EUSPA European Union Agency for the Space Programme

Estonian Research Council

Latvian Council of Science

Research Council of Lithuania

„BALTIC EUSPA HORIZON EUROPE INFO DAY“

2023-09-21

Organisers

Gerda Kuum	Market Downstream and Innovation Department at EU Agency for the Space Programme
Helen Asuküla-Tõkke	Estonian Research Council
Jūlija Asmuss	Latvian Council of Science
Deividas Petrulevičius & Dalius Gudeika	Research Council of Lithuania

Agenda

10:00 – 10:05	Opening of the event
10:05 – 10:25	EUSPA Horizon Europe 2023 call topics, *Speaker Vojtech Fort (EUSPA)* - Introduction of 5 topics, Useful Tips (15min) - Q&A (5min)
10:25 – 10:50	Baltic Success Stories from previous EUSPA Horizon Europe calls - 2 presentations (10+10min) - Q&A (5min)
10:50 – 11:25	Interactive Pitching session: 1-2 min presentations
11:25 – 11:30	Closing statements & Invitation to Vilnius Space Days

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Horizon Europe Call

HORIZON-EUSPA-2023-SPACE

Baltic EUSPA Horizon Info Day 21 sept 2023

Vojtech Fort

EUSPA
European Union Agency for the Space Programme

EUSPA Horizon Europe call of 2023
(HORIZON-EUSPA-2023-SPACE-01)

Type of Action	Topic	Indicative budget (EUR mln)
IA	EGNSS - Transition towards a green, smart and more secure post-pandemic society	3.5
IA	EGNSS - Closing the gaps in mature, regulated and long lead markets	8
RIA	Copernicus-based applications for businesses and policy-making	7
RIA	Designing space-based downstream applications with international partners	6
IA	EU GOVSATCOM for a safer and more secure EU	10
	Total budget:	**34,5**

Indicative dates
Opening: October 2023
Deadline: **February 2024**

Innovation action (IA)

Activities to produce plans and arrangements or **designs for new,** altered **or improved products**, processes or services.

Research and innovation action (RIA)

Activities to **establish new knowledge** or to **explore the feasibility** of a new or improved technology, product, process, service or solution.

All the information is preliminary as the call is not published yet. For the indicative description of the call please see the Horizon Europe 7. Work Programme 2023-2024

3,5 mEUR

Innovation Action

HORIZON-EUSPA-2023-SPACE-01-41

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EGNSS - Transition towards a green, smart and more secure post-pandemic society

TRL 7-9

The action aims to:

- Stimulate the development and use of commercial downstream solutions based on **synergies** between the EU space programme components and digital technology
- Foster the development of space technologies that improve the **quality of life** in Europe: efficient mobility, energy efficiency and environmental friendliness, green digital transition of the construction industry
- Exploit digitalisation and the **adaptation of business processes** in the post-pandemic environment in order to improve prospects of businesses
- Proposals can also target **personal solutions** such as personal assistance, healthcare, support to the elderly and city dashboards
- They can address the challenge of higher reliance on existing infrastructure, the increased use of remote resources and the associated **cyber-threats**

The call is not published yet, therefore the information presented here is indicative only. For the preliminary description of the topics please see the Horizon Europe 7. Work Programme 2023-2024.

HORIZON-EUSPA-2023-SPACE-01-42

EGNSS - Closing the gaps in mature, regulated and long lead markets

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TRL 7-9

Broadening the reach of EGNSS by supporting its **adoption in long lead markets** including rail, maritime inland waterways, fisheries and aquaculture, road and automotive, and aviation.

- Development of industry-accepted **certification and standardization schemes** that exploit the use of EGNSS and its differentiators, as well as addressing certification bottlenecks
- **Rail safety critical applications** that support the rail network efficiency converging towards a pan-European EGNSS-based solution adoption
- **Road** and automotive market
- **EGNSS-supported operations** in coastal, harbour and **maritime** areas, including for energy production
- **Aviation**
  - **Integrations** of Dual Frequency Multi-constellation (DFMC) SBAS & Copernicus
  - **Drones' urban air mobility**, e.g. urban air deliveries trough EGNSS supported by EO data
- Proposals could explore **synergies with Copernicus and/or GOVSATCOM**, addressing the certification and regulatory aspects that their use might bring

The call is not published yet, therefore the information presented here is indicative only. For the preliminary description of the topics please see the Horizon Europe 7. Work Programme 2023-2024.

7 mEUR

Research & Innovation Action

HORIZON-EUSPA-2023-SPACE-01-43

Copernicus-based applications for businesses and policy-making

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TRL 5-7

- Enhance existing applications or develop new applications and products relying on Copernicus data and services
- **Support policy making and implementation** such as for the Green Deal, Destination Earth or the Horizon Europe missions
- Increase the **integration and uptake of Copernicus** data, services and applications in the European economy, in particular the European data economy

- **Emergency** service: anticipatory actions, emergency management and recovery
- **Security** service: support resilience to major pan-European crises
- **Marine** service: biodiversity, spatial planning, fisheries, coastal to shore services and blue carbon farming
- **Climate change** service: forecast and preparedness to counteract extreme climate events, data integration
- **Land** service land use and/or natural resources planning, as well as citizen awareness and reporting
- **Atmosphere** monitoring service: air quality, wildfires monitoring and greenhouse gases

The call is not published yet, therefore the information presented here is indicative only. For the preliminary description of the topics please see the Horizon Europe 7. Work Programme 2023-2024.

HORIZON-EUSPA-2023-SPACE-01-61

EU GOVSATCOM for a safer and more secure EU

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TRL 7-9

- **Development of use cases** in the area of surveillance, crisis management and key infrastructure;
- Development and/or improvement of **GOVSATCOM demonstration terminals** enabling end-to-end validation of the first services provided by the GOVSATCOM HUB
- Identify **GOVSATCOM tools** required for the development of the GOVSATCOM terminals
- Demonstrate the access of users to an early EU GOVSATCOM service, showcasing the benefits and **fostering user uptake**

Proposals should select a GOVSATCOM use case and support the adaptation of existing SATCOM terminals to carry out the demonstration and ensure engagement of users:

- **Disaster response or Emergency services** / ambulances (for Civil Protection)
- **Rail traffic management** to improve the limitations linked to geographical barriers (e.g. valleys, cities)
- Telemedicine for **humanitarian aid**

The call is not published yet, therefore the information presented here is indicative only. For the preliminary description of the topics please see the Horizon Europe 7. Work Programme 2023-2024.

HORIZON-EUSPA-2023-SPACE-01-46

Designing space-based downstream applications with international partners

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TRL 3-4

- **Use of EGNSS and sharing of expertise** with public and/or private entities to introduce EU-space based solutions
- The **use of Copernicus** data, to develop jointly algorithms, services and/or products
- The **combined use of EGNSS and Copernicus** to develop innovative downstream applications
- **Create business-oriented partnerships** between European industry and international partners
- Exploit **integration of EO data with positioning data and ICT** (e.g. cloud computing) from international partner countries
- Proposals dealing with EGNSS are encouraged to **involve relevant organisations on the European side** (e.g. EASA, ESSP, EMSA)
- Participation of a partner from a country that has signed a Copernicus Cooperation Arrangement is required for Copernicus-based applications

Legal entities established in countries that have signed an administrative cooperation arrangement on Copernicus data access and Earth observation data exchange are exceptionally eligible for Union funding: United States, Australia, Ukraine, Chile, Colombia, Serbia, African Union member states, India and Brazil

The call is not published yet, therefore the information presented here is indicative only. For the preliminary description of the topics please see the Horizon Europe 7. Work Programme 2023-2024.

