

European Space Agency 4.4 M€ Open Call for Space Related Geospatial Innovations

Miika Kostamo

Project Manager

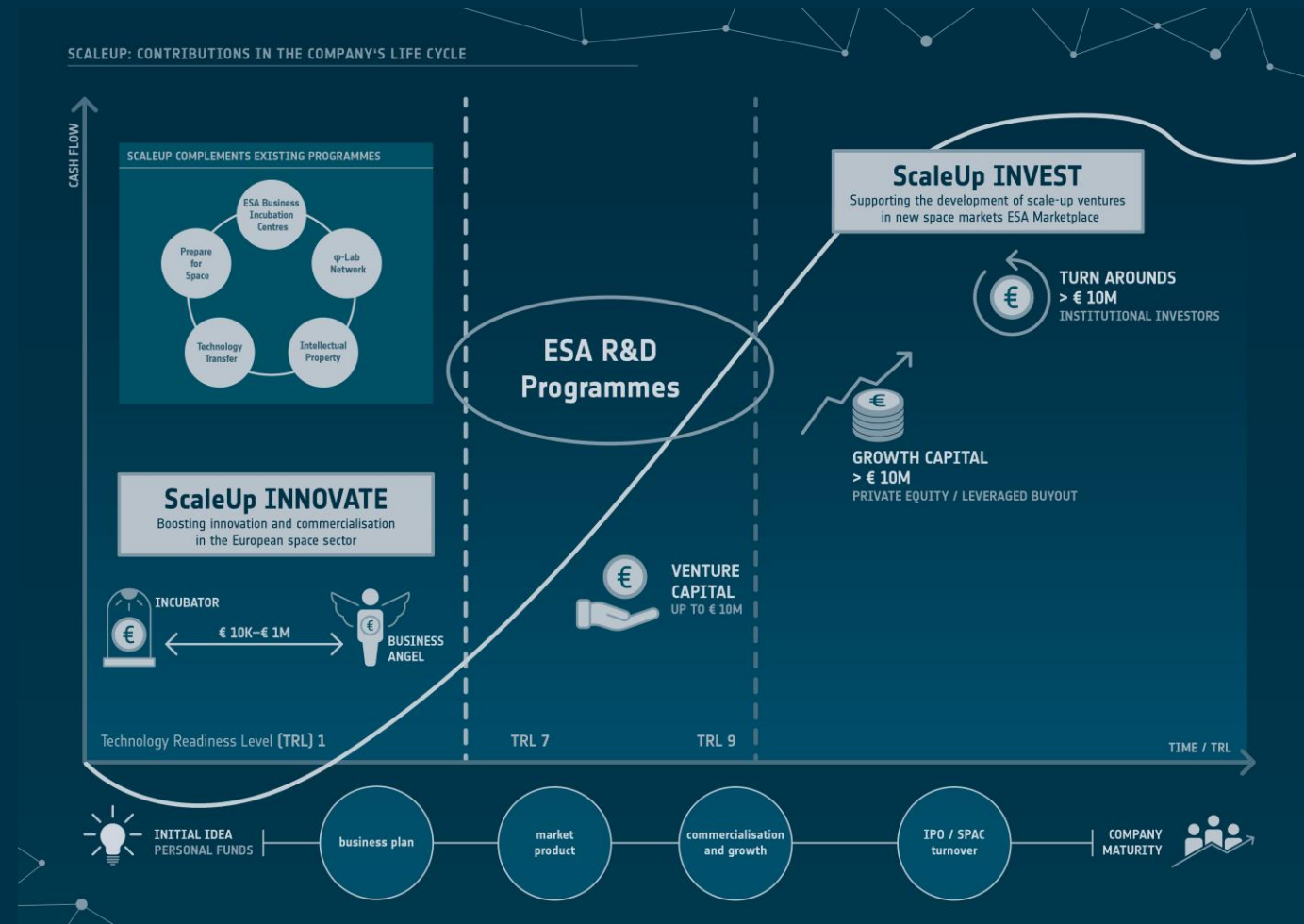
17.07.2026

ESA Phi-Lab in Finland

European Space Agency
Innovation Program

Supporting space-related
innovations to commercialise

Part of ESA Phi-Lab network
and ScaleUp program



ESA Phi-Lab Network in Europe



Austria

Industrial innovation for the upstream domain

Switzerland

Deep tech innovation (quantum, data, materials)

