Latvian R&I Partner Catalogue 2026 (Digital Thematic Area)



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Introduction

Latvian Research & Innovation Partner Catalogue 2026

Finding the right partner can determine whether a promising project idea becomes a strong, fundable consortium. This catalogue is designed to make Latvian expertise easy to find - both for consortium coordinators seeking specific expertise and for Latvian teams looking to join international projects.

Created and published by the Latvian Horizon Europe National Contact Point at the Latvian Council of Science, the catalogue brings together the expertise, capabilities, research infrastructure and project experience of Latvian research and innovation organisations in a single, comparable format. It enables potential partners to quickly understand what each team can contribute and how to get in touch.

What you will find here

The document contains 53 profiles of Latvian research and innovation teams interested in **Pillar II Cluster 4 "Digital, Industry and Space"**.

Each profile represents a team rather than an entire institution. Several teams from the same organisation may therefore appear separately, each with its own expertise, infrastructure and collaboration interests.

How to use the catalogue

Each team has one page. The profile describes what the team can contribute to an international consortium, highlights selected projects and the team's roles in them, presents research infrastructure available to a consortium, and outlines the expertise it seeks in potential partners.

The sidebar provides key information at a glance: the contact person, core team, technology readiness level, Horizon Europe experience, the roles the team can take on, and the types of partners it is seeking. The table at the foot of each page shows the Horizon Europe programme parts of interest to the team, with its selections highlighted in bold.

Get in touch

All information in the catalogue has been provided by the participating organisations and reflects their submissions as of October 2026. Contact details are included so that you can approach teams directly and explore opportunities for collaboration.

Profiles in this catalogue

53 Latvian research and innovation teams, in the order in which they appear in the catalogue. Click a name to jump to its profile.

Institute of Electronics and Computer Science (EDI) Research institute
LMT Large enterprise
Tet Large enterprise
University of Latvia - Institute of Solid State Physics, Thin Films Laboratory Research institute
Vidzeme University of Applied Sciences - Digital Health and XR University
Institute for Environmental Solutions Research institute
AS Sadales tīkls Large enterprise
Baltic Photonics Large enterprise
Baltic Satellite Service SME
Daugavpils University - Society "Park of Intellect" NGO
Digital Accelerator of Latvia NGO
dots. (WeAreDots) SME
EKA University of Applied Sciences University
GroGlass Large enterprise
InnoMatrix Research infrastructure
Institute of Economics of the Latvian Academy of Sciences Research institute
Latvia University of Life Sciences and Technologies - Business Incubator University
Latvia University of Life Sciences and Technologies - digiMEI University
Latvia University of Life Sciences and Technologies - Precision Agriculture and Beekeeping University
Latvian Environment, Geology and Meteorology Centre - Data Systems and AI Large enterprise
Latvian Environment, Geology and Meteorology Centre - Digital Environmental Services Large enterprise
Latvian Environment, Geology and Meteorology Centre - Meteorology and Climate Services Other
Latvian State Radio and Television Centre (LVRTC) Large enterprise
Linearis SME
Logics Research Centre SIA SME
National Institute of Research and Innovation - Biotic Interaction Research Group Research institute
National Institute of Research and Innovation - Cancer Gene Therapy Group Research institute
Rīga Stradiņš University - Extended Reality in Rehabilitation University
Rīga Stradiņš University - Feminist Investigations research group University
Rīga Stradiņš University - Integrative Bioinformatics Group University
Riga Technical University - Antibacterial Biomaterials and Hydrogels University
Riga Technical University - Faculty of Civil and Mechanical Engineering University
Riga Technical University - High Performance Materials and Structures University
Riga Technical University - Industrial and Power Electronics University
Riga Technical University - Innovation and Technology Transfer University
Riga Technical University - Personal Protective Equipment Laboratory (PPELab) University
Riga Technical University - Surface and Biomaterial Spectroscopy University
Sprayify SME
Stratex SME
Transport and Telecommunication Institute (TSI) University
University of Latvia - Center for Sustainable Chemistry University
University of Latvia - Centre for European and Transition Studies University
University of Latvia - Institute of Atomic Physics and Spectroscopy Research institute
University of Latvia - Institute of Numerical Modelling University
University of Latvia - Institute of Numerical Modelling (INM) Research institute
University of Latvia - Institute of Solid State Physics (Theory Laboratory) Research institute
University of Latvia - Institute of Solid State Physics - Energy Materials Research institute
University of Latvia - Institute of Solid State Physics - Ferroelectrics Research institute
University of Latvia - Institute of Solid State Physics - Thin Films and Photonics University
University of Latvia - Spectroscopy and Light Source Technology Laboratory University
University of Latvia - Thermoacoustics research group University
Vidzeme University of Applied Sciences - AI in Education University
Vidzeme University of Applied Sciences - ViA VR-Lab University

Institute of Electronics and Computer Science (EDI)

RESEARCH INSTITUTE · RIGA, LATVIA · EDI.LV



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CORE TEAM

- **Modris Greitāns** - signal processing, institute director
- **Rihards Novickis** - embedded systems
- **Jānis Judvaitis** - IoT and testbeds
- **Kaspars Sudars** - AI and data analytics