Eligibility

Consortium composition (collaborative projects)

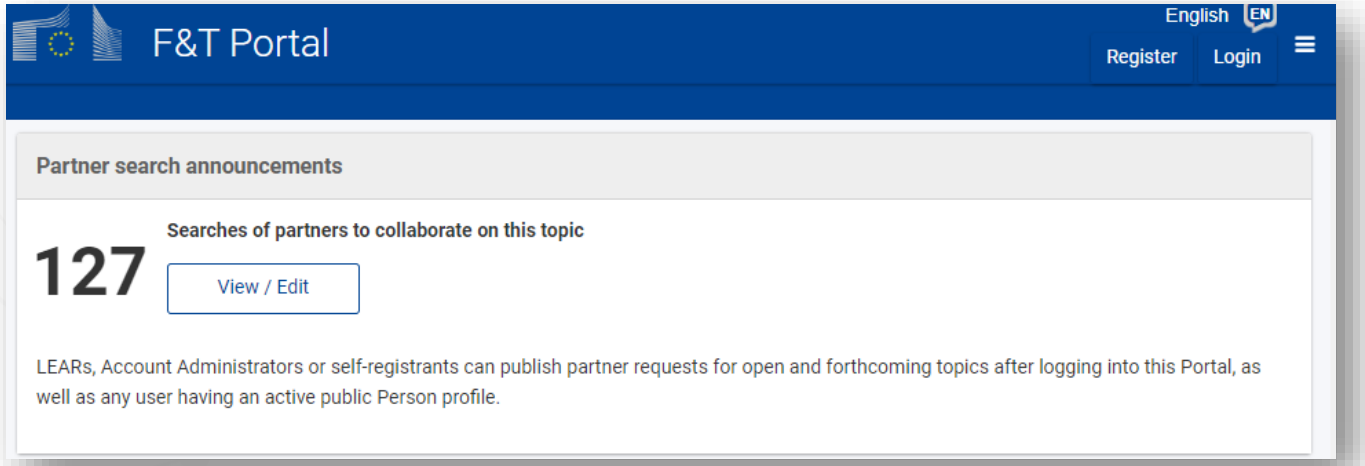
- **at least one** independent legal entity established in a **Member State**, and
- **at least two** other independent legal entities each established either in a **different Member State or an Associated Country**.

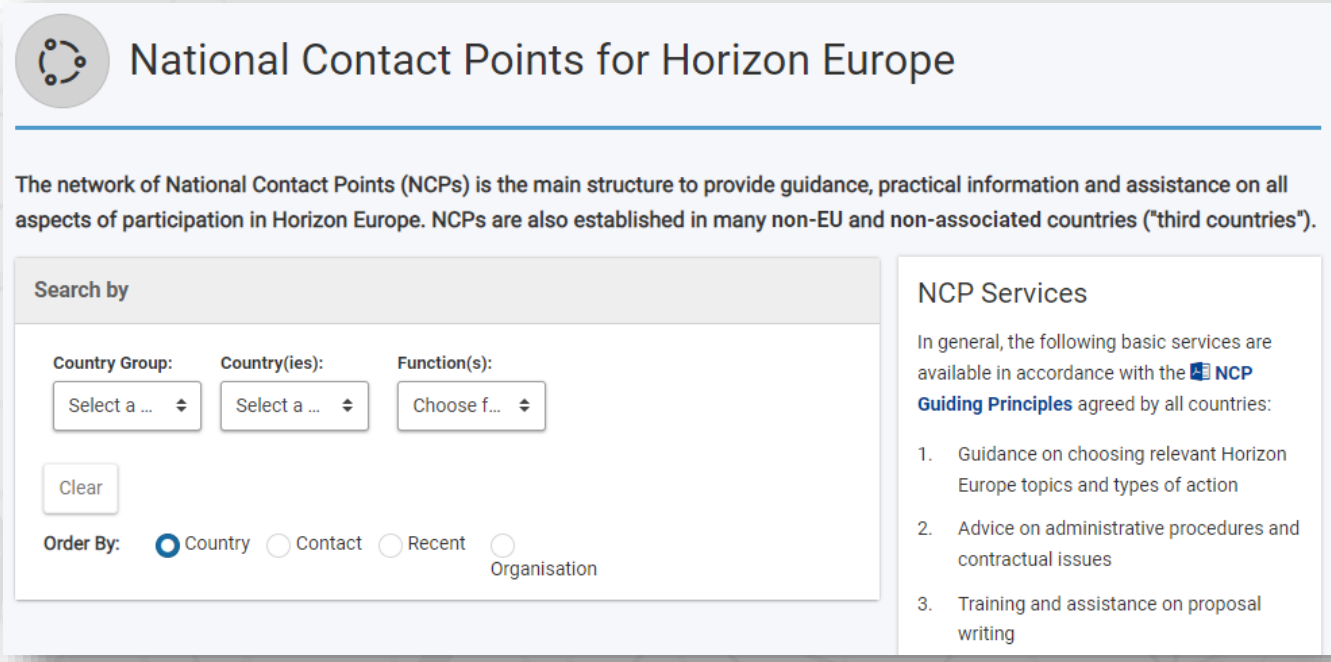
Gender Equality Plan

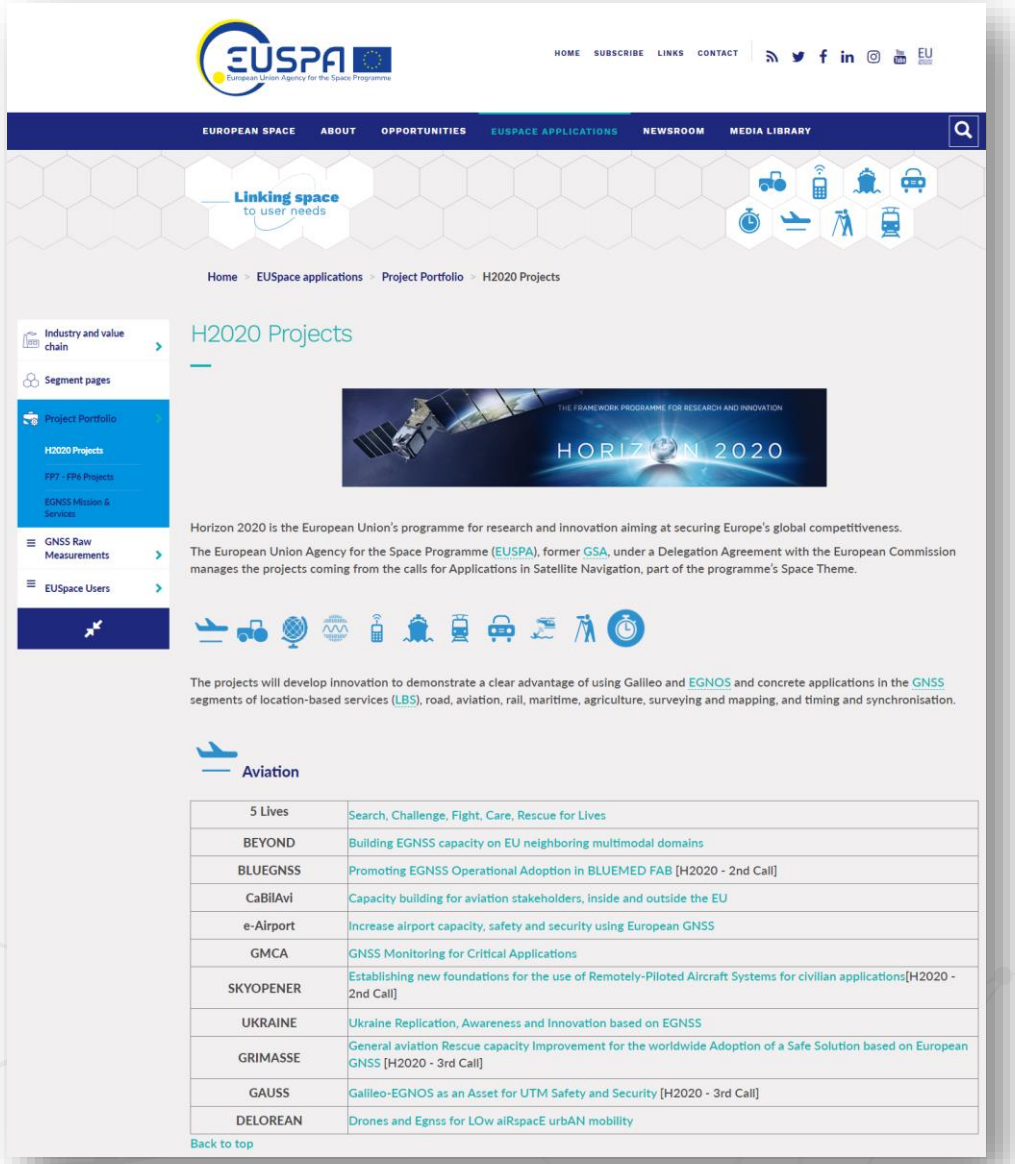
Participants that are public bodies, research organisations or higher education establishments from Members States and Associated countries **must have a gender equality plan**, covering minimum process-related requirements.