Poland

Robotic and AI for autonomy

Ireland

Advanced Manufacturing

Norway

Arctic requirements and needs

Finland

Sensors & Geospatial Innovation

Spain

Space technologies and their application to boost climate resilience

UK

Space enabled sustainability technologies

Netherlands

EO, critical PNT infrastructure, secure satellite communication

Sweden

AI and edge computing



ESA Phi-Lab Finland partners

Phi-Lab Partners



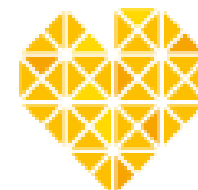
Aalto-yliopisto
Aalto-universitetet
Aalto University



ILMATIETEEN LAITOS
METEOROLOGISKA INSTITUTET
FINNISH METEOROLOGICAL INSTITUTE

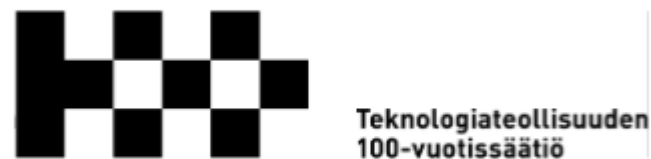


NLS
FINNISH GEOSPATIAL
RESEARCH INSTITUTE
FGI



Vaasan yliopisto
UNIVERSITY OF VAASA

Phi-Lab Funding Partners



OPEN CALL

*Shape the future of
space innovation with us*



Phi-Lab
NET

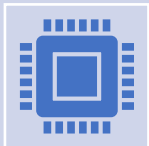
Finland

Geospatial technology in open call



Sensor technologies

- EO sensors upstream
- Navigation sensors
- Distributed sensor systems
- Signals and systems innovation



Advanced computation for geospatial services

- AI applications in upstream and downstream
- Cost efficient computation
- Algorithms and signal processing



Novel digital geospatial services

- EO service innovation
- Navigation and positioning services
- Service platforms

Offering for Phi-Lab projects

Funding

- 200-500k€ per project

Technical, research and business support

- Provided by Phi-Lab partners

Access to research infrastructure

- Provided by Phi-Lab partners



Events and networking

PHI-LAB RESEARCH INFRASTRUCTURE IN FINLAND

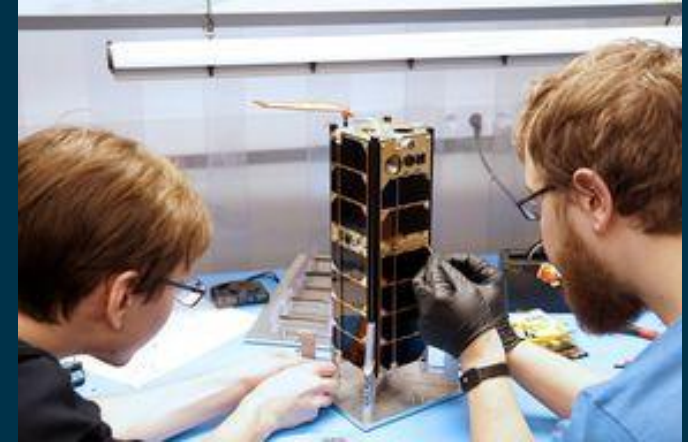
Aalto University

Small Satellite Laboratory

Small Satellite Ground Station

Microwave technology
development and validation
facilities

IC and sensor development
facilities



Positioning services

Time series processing Lab

Calibration services

Location-based services

Geovisualization and XR Lab

FINPOS

FinnRef (CORS)

GNSS-Finland

HASlib (PPP)