KEYWORDS

CCAM · Robotics · Embedded Systems · Smart Sensors/Systems · Energy Modelling · Grid Resilience · Energy Communities

DOMAINS OF APPLICATION

Healthcare · Medical Technologies · Energy · Smart Grids · Manufacturing · Transport & Mobility · Defence

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Funded as a project coordinator · Submitted as a project coordinator · Submitted as a project partner

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation · Living labs

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals · NGOs

WHAT WE CONTRIBUTE

Established in 1960, EDI is Latvia's leading research institute in smart embedded cooperative systems. Its mission is to perceive the world and design a better future by creating new knowledge, developing innovative technologies and demonstrating their practical value in real-life applications.

- **Embedded & cyber-physical systems -** smart sensors, IoT, edge computing, wireless communication, power electronics.
- **Perception & robotics -** advanced perception, cooperative radar, computer vision, CCAM, robotics and automation.
- **AI & machine learning -** federated learning, AI on edge devices, data-driven analytics for industry and mobility.
- **Energy systems -** energy modelling, grid resilience, energy communities, digitalised power electronics.

SELECTED PROJECTS

MOSAIC - essential electronic components and systems for an automated digital future

Horizon Europe Chips JU · partner

Develops cooperative radar perception architecture, identifying functional subsystems for efficient visual information processing and remote data acquisition.

AIMS5.0 - AI for sustainable manufacturing

Horizon Europe Chips JU · WP lead

Develops a modular, reconfigurable AI-based robotic system automating conveyor feeding of randomly distributed bottles of different size, weight and type.

PowerizeD - digitalised and intelligent power electronics

Horizon Europe Chips JU · use case lead

Develops federated learning algorithms and concepts for running AI on edge devices, improving performance from combined learning while preserving privacy.

RESEARCH INFRASTRUCTURE & FACILITIES

Laboratories and demonstration environments for embedded systems, robotics, perception and energy research; the full inventory is published at edi.lv/en/available-infrastructure.

EXPERTISE WE ARE LOOKING FOR

Strong consortia and coordinators preparing proposals who need a trusted R&D partner with an excellent reputation, responsible project implementation and a track record of delivering high-quality inputs on time.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

LMT

LARGE ENTERPRISE · RIGA, LATVIA · LMT.LV



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CORE TEAM

- **Krišjānis Nesenbergs** - cybersecurity
- **Armands Meirāns** - defence
- **Mārtiņš Zeps** - AI
- **Kristaps Bergfelds** - sensors

KEYWORDS

5G/6G networks · Non-terrestrial networks (NTN) · Satellite connectivity · Cybersecurity · Cyber-physical testing · Post-quantum cryptography · Autonomous systems (UAS/UGV)

DOMAINS OF APPLICATION

Healthcare · Medical Technologies · Energy · Transport & Mobility · Defence · Digital Technologies · Artificial Intelligence

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Funded as a project coordinator

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Pilot implementation · Living labs

Seeks partners among: Universities · Large industry · Public authorities · Research infrastructures

WHAT WE CONTRIBUTE

Expertise in 4G/5G/6G and satellite connectivity, cybersecurity, autonomous systems integration and IoT sensor networks, applied through field trials, prototypes and demonstrations in live networks. LMT has taken part in 25 international projects since 2019, as partner and coordinator, and works alongside major defence and telecom primes.

- **Mobile networks -** 4G/5G/6G integration and testing, private 5G networks and satellite or non-terrestrial connectivity.
- **Cybersecurity -** security research and cyber-physical testing, including cyber-threat prediction tools and AI-based security mechanisms.
- **Autonomous systems -** integration of unmanned aerial and ground systems (UAS/UGV) with tactical communications.
- **IoT & sensors -** IoT sensor networks and connectivity prototypes.

SELECTED PROJECTS

VANTAGE - Vertical Autonomous Next-generation Tactical Aerial European drone

European Defence Fund (EDF) · consortium coordinator

Leads an 8-partner consortium across 6 countries developing a next-generation tactical unmanned aerial system, responsible for overall project management and partner coordination.

iMUGS2 - Integrated Modular Unmanned Ground System 2

European Defence Fund (EDF) · work package leader

Within a 29-partner consortium, leads the work package on 4G/5G tactical communications and control systems for combat-ready unmanned ground vehicles.

AUGMENTED CCAM - infrastructure for connected, cooperative and automated mobility

Horizon Europe · technical partner

In a 26-partner project across 13 countries, researched and tested 5G-based positioning services as an alternative to satellite (GNSS) positioning, together with Ericsson.