- A self-declaration will be requested at proposal stage (for all types of participants).
- Included in the entity validation process (based on self-declaration)

How to find partners







Fundamental Elements 2 - continues the successful work of FE1

New development of receivers, antennas and enabling users technology:

Continue to be **driven by user needs** and **oriented for a commercial use**:
- Priorities on specific segments driven by market needs, consultation with Users, with MS, with Industry/Academia
- Clear-cut from prototype receiver developments needed to leverage new services

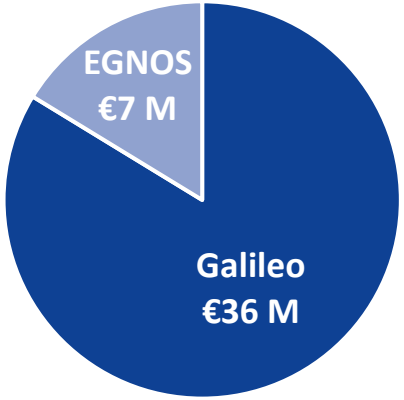
Operational **implementation of current differentiators**:
- E.g. OSNMA and HAS, multi frequency

Prepare for commercial implementation of **new differentiators**:
- Early Warning Service, CAS, ARAIM, …

Develop **emerging, disruptive technologies**:
- E.g. leveraging Machine Learning and Artificial Intelligence

Explore **synergies with other space systems** on user technology:
- E.g. Copernicus, SatCom

Allocated EC budget for FE2
€43* million
2021-2027



* Indicative budget

Connectivity

Fundamental Elements

Objectives

Deadline for submission: 6 October 2023

Up to **4 projects** to be awarded
Maximum budget: **3.0M€**

- Optimisation of Galileo use in connected devices, focusing on innovative concepts using **cloud processing, hybridisation of GNSS with 5G and other dedicated networks** as well as implementation of new Galileo features proposed for low power tracking
- Development of chipsets and receivers as well as hybrid solutions to address specific challenges of **low power tracking in connected devices**

Foreseen results

- **Commercial receiver/terminal** or hybrid solution optimising the **Galileo use in low power tracking use cases**

OSNMA + HAS implementation in Road/Autonomous Vehicles

Fundamental Elements

Up to **2 projects** to be awarded
Maximum budget: **3.0M€**

Currently under preparation for publication

Objectives

- Integration of the **Galileo High Accuracy Service** and the **Galileo OS-NMA**, following the published ICD in the receiver and PVT solution for autonomous vehicles
- **Sensor fusion of the GNSS information**, together with other data to achieve seamless navigation in challenging environments and assessment of the achieved performances
- Definition of performance requirements for the intended operation (automation level 4/5) according to the relevant standards

Foreseen results

- Galileo **OS-NMA** and Galileo **HAS** capable OBU
- Performance assessment against the intended operation level in laboratory and demonstration
- Contribution to relevant standardisation and proposal for evolution

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Linking space to user needs

Get in touch with us

www.euspa.europa.eu

EU4Space | EUSPA | @EU4Space | @space4eu | EUSPA | @EUSPA@social.network.europa.eu

The European Union Agency for the Space Programme is hiring!

Apply today and help shape the future of **#EUSpace!**

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Baltic EUSPA Horizon Europe Info Day

Baltic Success Stories from previous EUSPA Horizon Europe calls

Speaker: Juris Zarins

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European Union Agency for the Space Programme

Introduce your Company/Organization

Type of company/organization: *Public company wholly owned by the Riga Municipality*

Main activity of the company/organization: *Management of Riga city forests and green areas*

Contact Details:

Country: Latvia

Contact person: Juris Zarins

Position/title: Head of forest management planning division

Email: juris.zarins@rigasmezi.lv

Website: www.rigasmezi.lv

Why did you choose to apply?

- To maintain contacts with various research institutions and technology producers
- To offer multi-purpose forest management experience for area research and local experience

Which topic did you choose?

- According to company strategy
- To achieve our digitalisation and process optimisation targets
- To be ahead with innovative forestry planning

How did you get in touch with other participants?

- Everyday networking!!!
- Answer the question - can we do it and is it possible?
- How was the application process for you? - **After defining common goals, the rest is easy!!!**

SWIFTT

Satellites for Wilderness Inspection and Forest Threat Tracking

Funded by the European Union
under Grant Agreement 101082732

Funded by
the European Union

SWIFTT

Satellites for Wilderness Inspection and Forest Threat Tracking

https://swiftt.eu/

Join the community!

@swiftt_project

company/swiftt-project

Funded by the European Union under Grant Agreement 101082732

Funded by the European Union

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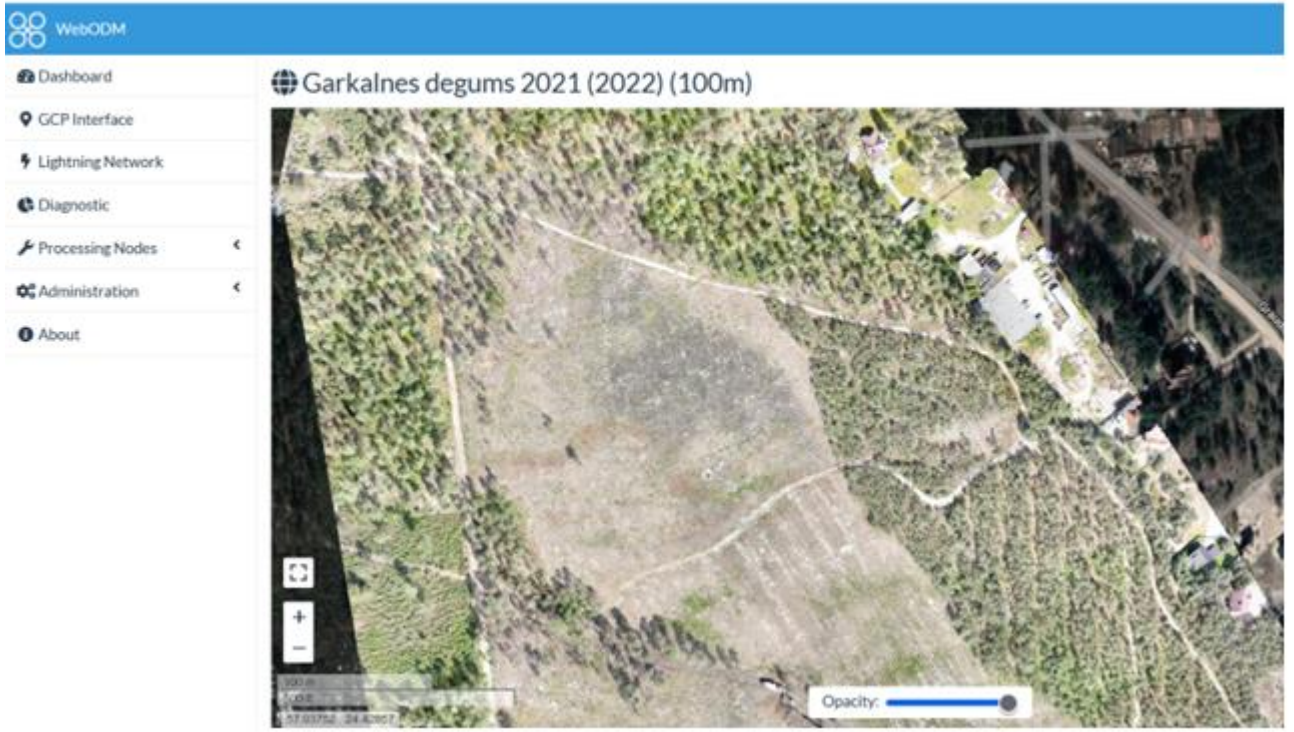
Local knowledge