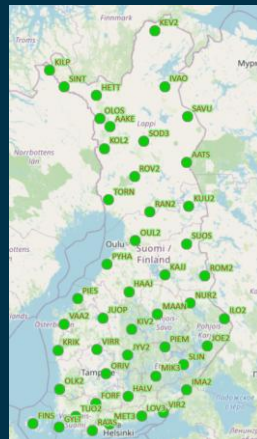
FGI-GSRx (PNT)

EODIE

Sjökulla Radiometric Test Site

Geoportti RI

Location Europe platform



Finnish Meteorological Institute

Arctic Space Center (FMI-ARC)

Sodankylä Satellite Ground Station

Virtual and Cloud Services



More details in application documents

Cost for the use of infrastructure varies

- Some services are free-of-charge

- Some have cost for the use

Detailed information about current infrastructure and cost should be asked from the contact person in the application document

- Use and costs should be included in the application and agreed before applying

First ESA Phi-Lab projects in Finland

Research Activity – Zero Gravity Therm



Prime Contractor: Zero Gravity Oy

Subcontractors: Aalto Small Satellite Laboratory, Finnish Meteorological Institute

Phi-Lab partners:

Support provided by the Phi-Lab Finland:

Contract start date: 01/11/2025

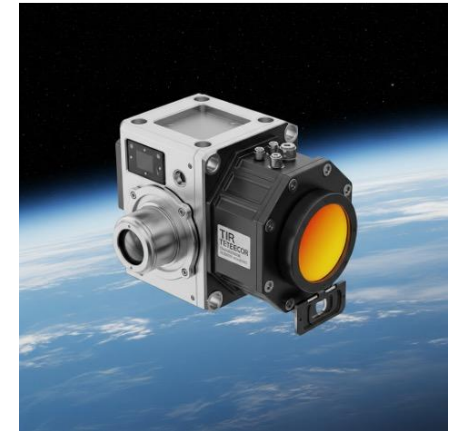
Contract end date: 31/10/2027

Background and justification: Our previous projects in the energy and smart city domains showed a clear need for 3.5–10 m thermal infrared data, since current open-data products are too coarse and no European cubesat sensor fills the gap.

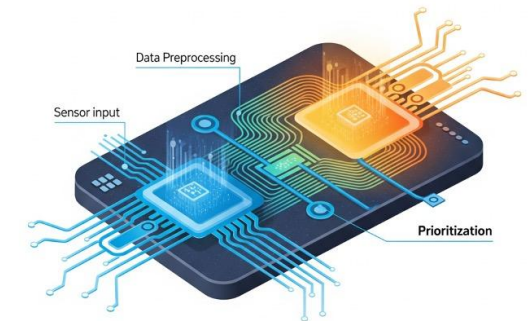
Objectives: We will build and validate a high-resolution TIR payload for CubeSat using EdgeAI for data pre-processing. Integration with our UrbanAI platform will automate high-res thermal maps and anomaly detection.

Achievements and status: Project started on 01/11/2025

Benefits of the obtained results: The project will give Europe high-resolution thermal infrared imaging and automated analytics for faster, more accurate monitoring of infrastructure, renewables, and water pollution, etc.



Edge AI Capabilities





Support provided by the Phi-Lab:

Contract end date: 31.10.2027



A diagram of the Earth showing several satellite orbits. The Earth is depicted with continents and oceans. Several dashed lines represent the orbits of satellites, with small satellite icons positioned at various points along these paths. The orbits are shown in a 3D perspective, curving around the globe.

ESA UNCLASSIFIED – Releasable to the Public

Research Activity - VegSat



Prime Contractor / Sub-contractors:

YieldSystems / JAMK + DataSpace Europe

Phi-Lab partners: Aalto + FGI

Support provided by the Phi-Lab:

Contract start date: 1.3.2026

Contract end date: 28.2.2028

VegSat

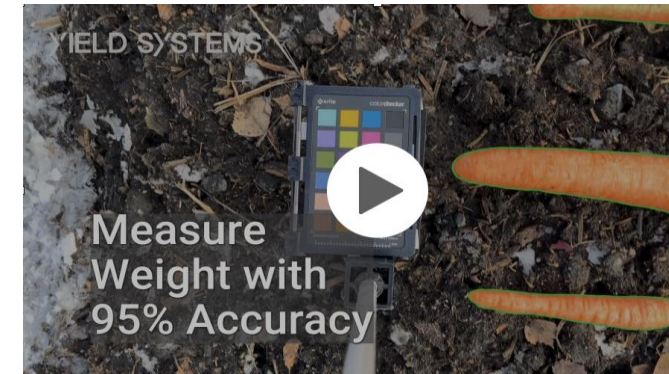
YIELD SYSTEMS jamk DataSpace Europe

Background and justification: The research focuses on overcoming a key limitation in satellite-based agriculture: the lack of scalable, crop-specific ground reference data for open-field fruit and vegetable production. Current remote sensing services largely provide generic vegetation indices and anomaly detection, which do not translate into quantitative trait measurements or commercially relevant forecasts for specialty crops.

Objectives: The objective of the activity is to develop VegSat, a combined satellite and video intelligence service that generates crop-specific ground truth at scale and links it to multi-source Earth observation. The target product is a digital agronomy service delivering field-level phenotyping, yield and size forecasts, disease and stress indicators, and zonal management insights.

Achievements and status: Project started 1^o of March 2026

Benefits of the obtained results: to scale observations to a global intelligence for vegetable production



Research Activity – Seeing Biodiversity from Space



Prime Contractor / Sub-contractors: KOKO Forest / Luontoa Consulting

Phi-Lab partners: NLS

Support provided by the Phi-Lab:

Contract start date: 1.4.2026

Contract end date: 31.3.2028

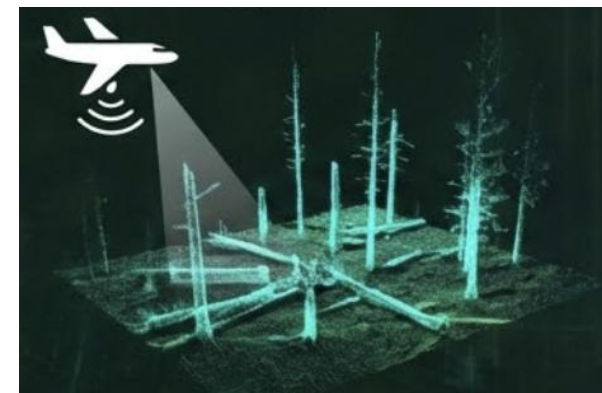


Background and justification: Biodiversity loss is creating an urgent need for scalable, reliable and cost-efficient methods to monitor forest biodiversity. Current biodiversity assessments still rely heavily on field inventories, which limits their spatial coverage, update frequency and operational usefulness.

Objectives: The objective of the project is to develop and validate a prototype service for scalable forest biodiversity mapping from remote sensing data. The specific objectives include developing multi-source remote-sensing methods to map various key forest biodiversity indicators.

Achievements and status: The project builds on earlier ESA-supported work and existing capabilities developed by KOKO Forest and Luontoa. KOKO Forest already has experience in satellite-based standing deadwood mapping, and forest health analytics for more than 15 clients.

Benefits of the obtained results: The project will produce new technical capabilities for measuring forest biodiversity consistently across large areas. The solution will reduce reliance on costly and infrequent field surveys, improve the transparency and repeatability of biodiversity assessments, and support forest owners, municipalities, certification bodies, investors and public authorities in making biodiversity-informed decisions.



More is coming and
we are also looking for more
space related innovations
in 2026

