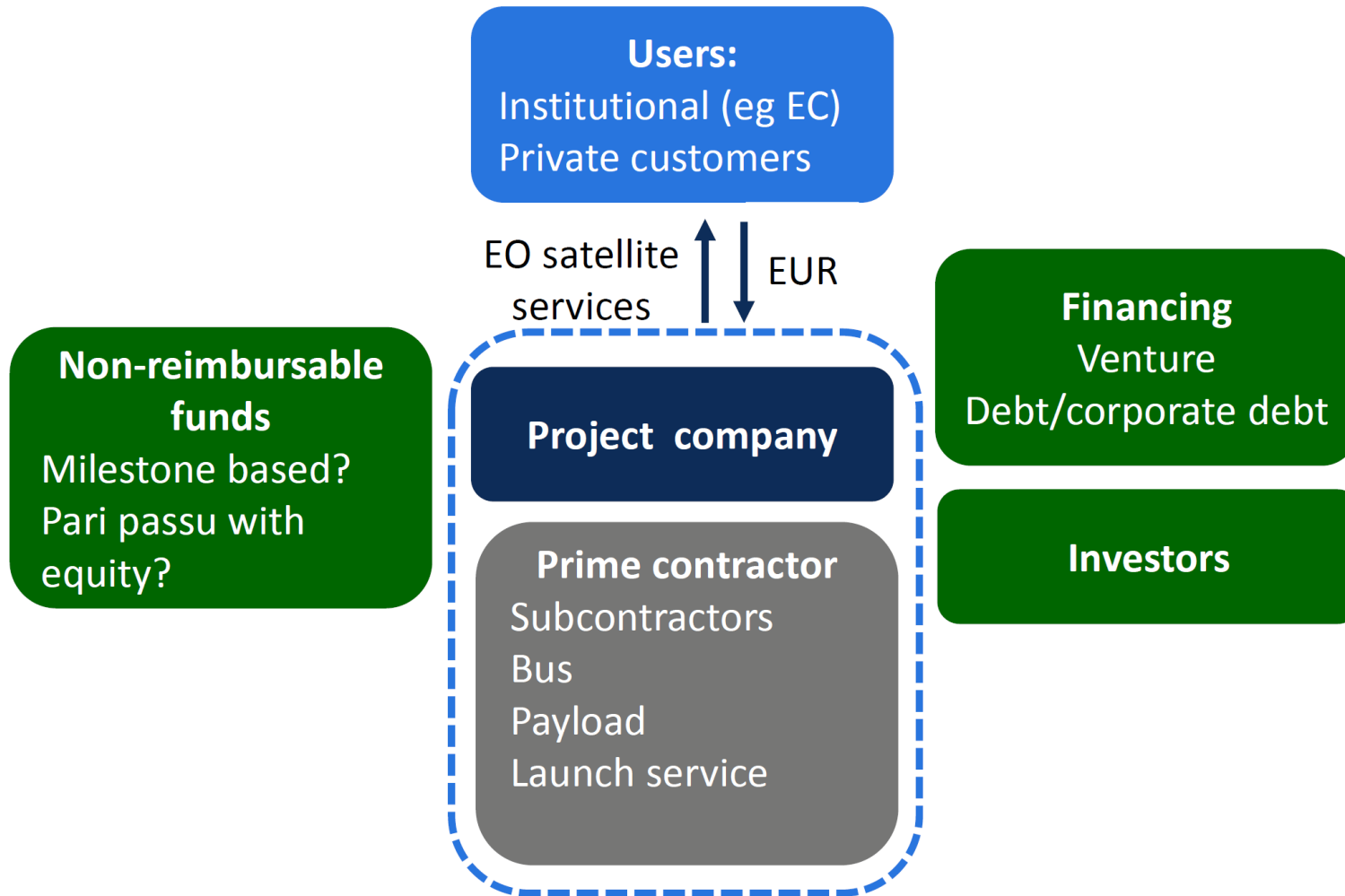


Developed a hypothetical use case to walk ESA along the partnership development path:

‘Enhanced GHG / CO₂ Monitoring Mission’

- level/nature of demand and customers
- Revenue, Capital, Operating cashflows => project FIRR
- Risk analysis and allocation
- Funding viability gap:
 - Public funding support required
 - Private financing levels and instruments in line with amount and risk profile

Potential partnering/contracting model



- **Strong public co-funding required in early stages** for technology and market demand derisking
- **Guarantee or revenue support mechanisms** to ensure bankability and enable private financing
- The partnership model must evolve from innovation support to revenue-backed performance-based service delivery: **initial phase with milestone based contracting structure prior to longer term service-based PPP structure**



- Funding source
- Technical development support
- Demand aggregator
- Performance monitoring

InCubed and funding rounds



 Several InCubed companies progressed to Series A/B rounds

 Selected examples attracted from ~€6M to ~€189M

 Illustrative correlation with commercial traction – not proof of causation

Funding received after InCubed kick-off only.

Stepping Stone Missions

What are the Stepping Stone Missions?



Stepping Stone Mission Definition Phase Studies:
→ A new element in FutureEO (Pillar 1 EO Foundations)

The Stepping Stone Missions aim to address the niches in the current EO mission ecosystem by responding to the need for **quality-proven services** at the **time-and-space sampling scales** required to **address National, European, and International environmental policies** and realize commensurate societal benefits.

They build upon established reference missions while targeting gaps currently not addressed spaceborne systems nor by other observation measurements (e.g. as in-situ, airborne, inventories).

Stepping Stone Missions aim to be:

- **User-driven**; Mission objectives are driven by user's identified requirements addressing environmental policies.
- **Service-oriented mission**; missions are conceived with a clear service and commercial perspective.
- **Scalable**; Mission concepts are conceived to be scalable and adaptable in order to accommodate environmental policy evolution, and market expansion.

Stepping Stone Missions – An end-to-end perspective