- Orthophoto RGB and IR imagery
- Lidar data – DTM, CHM
- Drone imagery

Drone survey image of forest fire affected area in 2021



Ideas for networking ;)

- Multipurpose forest management
- Ecosystem services information systems
- Remote sensing and digitization in forestry and park management
- Blue infrastructure and urban heat islands

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Baltic EUSPA Horizon Europe Info Day

Baltic Success Stories from previous EUSPA Horizon Europe calls

Speaker: Tanel Ojalill
Head of Innovation and Research Cooperation,Guardtime

About Guardtime

- FOUNDED: Tallinn, Estonia
- GLOBAL HQ: Lausanne, Switzerland
- PERSONNEL: 120 FTE
- KEY BACKERS: Eric Schmidt (Google), Philippe Amon (SICPA)
- REFERENCE CLIENTS or PARTNERS:
  - Defense: Lockheed Martin
  - Smart City: NEOM
  - Health Care : Estonia Health Foundation
  - Financial: Discover Financial Services
  - Digital Currency: European Central Bank
  - Aerospace: European Space Agency
  - Government: UAE

Guardtime's participation summary

- First Horizon project started in 2017
- 11 Horizon closed project participations
- 7 projects running Horizon projects
- Focus domains: cybersecurity, critical infrastructure protection, space and health
- Our role - technology provider or developer
- Dedicated innovation support team
- List of projects: https://guardtime.com/research

Why we participate

- Advancing Guardtime’s solutions and technologies
- Gathering of domain expertise and references
- Expanding and strengthening Guardtime's position as a technology-driven deep-tech company
- Build the network of strategic partners

Considerations

- Lengthy proposal preparation period
- Time-consuming to find right partners and consortiums
- Low success-rate

How to succeed

- Proactive stance (brokerages, network building, info sharing)
- Clear goals supporting company strategy
- In-house expertise

Thank you!

tanel.ojalill@guardtime.com

Pitching session

- Cybernetica
- Falconers
- GEOMATRIX UAB
- Guardtime
- Eventech (2 speakers)
- NTLAB UAB
- Sensmetry UAB
- Soverio
- University of Tartu
- Standa UAB
- Workshop of Photonics

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Baltic EUSPA Horizon Europe Info Day

Pitching session

Cybernetica AS, Baldur Kubo

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European Union Agency for the Space Programme

CYBERNETICA

Type of company/organization: *Private (public limited company) + evaluated R&D Institute*
Main activity of the company/organization: *25 years of experience in building future-proof technologies that rely on research and development. Cybernetica's expertise ranges from secure data exchange like the X-road (country-wide secure data exchange) to digital identity, i-voting, information security and surveillance systems protecting EU eastern borders. Cybernetica technologies are used in 35 countries all over the world.*

Contact Details:
Country: Estonia
Contact person: Baldur Kubo
Position/title: project manager
Email: baldur.kubo@cyber.ee
Website: https://www.cyber.ee

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CYBERNETICA

Expertise: *Threshold cryptography for digital signing and decryption, Post-quantum cryptography, secure multi-party computation protocols, AI systems with end-to-end security, Synthetic data generation, AI-based network anomaly detection, Finding threats in processes and systems, Legal aspects of privacy technologies*

Cybernetica's R&D projects have been funded by:
European Space Agency, European Defence Fund, European Commission / Horizon Europe
United States Defense Advanced Research Projects Agency, United States Office of Naval Research
Estonian Research Council, Enterprise Estonia

Multinational team of 224 employees including 40+ researchers, 10 PhD-s

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CYBERNETICA

- **EUSPA 3rd call topics *of interest:***
  - Designing space-based downstream applications with international partners
  - EU GOVSATCOM for a safer and more secure EU

Role in the Proposal: *Partner with security design and/or cybersecurity focus.*

Skills and experience*, designing and implementing country scale information systems with high security, privacy and availability requirements.*

Software solutions*: digital identity, interoperability, confidential computing,*

CYBERNETICA

What is a problem *you seek to address within the possible project:*

Security design and/or cybersecurity of the system under development.

Baltic EUSPA Horizon Europe Info Day

Pitching session

Falconers, Martin Simon

Falconers

Type of company/organization: Private

Main activity of the company/organization:

Remote Sensing AI Development Company: Earth Digital Twins & Sensor-AI R&D

Contact Details:

Country: Estonia

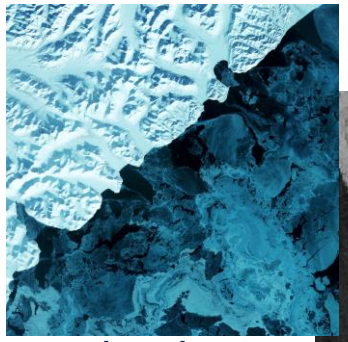
Contact person: Martin Simon

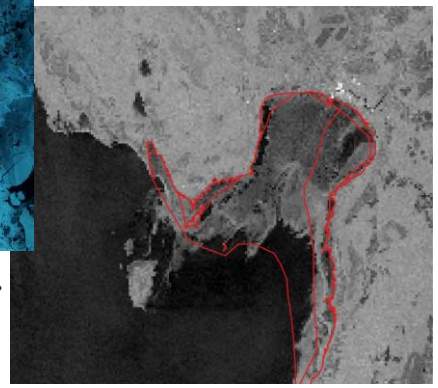
Position/title: CEO

Email: martin.simon@falconers.ee

Website: www.falconers.ee

Falconers

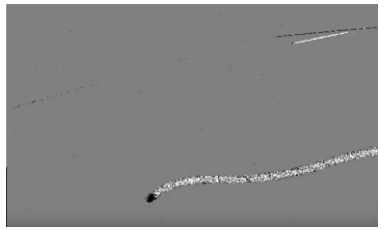




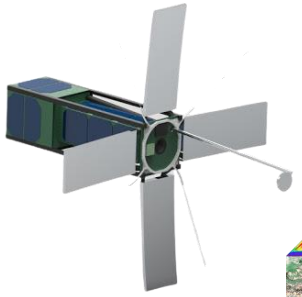
Falconers background:

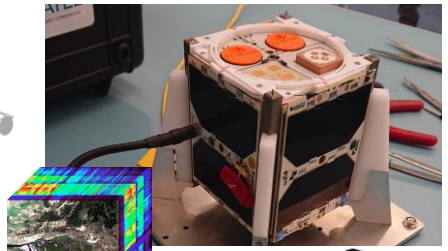
Small team of researchers and engineers specializing in **AI**, **sensor** and **remote sensing** technologies.
EU funded projects related to **Digital Twins** and **Remote Sensing** Technologies.

1. **Remote Sensing Digital Twins:**
   a. ESA BIC project - Earth digitization
   b. Coastal seas digitization



2. **Sensor-AI systems for Edge:**
   a. Optimized Edge systems development
      i. Space and ground
   b. Radar/hyperspectral signal processing
      i. Space and ground





Falconers

Interesting topics:

- Copernicus-based applications for businesses and policy-making (partner)
- EGNSS - Closing the gaps in mature, regulated and long lead markets (partner)

Falconers can bring to the table:

- **Skills:** sensor fusion, data processing structure development, digital twins
- **Alliances:** connections to local end-users and pan-European partners

Falconers

Falconers seeks to contribute to solve the challenges of **data bottlenecks:**

- Sensor data processing,
- Sensor fusion,
- Multi-sensor data collection,
- Digital Twin architecture.

