

ESA PhiLab Norway

ESA COMMERCIALISATION GATEWAY

SPACE FOR BUSINESS
BUSINESS FOR SPACE

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Why commercialisation at ESA

- not mentioned directly as an objective in the ESA Convention, but intrinsically linked with cost-effectiveness, competition, and competitiveness
- a complementary mean for ESA's industrial policy objectives of cost-effectiveness and of fostering the competitiveness of the European space industry in the global marketplace, strengthening and increasing the space-related industrial footprint
- helps ESA to continue to effectively carry out its missions while optimising resources, improving resource management and attracting talents for the Agency's missions

Objectives for ESA in the commercialisation of space



Support the development of **missions, technologies, applications, products, and services** which are targeted for or may be deployed on **commercial markets**

Support the growth and development of **new innovative companies**, in close cooperation and coordination with Member States

Leverage the commercialisation potential of new ESA programmes through complementary **commercial de-risking**, improving the commercial positioning of the European industry ecosystem.

Address emerging markets and **seed new possible markets** to allow European industry to compete with global competitors.

Ensure coherence of ESA action with the industry needs regarding space commercialisation, through **strong partnerships with industry at all levels, adapted and reactive ESA processes**, and through approaches and programmes tailored to the specificity of the addressed markets



What are the advantages and the challenges in working with ESA in a New Space approach? What are the lessons learnt from your experience with ESA?



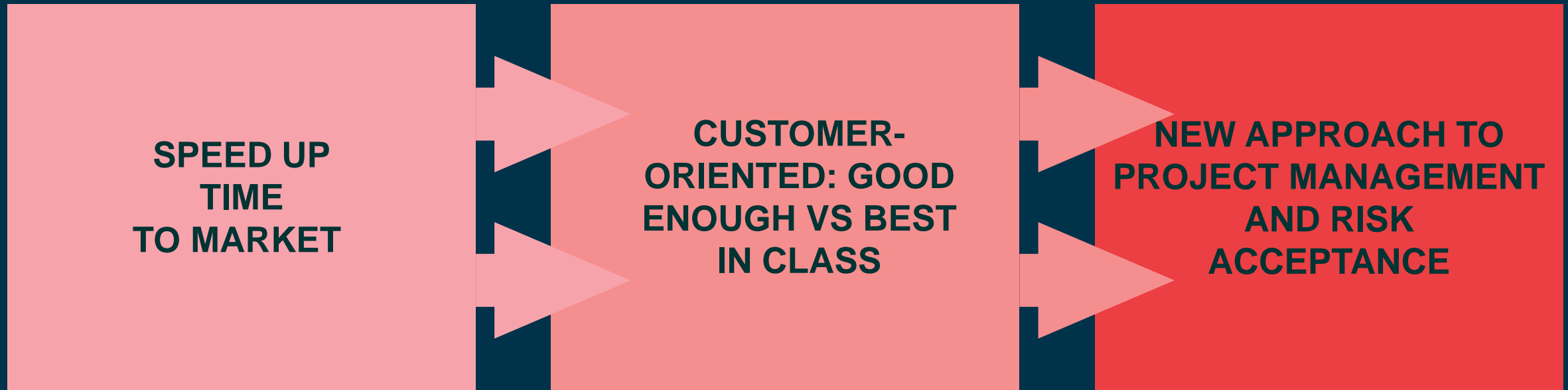
Benefits

- Expertise - technical support
- ESA Brand (increase credibility, especially for early stage startups)
- ESA concern and approach on topics that are indeed better addressed at European level
- Technical facilities
- Financing
- Benevolence" towards innovation
- Shared risk in R&D developments: either in company-initiated or ESA-initiated R&D
- Measurements during COVID19 (e.g. advanced payment, remote reviews,...)