There is still more space to innovate

Some space related industries

Agriculture

Aviation and
drones

Climate,
environment and
biodiversity

Consumer
solutions, tourism
and health

Emergency
management

Energy and raw
materials

Fisheries and
aquaculture

Forestry

Infrastructure

Insurance and
Finance

Maritime and
Inland Waters

Rail

Road and
automotive

Space

Urban
development and
land management

and many more



OPEN CALL PROCESS

Open Call process

Simple application

Research proposal

Draft research contract

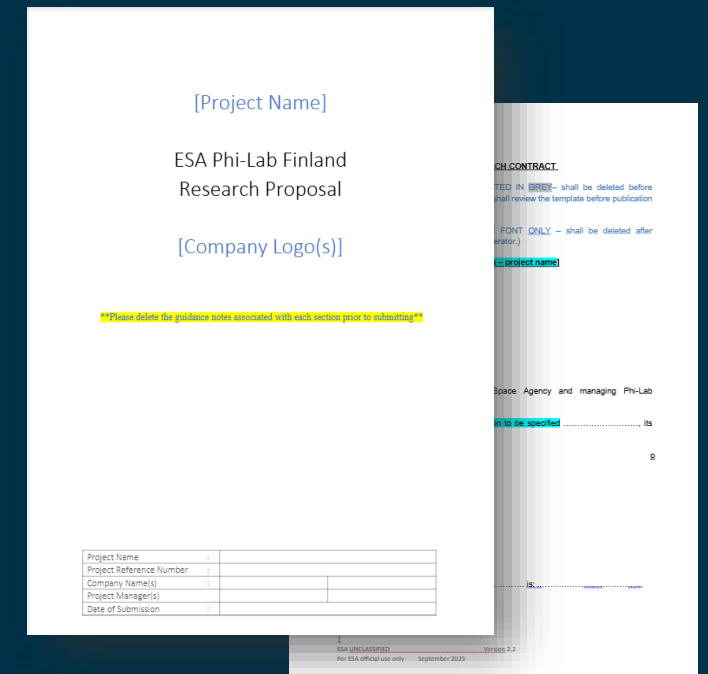


Application evaluated after set cutoff days

Tender Evaluation Board scoring

For selected projects

1-2 years of project support and funding



Project Name	:	
Project Reference Number	:	
Company Name(s)	:	
Project Manager(s)	:	
Date of Submission	:	

Application for open call

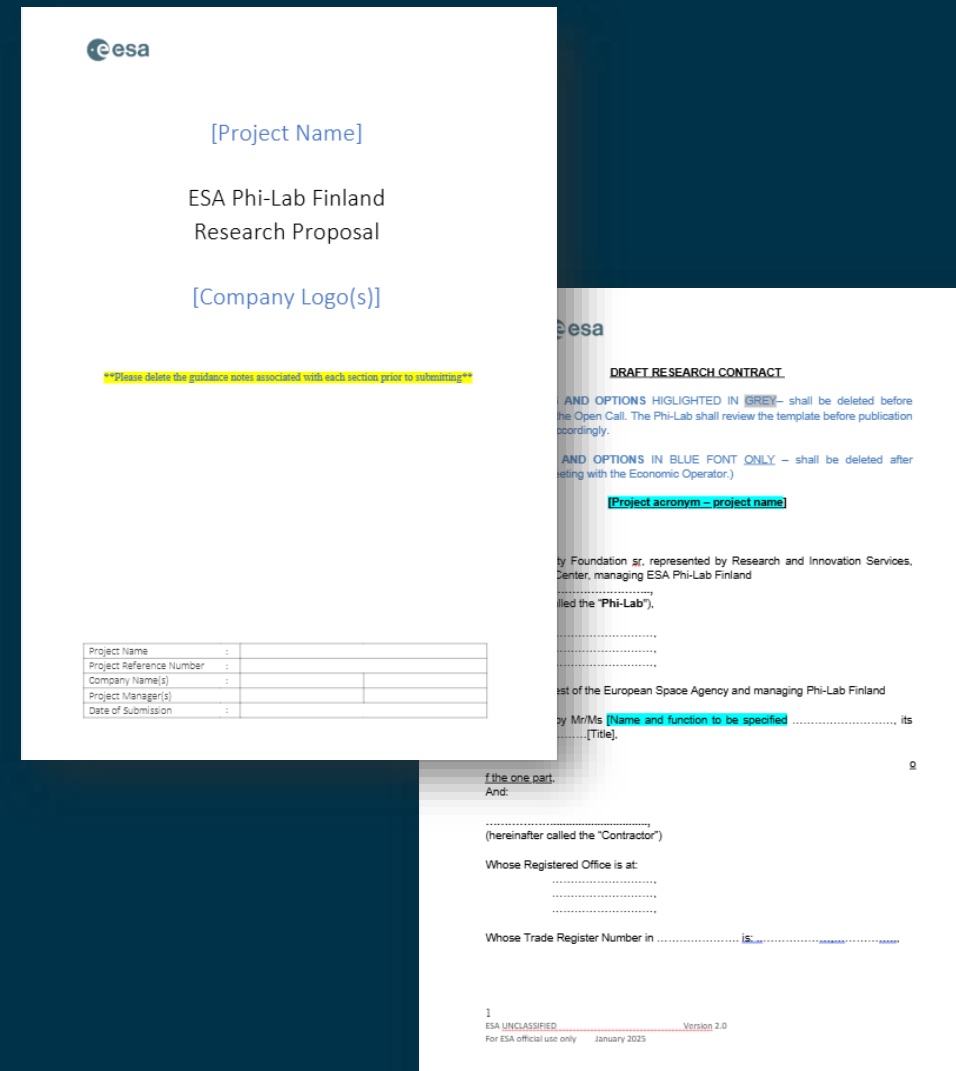
Application can be done by filling 2 documents