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Baltic EUSPA Horizon Europe Info Day

Pitching session

GEOMATRIX UAB

Dr. Gediminas Vaitkus

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European Union Agency for the Space Programme

Type of company/organization: *Private, SME*

Main activity of the company/organization: *Copernicus DS Service Provider*

Contact Details:

Country: *Lithuania*
Contact person: *Gediminas Vaitkus*
Position/title: *Director*
Email: *gedas.vaitkus@geomatrix.lt*
Website: *geomatrix.lt*

Research/technology/expertise/skills:

✓ *Python software development, EO data integration, automated processing, statistical databases, ML algorithms, etc.*

✓ *Crop mapping, farming intensity, farming risks, natural hazards, crop insurance, green credits, drainage systems, etc.*

Experience in EU R&I projects:

- *GMES Initial Operations (Land), EU-Hydro, FP7 (LAMPRE), H2020 (SAGRIS, PARSEC), ESA PECS projects (CAPCON, COSFARM)*

Discuss/present the Team:

- *10 GIS/Python/ML/DB professionals: all University graduates, 2 – DrSci*
- *Researchers, GIS professionals, Python/SQL developers, ML algorithm designers*

List the* EUSPA 3rd call topics *that are of your interest:

✓*Copernicus-based applications for businesses and policy-making*

✓*Designing space-based downstream applications with international partners*

Role in the Proposal: *Partner*

In the case of Partner*, include any complementary skills and value that your organization brings to the consortium:*

- *Deep-Tech company built on Open Source platform*
- *Unique Copernicus innovations and commercial downstream services targeting domestic and EU markets (**CAPCON**, **COSFARM**)*
- ***SAGRIS** parallel processing toolbox deployed on local computing cluster and holding large archive of analysis-ready SAR data*

GEOMATRIX UAB
Extreme GEO-computing

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What is a problem:

Climate change with natural hazards threaten food security and sustainability of rural communities

Scope of possible project:

Copernicus DS services for farming risks assessment, crop insurance, green credits, efficient drainage systems, smart farming solutions, etc.

Country	Area (km²)	Radar images*	Period	Months
Albania	28,655	812	2022-2023	03-07
Austria	83,945	1314	2022-2023	03-07
Belarus	207,722	1636	2022-2023	03-07
Belgium	30,651	972	2022-2023	03-07
Bosnia Herz.	51,527	1036	2022-2023	03-07
Bulgaria	111,023	1538	2022-2023	03-07
Croatia	55,889	1682	2022-2023	03-07
Czech Rep.	78,755	1478	2022-2023	03-07
Denmark	42,710	15762	2016-2023	03-10
Estonia	45,932	11114	2016-2023	03-10
Finland	335,280	4430	2022-2023	04-07
France	548,056	5048	2022-2023	03-07
Germany	357,218	33798	2016-2023	03-10
Greece	131,960	3064	2022-2023	03-07
Hungary	92,995	1510	2022-2023	03-07
Ireland	69,638	1374	2022-2023	03-07
Italy	301,149	4566	2022-2023	03-07
Kosovo	10,887	556	2022-2023	03-07
Latvia	64,643	14034	2016-2023	03-10
Lithuania	65,010	12902	2016-2023	01-11
Luxembourg	2,581	396	2022-2023	03-07
Moldova	33,688	1000	2022-2023	03-07
Montenegro	13,760	890	2022-2023	03-07
Netherlands	35,546	1172	2022-2023	03-07
N. Macedonia	25,462	828	2022-2023	03-07
Norway	320,884	5778	2022-2023	04-07
Poland	311,669	29386	2016-2023	03-10
Portugal	88,567	1314	2022-2023	03-07
Romania	237,377	2156	2022-2023	03-07
Serbia	77,474	1428	2022-2023	03-07
Slovakia	48,927	960	2022-2023	03-07
Slovenia	20,421	684	2022-2023	03-07
Spain	493,501	4008	2022-2023	03-07
Sweden	446,028	5334	2022-2023	04-07
Switzerland	40,764	1046	2022-2023	03-07
Turkey	780,005	5326	2022-2023	03-07
UK	244,349	4094	2022-2023	03-07
Ukraine	597,505	4596	2022-2023	03-07

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Pitching session

Speaker: **Priit Anton** – Program manager, Guardtime

EUSPA
European Union Agency for the Space Programme

guardtime

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Type of company/organization: *Private*

Main activity of the company/organization: *Trust, traceability and monetization of data by tokenizing the digital assets to the needs of market and services.*

Contact Details:

Country: Estonia
Contact person: Priit Anton
Position/title: Program manager
Email: priit.anton@guardtime.com
Website: https:/guardtime.com

guardtime

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Introduction of the technology *of your company.*
We own a technology stack, that enables massive scale data tokenization and security features for building services that benefit from decentralization, revolutionary business models and zero trust security model.
For example, building a traceability system that exploits blockchain technology and supplemented its records with verified information of position and time based on Galileo OSNMA.

Outline any experience *in EU R&I projects or other. 11 Horizon projects, 6 ESA projects, 1 EUSPA project.*

Discuss/present the Team
8 persons in Innovation and business to build solutions in space sector using Guardtime's core technology. Supported by 50+ engineers&developers that are focusing on building solutions for end-users.

guardtime

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List the* EUSPA 3rd call topics *that are of your interest (see the list of topics in the next slide): EGNSS - Transition toward a green, smart and more secure post-pandemic society

Role in the Proposal: *Technology provider in partnership with auditing, dispute management, risk assessment related entities and service providers.*

In the case of Coordinator*, include any already existing partnerships.*
Who can make the use of secure EGNOS GNSS signal for customer applications.

guardtime

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What is a problem *you seek to address within the possible project:*

Enable trust for the on-site data collection with secure and cyber-resilient positioning data.

Combining Galileo OSNMA and blockchain technology together in end-user handheld device that enables a location-based service and space data aggregation for the automated certification in auditing, resource management (incl. CAP) and smart farming.

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Baltic EUSPA Horizon Europe Info Day

Pitching session

Eventech, Arturs Aboltins

EUSPA
European Union Agency for the Space Programme

Type of company/organization: Private, SME

Main activity of the company/organization:

- **Products**
  - Event timer A033-ET, to be replaced by
  - Eventech Stream Time Tagger ESTT 7 Series with 1.5 ps precision
  - Space Timing Module with down to 5 ps precision
- **Services:**
  - On-demand Engineering

Contact Details:
Country: Latvia
Contact person: Pavels Razmajevs
Position/title: COO
Email: p.razmajevs@eventechsite.com
Website: https://eventechsite.com

EUSPA 3rd call topics of Interest:

- **EU GOVSATCOM for a safer and more secure EU**

Role in the Proposal:

- Coordinator or Partner. Essential presence of space communication sector.

In the case of Coordinator

- interested in partnership with vendor of free space optical (FSO) communications (LaserCom) equipment, satellite communications. Have cooperation with ESA, The Paradigm Factor (UK), CEA (France), EFACEC, (Portugal).

In the case of Partner, our main competences are

- Data Acquisition, Time Tagging – picosecond precise, repeatable and extremely reliable
- Time-to-digital conversion (TDC) & Digital-to-time conversion (DTC),
- Integrated space sensing and communications (high-rate & low-power)
- Space-qualified hardware
- Photon-counting

What is a problem:

Deep Space Communications require extremely large power Laser Links (2kW peak power).

Eventech modem employs Pulse Position Modulation (PPM) with extremely short pulses (50-100ps) which allows achieving unpreceded energy saving compared to OOK, considering very low duty cycle (0.001 and less).

PPM communication can be integrated with sensing, therefore providing option for simultaneous ranging and data transfer.