Challenges

- ESA approach/culture (e.g. risk averse, slow processes, big difference with startup....)
- Misalignment of expectation (e.g. tailored ECSS, COTS components etc).
- Trade-off not only technical, but also financial/business (e.g. delays are cost more than risk)
- Limited flexibility in contracts (no opportunity to pivot ideas, agile development, exploring customer needs)
- Too document-driven (rather MBSE)
- ESA Experts' positions - (limited overview of the project, risk averse, only technical drive, review-midset, ...)
- Geo-return and industrial team management
- Primes have an unfair advantage when it comes to getting the information early on
- Grant process are way too cumbersome and complicated
- European startups need earlier ESA funding
- No contract for startup or possibility to test/ build secondary payloads
- Time to contract is very long
- Relation between ESA and National Agencies
- Obtaining National Agency support

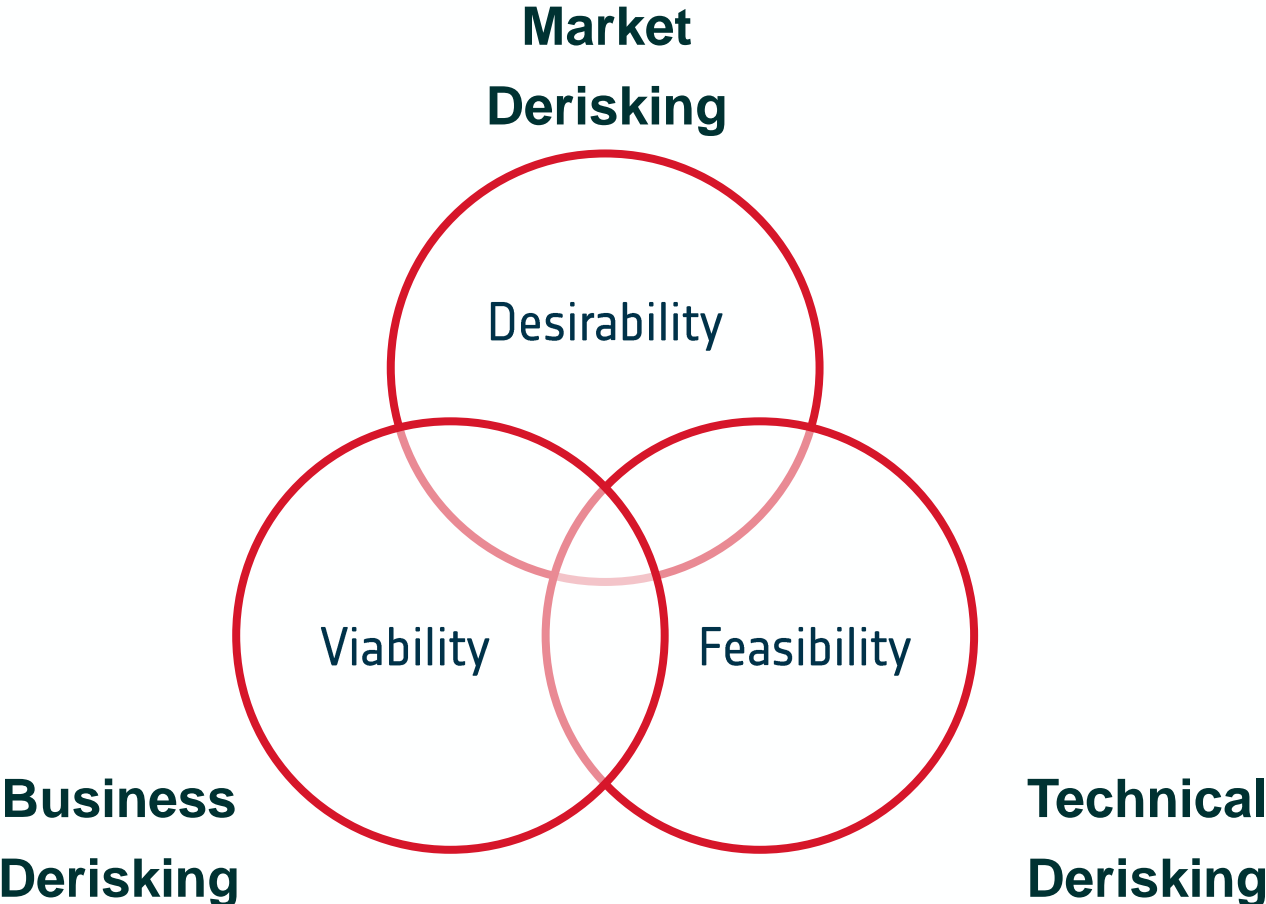


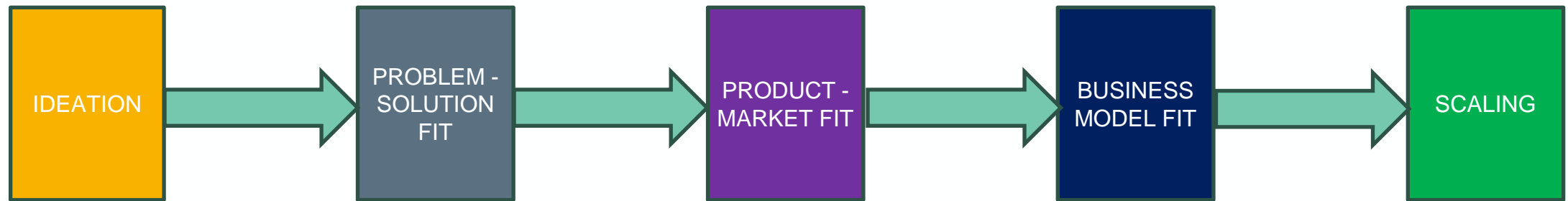


ESA AND NEW SPACE

For ESA, there are no “New Space companies”, but a New Space approach which can be **observed** from large well-established companies to small newcomer entities. This approach implies a business mindset based on private investments leveraging on speed, customer focus and new risk acceptance culture.

