

ACCELERATING TRANSFORMATIONAL INNOVATION IN EARTH OBSERVATION

### FOSTERING NEW TRANSFORMATIVE CAPABILITIES

With the availability of a huge volume of increasingly rich Earth observation data, growing computational power, and the untapped potential of transformative technologies such as artificial intelligence (AI), and Quantum Computing (QC), exciting 'New Space' and scientific opportunities are opening up for the new generation of data and digital entrepreneurs.

ESA Φ-lab provides an open, dynamic and fast-moving environment where people can develop transformative ideas, from blue-sky thinking to entering the market, that will accelerate EO future delivering capabilities and strengthen Europe's world-leading competitiveness.

We strongly believe in truly transformative ideas and the power of compelling partnerships to accelerate the future of Earth observation

## PUSHING THE INNOVATION PIPELINE

Bringing together industry, researchers, investors and academia,  $\Phi$ -lab embraces the 'innovate and apply under one roof' approach to foster, scale up and promote successful ideas.

shape, nurture and drive radical innovation in Earth observation up to the point of delivering commercial or scientific solutions.

With a focus on transformative technologies, Φ-lab manages the whole innovation pipeline to help

Business support and applied research teams can work together in the same location to develop and accelerate the space business and scientific ideas of tomorrow.

### Discover

- Nurture
  - Develop
  - Fund
  - Enter market

#### **EXPLORE AND INVEST**

Φ-lab comprises two offices that explore and invest in innovative ideas:

Φ-lab Explore Office is an open research environment offering a range of collaboration opportunities, including internships, visiting researchers from industry and academia, co-funded PhDs, Postdoc researchers and visiting professor schemes.

Operating as an ESA 'hub' within the network of EO academic and industrial researchers across Europe and globally, the Explore Office brings together expertise and ideas from researchers, industry, ICT players, investors and talented innovators to foster scalable innovations from EO data, Earth Science and Computer Science.

Φ-lab Invest Office's goal is to stimulate and develop all transformative actions that ESA can leverage to strengthen European EO industrial competitiveness and leadership. In this role ESA acts as a de-risking partner and facilitator, stimulating competitive growth for economic operators.

The Invest Office is the home of the ESA InCubed EO programme (incubed.phi.esa.int), which offers entrepreneurs innovation co-funding (equity and IPR free), together with technical and business support for the development of commercially viable products and services.



**30**Funded Activities valuing €55M at 60% average co-funding

10 Visiting Professors

> OUR SUCCESSES

Publications in peer reviewed journals and at conferences

12 Visiting researchers

Contributions to AI powered satellites (Φ-sat-1 and Φ-sat-2)

12 External Collaborations

AT4EO
setting the
European R&D
agenda
on AI4EO

€103M
InCubed
programme
value

# BOOSTING COMMERCIALISATION FOR A GREEN AND DIGITAL EUROPE

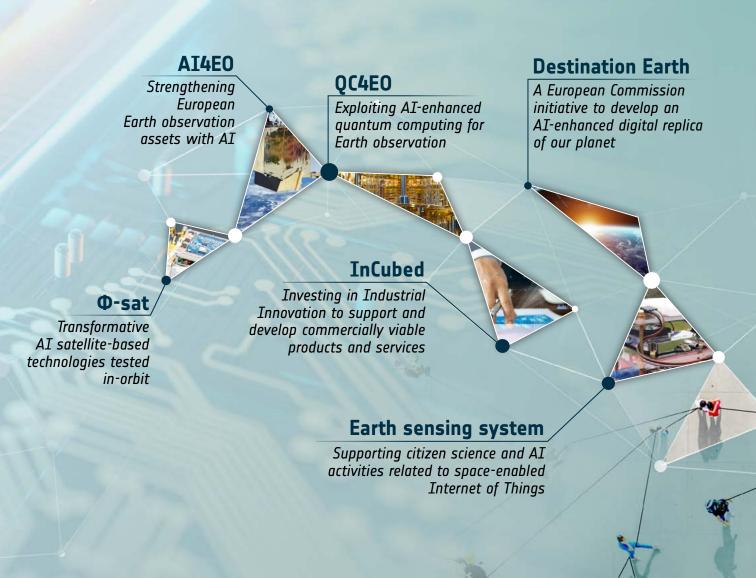
Φ-lab was established in 2017 and has already become a key player in the Earth observation sector for transformational innovation and business investment, delivering a series of successful outcomes.

These successes have paved the way for  $\Phi$ -lab to become a reference model for the whole of ESA and its Member States in generating innovation

which underpins scientific and business growth. Commercialisation is the second of the five priorities within ESA Agenda 2025. In this context, the Agency will create a dynamic network of  $\Phi$ -labs across ESA and Europe, focusing on delivering disruptive innovation ready for market adoption and embracing an 'innovate and apply under one roof' approach by teaming up with European players.

#### FLAGSHIP PROGRAMMES

Φ-lab manages or contributes to six flagship programmes, with each expected to deliver huge changes in the way Earth observation benefits society and technology.



#### THE POWER OF COMPELLING PARTNERSHIPS

Φ-lab connects innovative talent from industry, private investors, research centres and academia to foster compelling partnerships delivering concrete transformative innovation.

- We are the **bridge** between European start-ups, academic and industrial researchers, New Space operators, Investors, ICT players, EO global leaders and ESA
- We connect ideas to industry, investors and academia to foster, connect and develop a growing ecosystem of talent and capabilities across Europe

- We provide entrepreneurs with innovation funding (equity and IPR free), together with technical and commercial support to develop commercially viable products and services via the InCubed programme (incubed.phi.esa.int)
- We attract Earth observation academic and industrial researchers to generate transformative ideas
- We create an inspirational and informal but rigorous, multi-disciplinary and collaborative environment where concepts can be rapidly prototyped
- We act as a **facilitator** to foster competitive growth and entrepreneurial initiatives