PPM link can achieve up to 1Gbps thanks to:

- High accuracy modulation and demodulation (50 ps per position)
- High order of modulation (512-2048 positions)
- Hybrid PPM-PWM modulation

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Pitching session

Eventech, Arturs Aboltins

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Pitching session

Eventech

Adam Adamovitch

Type of Company: Private, SME

Main activity of the company/organization:

- **Products**
  - Event timer **A033-ET**, to be replaced by
  - Eventech Stream Time Tagger **ESTT 7 Series**
    with 1.5 ps precision
  - Space Timing Module
    with down to 5 ps precision
- **Services:**
  - On-demand Engineering

Contact Details:
Country: Latvia
Contact person: Adam Adamovitch
Position/title: Business Development Manager
Email: p.razmajevs@eventechsite.com
Website: https://eventechsite.com

Expertise, skills & research:

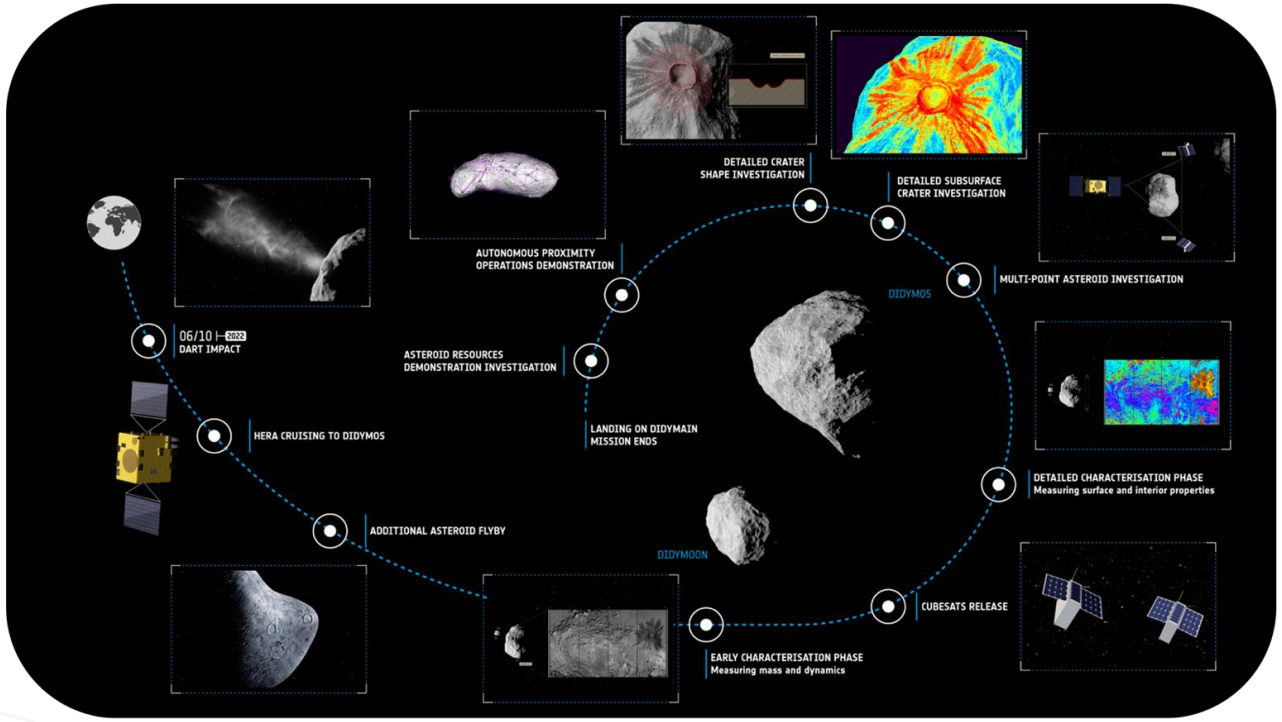
- Development & manufacturing of proprietary timing products and complex signal processing systems
- 40+ Years of Technology Heritage
- > 50 % of world SLR stations equipped with our products, recommended by NASA ILRS
- 1.5 ps Terrestrial precision
- 5-7 ps Space precision
- Multiple Space R&D contracts with ESA - European Space Agency
- Recommended by NASA ILRS

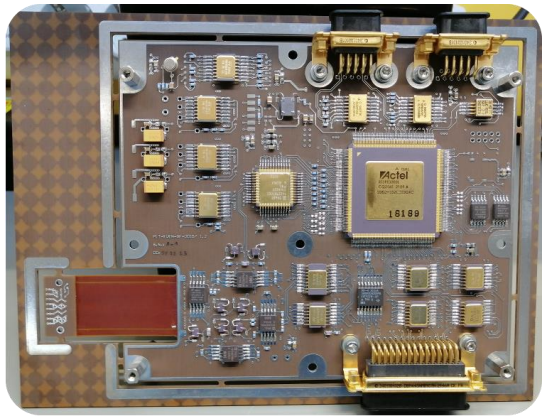
Notable mentions:

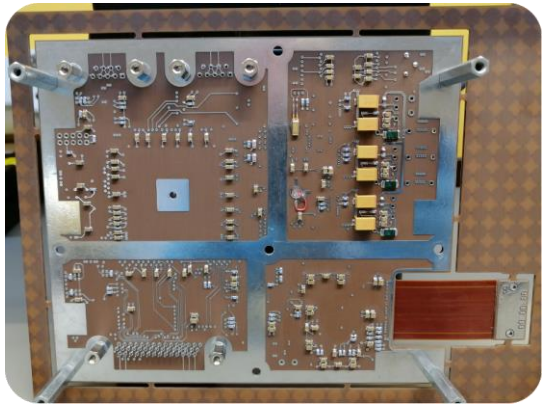
- Participation in **HERA MISSION**:
  - Space Timing Module development for the PALT (Planetary Altimeter) Instrument – EFACEC as main contractor
- Started development of the Quantum Time Tagger with Large System Integrator

HERA MISSION

Flight hardware is **ASSEMBLED** and is currently **BEING TESTED**







NEXT STEPS:

- Engineering Qualification Model (EQM) and Flight Model (FM) Tests
- EQM and FM Delivery Review Board
- Integration (by OHB)
- Fly to Asteroid

CERTIFICATE OF ACKNOWLEDGEMENT

Signed by the Prime Minister of Latvia

EUSPA 3rd call topics of Interest:

- **EU GOVSATCOM for a safer and more secure EU**
- **Designing space-based downstream applications with international partners**
- **Copernicus-based applications for businesses and policy-making**
- open for discussion for other topics

Role in the Proposal:

- Coordinator or Partner

In the case of Coordinator

- interested in partnership in following areas: Space/Terrestrial LiDAR (Debris/weather), Altimetry, Time transfer and synchronization, Data transfer (QKD, QC), Inter-Satellite optical communications, Deep space optical communications

In the case of Partner, our main competences are

- Data Acquisition, Time Tagging – picosecond precise, repeatable and extremely reliable
- Time-to-digital conversion (TDC) & Digital-to-time conversion (DTC),
- High-rate & Low-power Consumption Systems for Telecommunication,
- Photon-counting

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THANK YOU

Contact Us:

Adam Adamovitch
Business Development Manager
Eventech

a.adamovitch@eventechsite.com
https://eventechsite.com

Baltic EUSPA Horizon Europe Info Day

Pitching session

European Union Agency for the Space Programme

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Baltic EUSPA Horizon Europe Info Day

Pitching session

NTLAB UAB/ Vladimir Kotov

EUSPA
European Union Agency for the Space Programme

Type of company: Private

Main activity of the company: The company designs ***ASICs*** *and* ***modules*** in areas such as:

- ***Satellite navigation*** (ASICs for GNSS receivers, modules, MEMS-IMU navigation systems)***;***
- ***Radio Frequency Identification*** (ASICs for biometric passports, RFID chips, NFC ASIC)***;***
- ***Digital TV*** (ASICs for DVB-T/H/S receivers)***;***
- ***Communication systems*** (analogue and digital transmitters ASICs from 27 MHz to 3 GHz)***;***
- ***Automotive electronics*** (ASICs, Tachometer, GPS/GLONASS+DTV combined receiver board)***.***

Contact Details:

Country: Lithuania
Contact person: Vladimir Kotov
Position/title: European Project Manager
Email: vladimir.kotov@ntlab.lt
Website: ntlab.lt

Research & technology skills:

The company has ***IC design, PCB design, test, software and hardware design*** departments and NTLAB implements ICs projects with evaluation kits, development boards and reference designs.

NTLAB is capable of developing ***electronic modules and complete systems*** (including software, mechanical design, user documentation, etc.) ***based on ASICs***.