The Triple Path to Commercial Success

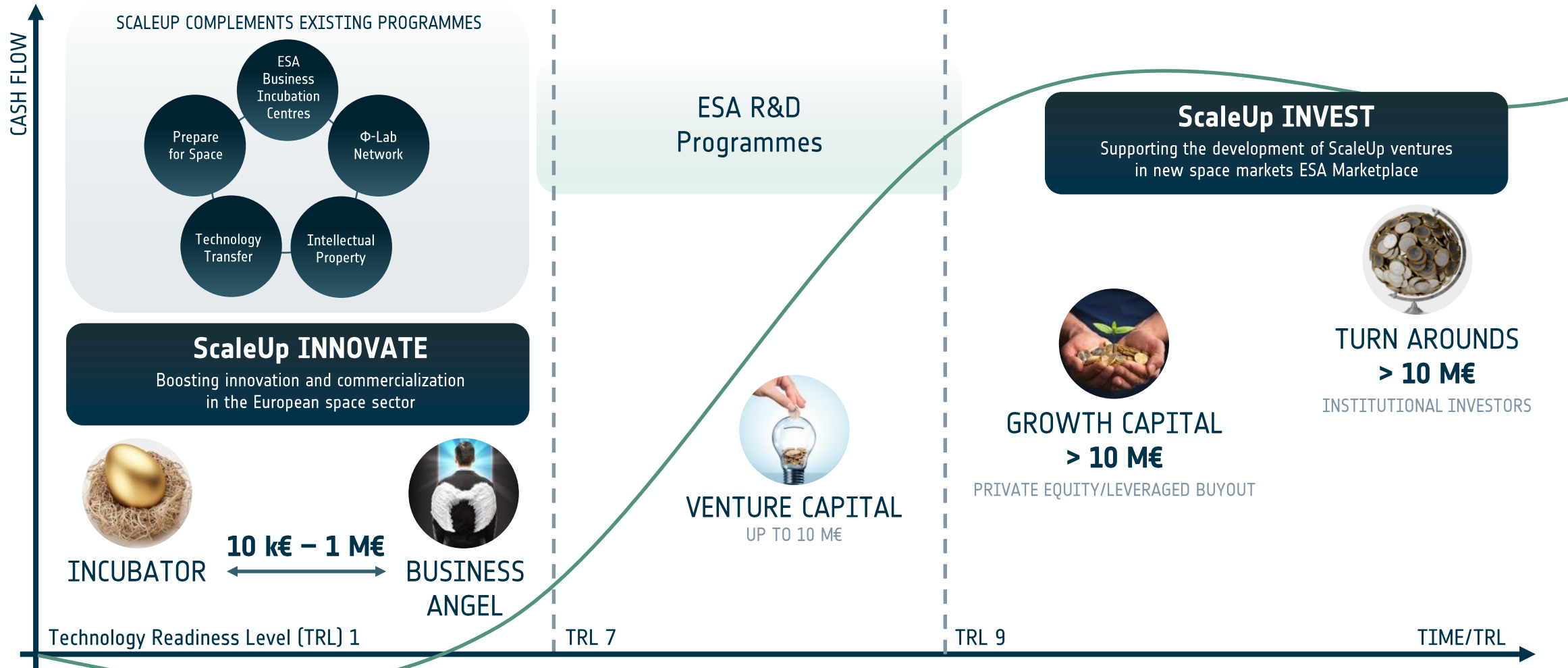




An entrepreneur's journey proceeds in discrete stages, as they build experience and the confidence that their idea for a commercial product or service meets the requirements of:

- **Desirability:** Customers will be motivated to buy the product or service because it meets their needs
- **Feasibility:** The design will deliver the required performance
- **Viability:** The company has a sustainable business model to supply the product

CONTRIBUTIONS IN THE COMPANY'S LIFE-CYCLE



ESA BICs

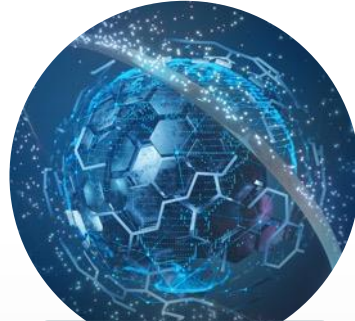
Foster start-up firms that set-up a new and innovative business using space-oriented technology, or data derived from space assets, for products and services in both space and terrestrial markets

ESA TECHNOLOGY BROKERS

Support technology transfer and appliances between established industry from the space and non-space sector, and within the space sector

ESA Φ -LAB NETWORK

Facilitates research teams to engage in groundbreaking science and technology development that have a potential in high-yield commercialisation



Φ -LAB NETWORK

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Φ -LABs in PROCUREMENT

THEMATIC APPROACH

BRIDING THE GAP BETWEEN GROUND-BREAKING RESEARCH AND COMMERCIALISATION



BUSINESS INCUBATION

29 CENTRES

90+ LOCATIONS

250+ NEW STARTUPS P/Y

1550+ STARTUPS SUPPORTED



TECHNOLOGY BROKERS

12

TECHNOLOGY BROKERS

400+ TECHNOLOGY TRANSFERS



PARTNERSHIPS

FOR ENTREPRENEURS, CORPORATES, INSTITUTES, AND BUSINESS SCHOOLS

SUPPORTS START-UPS, ALUMNI AND NEWCOMERS

CONNECTING TO CURRENT & FUTURE DECISIONMAKERS

ESA Marketplace: 3 ways to support companies



1. Enhancing visibility and credibility by through collaboration with ESA, enabling possible future partnerships

- Showcasing and demonstrating technical performance and potential of industry-developed space technology, systems and applications
- Supporting the sharing of technical insights about of industry-developed space technology, systems and applications within the ESA community in view of possible future adoption on ESA missions