1. ESA Phi-Lab Finland Research Proposal
2. Draft Research Contract

Details about the call and evaluation criteria will be send with the documents.

Request for documents can be sent through our website

www.esaphilab.fi



The image shows two overlapping document templates. The top document is the 'ESA Phi-Lab Finland Research Proposal' form, which includes fields for Project Name, Company Logo(s), and a table for project details. The bottom document is the 'DRAFT RESEARCH CONTRACT' template, which contains legal clauses and fields for project details.

ESA Phi-Lab Finland Research Proposal Form:

Project Name: [Project Name]

ESA Phi-Lab Finland
Research Proposal

Company Logo(s): [Company Logo(s)]

Table:

Project Name	:	
Project Reference Number	:	
Company Name(s)	:	
Project Manager(s)	:	
Date of Submission	:	

DRAFT RESEARCH CONTRACT Template:

DRAFT RESEARCH CONTRACT.

AND OPTIONS HIGHLIGHTED IN GREY – shall be deleted before the Open Call. The Phi-Lab shall review the template before publication accordingly.

AND OPTIONS IN BLUE FONT ONLY – shall be deleted after setting with the Economic Operator.)

[Project acronym – project name]

by Foundation sr, represented by Research and Innovation Services, Center, managing ESA Phi-Lab Finland

called the "Phi-Lab").

est of the European Space Agency and managing Phi-Lab Finland

by Mr/Ms [Name and function to be specified] its [Title].

f the one part.
And:

(hereinafter called the "Contractor")

Whose Registered Office is at:

Whose Trade Register Number in is:

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ESA UNCLASSIFIED Version 2.0
For ESA official use only January 2025

Evaluation criteria in general

Criteria	Sub criteria
Background and Experience (25%)	<ul style="list-style-type: none"> a) Experience Team composition b) Partnerships and Support Entities c) Vision
Research and Technology developments (30%)	<ul style="list-style-type: none"> 1.Relevance for the Call 2.Suitability of technology for targeted application 3.Understanding of and leveraging on the State of the Art (SoA), novelty of the proposed research 4.Maturity and feasibility for target application 5.Relevance of the proposed R&D approach
Commercial Opportunities and Potential Socio-Economic Impact (25%)	<ul style="list-style-type: none"> a) Potential Market Segment b) Potential Product/Service c) Potential Customers/Users d) Value Proposition e) Potential Socio-Economic Impact (including sustainability) f) IPR strategy
Activity and Management proposal (20%)	<ul style="list-style-type: none"> a) Relevance of the work to achieve objectives b) Milestones/Cost-planning / Work breakdown. c) Approach to align research with market needs d) Management of the research project e) Fit with the Phi-Lab

Next cutoff day on
will be announced soon

More info at
www.esaphilab.fi

Thank you for interest



For Open Call Documents go to
esaphilab.fi