Experience *in EU R&I projects:*

Successfully participated on the project "Development of Special Navigation Modules on the base of Highly Integrated Chipsets" (***project N J05-LVPA-K-03-0128***), co-financed by state grant from EU funds.

***List of the* EUSPA 3rd *call topics*:**

- EGNSS - Transition toward a green, smart and more secure post-pandemic society
- EGNSS - Closing the gaps in mature, regulated and long lead markets
- Copernicus-based applications for businesses and policy-making
- Designing space-based downstream applications with international partners

Role in the Proposal: *Partner*

NTLab responsibility in a project is a technical part – from specification to implementation, including manufacturing of ASICs, PCBs and device (equipment).

Today improving the probability of receiving SIS signals, their security and reliability are a key challenge for GNSS signal positioning in green, smart and more secure post-pandemic society, for closing the gaps in mature, regulated and long lead market, for space-based downstream applications etc.

The meet this challenge, a next generation of On-Board-Units is required:

- with support two operating modes: one for normal operation, other for interference (jamming and spoofing) conditions;
- with support OSNMA, HAS and other EGNSS services.

NTLab has large experience and all the necessary resources to carry out the technical part of the project to create On-Board-Unit with High Accuracy RTK/PPP GNSS modules and Anti-Jamming triple band GNSS receivers with up to 8 channels, including manufacturing of ASICs (with OSNMA and HAS support at hardware level), PCBs and device/equipment.

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Baltic EUSPA Horizon Europe Info Day

Pitching session

Sensmetry UAB, Arunas Berzinskas

EUSPA
European Union Agency for the Space Programme

SENSmetry

Type of company/organization: Private

Main activity of the company/organization: development of Autonomous Systems for safety- and mission- critical cyber-physical contexts.

Contact Details:

Country: Lithuania
Contact person: Arunas Berzinskas
Position/title: Institutional Affairs Manager
Email: arunas.berzinskas@sensmetry.com
Website: www.sensmetry.com

SENSmetry

Sensmetry is an R&D company specializing in the development of Autonomous Systems for safety- and mission- critical cyber-physical contexts. Sensmetry team's expertise covers provision of services to a wide range of business domains with a primary focus on the space industry.

Company has experience only in national funding programmes, however, we have experienced Horizon 2020/Europe project coordinator and former FP7/H2020 NCP in our team.

The company was founded by researchers from the best universities in the world (Cambridge, Oxford, Upsalla) with extensive industrial experience in order to boost innovation in the private and public sectors by bridging the gap between the latest research achievements and practical applications.

SENSmetry

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***What is a problem** you seek to address within the possible project:*

- Designing space-based downstream applications with international partners – **Partner**
    - Designing a platform for Big Data from Space
- EU GOVSATCOM for a safer and more secure EU – **Partner**
    - Assuring safety and resilience of GOVSATCOM system

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Baltic EUSPA Horizon Europe Info Day

Pitching session

soverio (Identity Lab, UAB), Audrius Ramoška

EUSPA
European Union Agency for the Space Programme

Type of company/organization: *Private, Legal entity name „Identity Lab, UAB”*

Main activity of the company/organization:

Soverio is a software development company created to improve our client's online business security, support digital transformations, and boost operational efficiency with the help of innovative ***digital identity technologies*** *suitable for a traditional business, as well as Web3 and Metaverse.*

Contact Details:

Country: Lithuania
Contact person: Audrius Ramoška
Position/title: CEO
Email: audrius@soverio.com
Website: https://soverio.com

***Explain the research/technology/expertise/skills** of your company/organization.*

Our work is related to the new, innovative Decentralized Identifiers (DIDs) and Verifiable Credentials (VC) specifications. Blockchain, Digital Ledger Technologies, and Digital Identity.

***Outline any experience** in EU R&I projects or other.*

Experience in EU-wide significant (82 organizations, 22 countries) projects, 20+ years of international experience in project management. Experience in international and multicultural working environments.

Discuss/present the Team

The company's shareholders already have experience in running their own successful business. The pool of available resources is more than 50 IT professionals. All leaders are senior IT professionals.

List the* EUSPA 3rd call topics *that are of your interest (see the list of topics in the next slide):

Role in the Proposal: *Partner*

In the case of Partner: *Software architecture creation and development experience. Solutions research activities. Multi-year international experience in project delivery.*

List of the EUSPA 3rd call topics:

- EGNSS - Transition toward a green, smart and **more secure** post-pandemic society
- Designing space-based downstream applications with international partners
- EU GOVSATCOM for a **safer and more secure** EU

What is a problem *you seek to address within the possible project:*

Cyber security
Trusted data exchange
End-to-end data exchange encryption
Digital identity for humans and things (IoT)

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Pitching session

Space Technology Department,
Tartu Observatory, University of Tartu
Dr. **Mihkel Pajusalu** (Assoc. Professor and Department Head)

EUSPA
European Union Agency for the Space Programme

UNIVERSITY OF TARTU
Tartu Observatory

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Type of company/organization: *Public*

Main activity of the company/organization:
Education, science, and R&D in the field of space technology

Contact Details:
Country: Estonia
Contact person: ***Mihkel Pajusalu*** *(can also be contacted for reaching other parts of UT)*
Position/title: Head of Space Technology Dept. and Assoc. Professor in Space Technology
Email: ***mihkel.pajusalu@ut.ee***
Website: ***kosmos.ut.ee****/en/space-technology and* ***tospexgroup.space***

UNIVERSITY OF TARTU
Tartu Observatory

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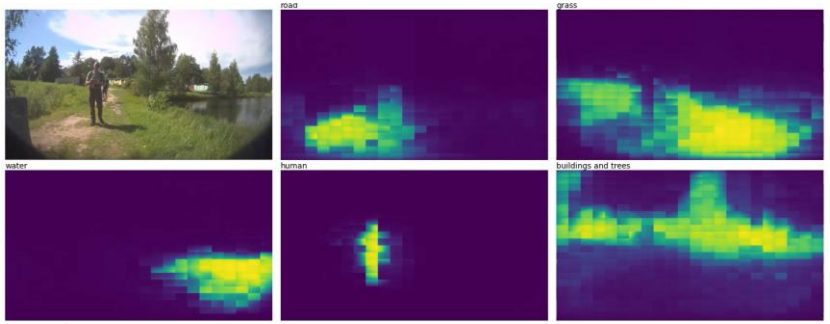
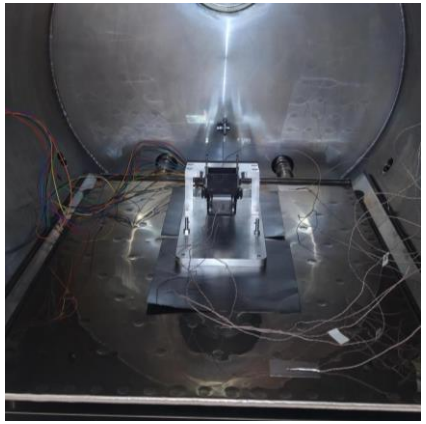
The main expertise is designing, developing, testing and qualifying space instrumentation and implementing space technology for terrestrial applications both for academia and industry

SpaceTech department has been a part of several ESA projects:
Developing OPIC instrument (lead institution) for ESA F-class mission Comet Interceptor (ESA PRODEX)
Main development of ESTCube-1 and ESTCube-2 satellites (launched under ESA and EC contracts)
Smaller ESA EXPRO and OSIP contracts regarding Lunar mission planning tools (with Milrem Robotics), machine learning on FPGAs, EO imagers

SpaceTech department has 36 employees, ~ 10 PhD students, many BSc and MSc students (during ESTCube program around 300 students involved alone)