2. Boosting* customer acquisition

- Supporting the rollout of new services/products
- Building strategic commercial partnerships
- Expanding beyond national markets

3. Accelerating* time-to-market for NewSpace products/services

- Speeding up the technical demonstration in an operational environment (TRL 9)
- Building strategic commercial partnerships
- Shortening Time-to-Market

* decreasing co-funding contribution (up to 5 projects per companies)

Target Companies

- Demonstrated technology/proven services (TRL > 7)
- Credible ambitious business growth



ESA Marketplace ScaleUp INVEST

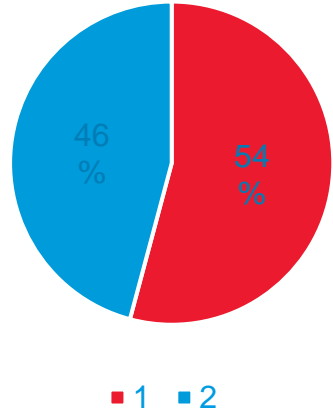
Fostering the **development of industrial players** in new and emerging upstream and downstream markets to achieve sustained commercial growth

From Incubation to Scaling Up



Company	ESA BICs (year of incubation)	ESA Tech- Development Programmes	Joined ESA Marketplace	B2B Commercial Partner	Commercial Project Description
	2019	ARTES, GSTP, BSGN	2023	Exotrail	In-orbit Solar Array Manufacturing IOD Mission
	2020	InCubed, BASS	2023	ExoLaunch	2nd Generation Thermal EO Satellite OD Mission
	2017	Boost!, FLPP, HRE Inspirator	2023	R-Space	SmallSat launch and deployment capability IOD Mission
	2020	Discovery, S2P	2023	ExoLaunch	SSA Payload Preparatory IOD mission for Constellation
	2020	ARTES	2023	D-Orbit	Nano Thruster Metal Propulsion IOD Mission
	2019	BSGN	2023	Sophie's Bionutrients	In-orbit biomanufacturing ISS mission
	2021	GSTP	2023	EnPulsion	Nano Electric Propulsion IOD Mission
	2016	ARTES, BASS, GSTP, NAVISP, INCUBED	2024	Accenture, Connected Space	Customer Acquisition with SatCom Data Provision
	2016	GSTP	2023	GOS	In-orbit demo of plug-n-play adapter for SmallSats
	n/a	ARTES, GSTP, InCubed, CCM	2023	Xona; Vyoma;	Customer Acquisition via growing Sat-as-a-Service
	n/a	BASS, GSTP	2023	Mercuria	Customer Acquisition for EO Thermal Imagery

Total ESA co-funding of the current proposals: **13 M€**



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EUROPEAN INVESTMENT
FUND & BANK