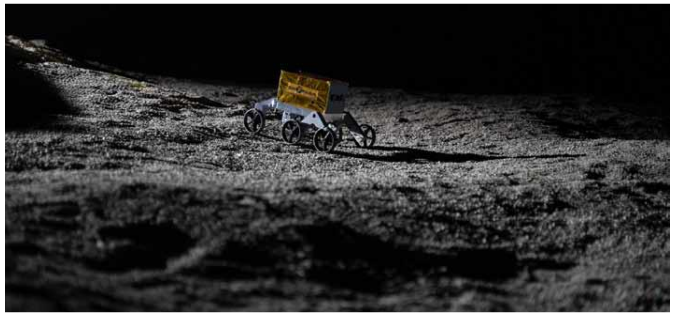


AI and testing areas for robotics

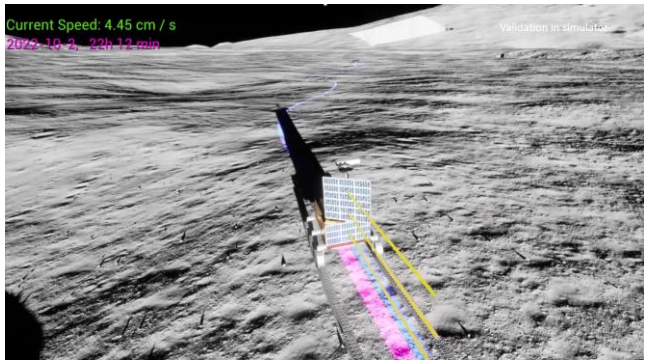


Space instrument development, testing and validation

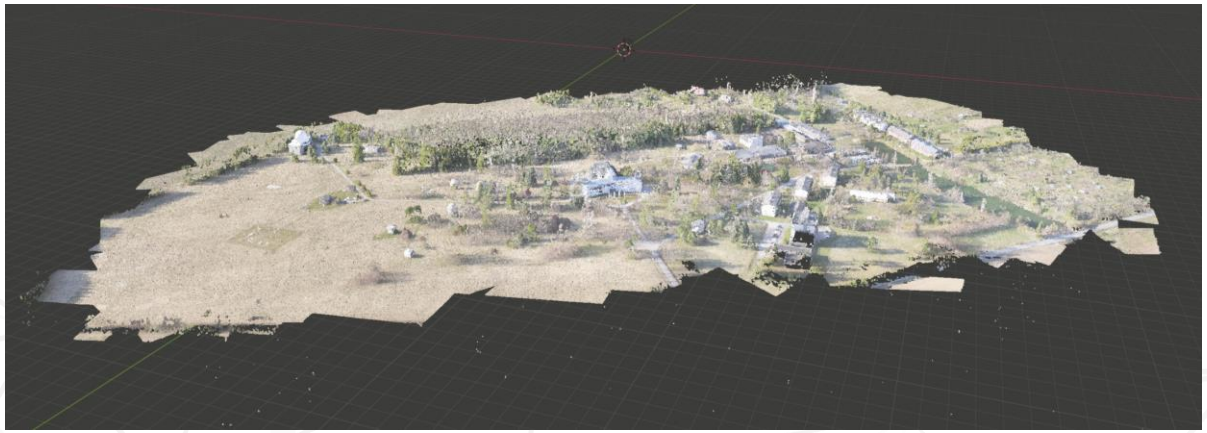
Autonomous industrial & defence robotics



Planetary rovers



Simulators



Mapping and using maps for robotics

UNIVERSITY OF TARTU
Tartu Observatory
1632

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We are mainly interested in being a partner, helping with space and terrestrial technology development and validation (both hardware and software):

Main topics of interest (open to more):

EGNSS - Closing the gaps in mature, regulated and long lead markets

- Have been working on GNSS applications for autonomous robotics

Copernicus-based applications for businesses and policy-making

- European based system for terrain characterization and security

Designing space-based downstream applications with international partners

- Use of space data and localization in robotics and autonomy

EU GOVSATCOM for a safer and more secure EU

- (Defence) robotics related use of GOVSATCOM

Baltic EUSPA Horizon Europe Info Day

Pitching session

Standa, UAB / Vytautas Rafanavicius

Type of company: *Private*

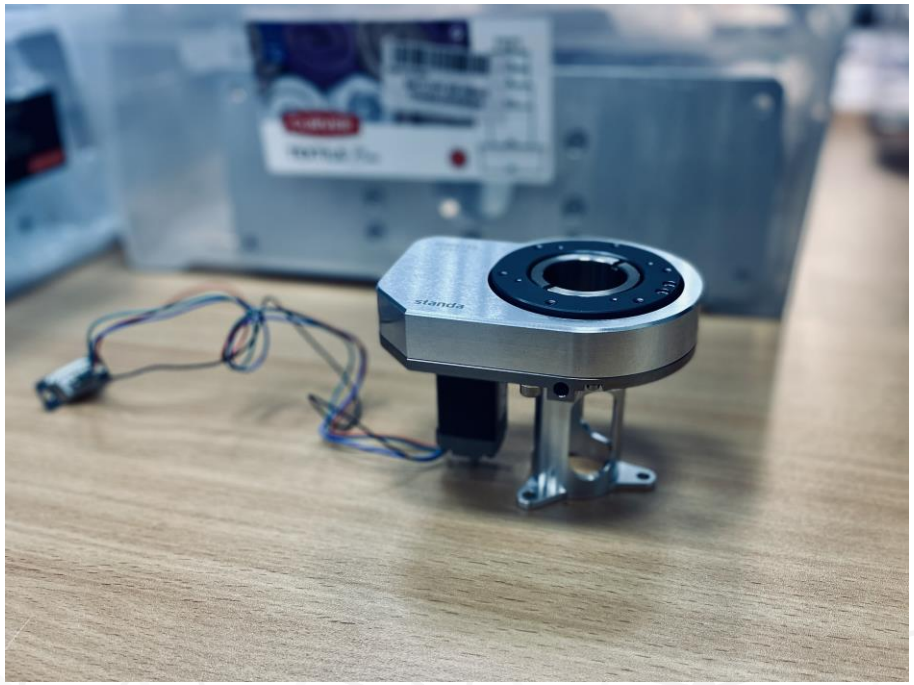
Main activity of the company/organization:
We house an integrated industrial facility and design team, excelling in mechanical engineering and optomechanical solutions, components, motion control devices and diode pumped lasers for on-ground and space applications. >190 Employees; >20M EUR Revenue;

Contact Details:
Country: *Lithuania*
Contact person: *Artur Piscalov*
Position/title: *Product Manager*
Email: *kom15@standa.lt*
Website: *www.standa.lt*

Space Related Projects and Expertise

ESA PECS5 – Motorized Positioning Device for Space (MPD4S)

ESA PECS6 – Motorized Positioning Device for Space – Rotator (MPD4S-R1)



- Opto-mechanical product development
- Cryogenic and Vacuum Applications
- Predictive maintenance
- Motion control

Role in the Proposal: *Partner*

Any **EUSPA 3rd call topic where our expertise would be relevant**

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Pitching session

Workshop of Photonics, Antanas Urbas

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European Union Agency for the Space Programme

WORKSHOP OF PHOTONICS

Type of company/organization: *Private company*

Main activity of the company/organization: *Laser micro fabrication*

Contact Details:

Country: *Lithuania*
Contact person: *Antanas Urbas*
Position/title: *Chief Scientist*
Email: *antanas.urbas@wophotonics.com*
Website: *https://wophotonics.com*

WORKSHOP OF PHOTONICS

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We are among the top femtosecond laser micromachining providers for industry and science customers around the globe.

Today, we participate as partners in 2 Horizon Europe projects, and previously had one project with ESA

***WOP** means ~60 highly skilled researchers, designers and engineers ready to provide research services, small scale production and laser workstations of custom design*

EUSPA calls we believe we have to bring something in:

- Designing space-based downstream applications with international partners
- EU GOVSATCOM for a safer and more secure EU

***Role: Partner**, bringing deep expertise in laser micro fabrication of glass, sapphire, ceramics for space purposes.*

What is a problem *you seek to address within the possible project:*

Material fatigue of metals in harsh environment that can be reduced by using less wearable materials like glass, silica, sapphire etc.

Vilnius Space Days

Eigirdas Sarkanas (Space Hub Lithuania)

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THANK YOU FOR YOUR ATTENTION!

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