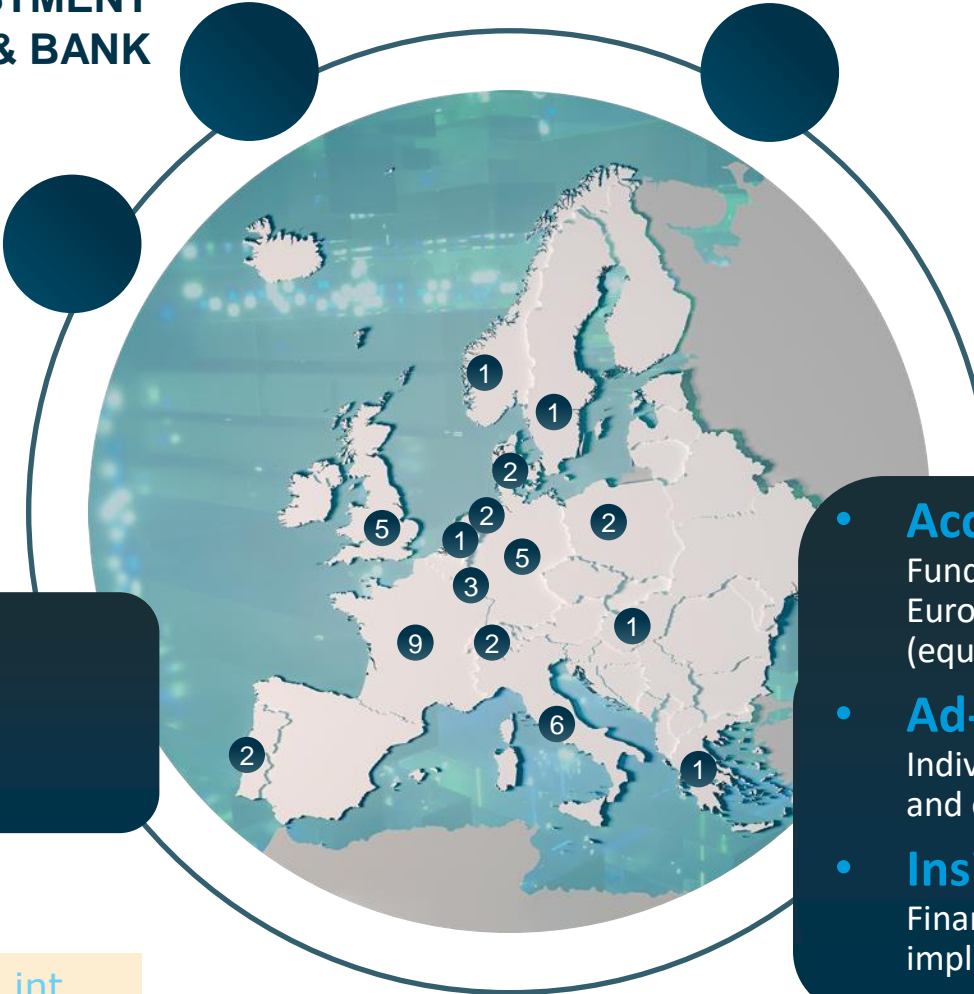
EUROPEAN COMMISSION & EUSPA & EIC

INVESTORS

Venture Capital,
Private Equity,
Institutional
investors



47+ MEMBERS OF THE
ESA INVESTOR NETWORK



- **Access to finance**
Fundraising through early and late-stage investors, European and national financial institutions and banks (equity and debt)
- **Ad-hoc strategic support**
Individual diligence on ESA programmatic developments and on European Institutional activities
- **Insights on the financial sector**
Financial trends and dynamics, understanding their implications on the space industry

Please contact: investor-network@esa.int

ESA PhiLab Norway

Welcome to the ESA Commercialisation Network!

ESA PhiLab Norway, the “Arctic PhiLab”



- ESA PhiLab Norway is a consortium lead by Kongsberg Satellite Services (KSAT), with sub-contractors
 - Arctic University of Norway (UiT)
 - NORCE
 - Norinnova
 - Akvaplan-NIVA
- Objective:
 - Delivering space related innovation with the ability to disrupt and transform markets
 - PhiLab Norway specifically addresses the needs of the Arctic
- Funded 50% by ESA and 50% by co-funded from consortium partners



- ESA PhiLab Norway will support space related research activities in its thematic domain and provide support to project teams
 - Interdisciplinary innovation, challenge driven, goal oriented
 - Pathway to market application and practical impact
 - Physical location and access to its facilities
- Can support project ideas from any source (also non-consortium members) based on an Open Call
- ESA PhiLab Norway should become an essential part of the space innovation system, connecting players and building a strong innovation cluster
- Part of ESA PhiLab NET network
 - Sharing ideas, knowledge and resources

TOGETHER WE INVEST AND INNOVATE YOU SCALE UP!



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