RESEARCH INFRASTRUCTURE & FACILITIES

Live 5G test environments: operational 5G networks for controlled trials, used to host NATO's Digital Backbone eXperimentation (DiBaX) exercises and 5G COMPAD defence communications demonstrations in Riga. Hybrid private 5G networks in real outdoor environments, defence and security test range access, drone and unmanned systems testing, and IoT and satellite connectivity prototypes. Facilities are made available to consortium partners for joint testing, validation and demonstration.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, defence and security agencies, SMEs and technology providers with expertise in AI and machine learning, post-quantum cryptography, cyber-physical security, autonomous systems software, non-terrestrial networks, sensors and IoT hardware, and robotics.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Climate-neutral and smart cities · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

Tet

LARGE ENTERPRISE · RIGA, LATVIA · TET.LV



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CORE TEAM

- **Uldis Libietis** - head of cybersecurity, CISO
- **Tet R&D team** - cloud, data centre and network experts assembled per project

KEYWORDS

Cybersecurity · Critical digital infrastructure · Artificial Intelligence · Cloud and Data centers · Quantum communication infrastructure · PQC · QKD · Cryptography

DOMAINS OF APPLICATION

Healthcare · Transport & Mobility · Public administration · Cybersecurity · Artificial Intelligence · Digital Technologies · Defence

PROFILE AT A GLANCE

TRL: 7-9

Horizon Europe experience: Funded as a project partner · Submitted as a project partner

Can take on: Proposal writing · WP leadership · Task leadership · Pilot implementation · Stakeholder engagement · Exploitation · Dissemination & communication · Data management

Seeks partners among: Universities · Large industry · Hospitals · Research infrastructures · Public authorities · NGOs · End users · SMEs

WHAT WE CONTRIBUTE

One of Latvia's leading critical digital infrastructure operators, providing a secure infrastructure base through Tet Cloud in Latvia and Frankfurt, seven certified data centres, a nationwide optical fibre network and extensive cross-border connectivity to Estonia, Lithuania, Finland, Sweden, Poland and Germany - complemented by a Security Operations Centre, key management, post-quantum cryptography and quantum key distribution.

- **Cybersecurity -** SOC services, cybersecurity for critical infrastructure operators, supplier to ENISA and CERT.LV.
- **Quantum-safe security -** post-quantum cryptography, QKD equipment and key management systems in operational networks.
- **Cloud & data centres -** seven certified data centres with AI infrastructure; Uptime Tier III Design and Facility, PCI DSS, ISO 27001 and ISO 9001.
- **Connectivity -** national and cross-border optical fibre, 5G corridors and large-scale pilot deployments.
- **Sector experience -** critical infrastructure operators, military services, public administration, healthcare, finance and energy.

SELECTED PROJECTS

QARC - quantum-resistant cryptography in practice

Horizon Europe CL3-2024-CS-01-02 · No. 101225691 · partner, WP, task and pilot leader

Deploys post-quantum cryptography into real-world infrastructure, developing hybrid schemes, cryptographic agility and side-channel resistance, piloted with national cybersecurity authorities.

Lat-LitQN - Latvia-Lithuania cross-border quantum communication infrastructure

CEF Digital EuroQCI · No. 101249607 · coordinator and pilot leader

Builds and pilots the first cross-border quantum link between Latvia and Lithuania, deploying QKD devices and trusted nodes and validating a quantum key management system prototype.

5G-BALTICS - uninterrupted 5G coverage across the Via Baltica corridor

CEF Digital 5G Corridors · No. 101181148 · partner, WP and task leader

Delivers 5G coverage along the 663 km corridor, including 195 km of optical infrastructure and up to 27 new 5G sites in Latvia, with focus on cross-border continuity.

RESEARCH INFRASTRUCTURE & FACILITIES

Seven data centres with AI infrastructure capability, the Tet Cloud platform, a Security Operations Centre, national and cross-border optical fibre networks, QKD equipment and a key management system platform.

EXPERTISE WE ARE LOOKING FOR

Consortium coordinators and industry and academic partners in Tet's priority R&D areas: cybersecurity, quantum-safe security, critical digital infrastructure, and AI applications and infrastructure.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Solid State Physics, Thin Films Laboratory

RESEARCH INSTITUTE · RIGA, LATVIA · CFI.LU.LV



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CORE TEAM

· **Juris Purans**
· **Smagul Karazhanov**
· **Edgars Butanovs**

KEYWORDS

Thin films · Functional coatings · Magnetron sputtering · Pulsed laser deposition · Roll-to-roll coating · Plasma diagnostics · Mixed-anion materials

DOMAINS OF APPLICATION

Healthcare · Energy · Manufacturing · Education · Electronics & Photonics · Space Technologies · Advanced Materials

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Submitted as a project coordinator · Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Research infrastructures

WHAT WE CONTRIBUTE

Expertise in thin films, functional coatings and vacuum-deposition technologies, specialising in oxides, nitrides, hydrides and mixed-anion materials for smart windows, optoelectronics, UV detection, protective surfaces and antimicrobial applications. Offers scalable roll-to-roll deposition, characterisation, process optimisation, prototyping and validation.

- **Vacuum deposition -** DC, pulsed-DC, RF and high-power impulse magnetron sputtering (HiPIMS), pulsed laser deposition, thermal and electron-beam evaporation and metal-organic CVD (MOCVD), with optical emission spectroscopy monitoring.
- **Roll-to-roll coating -** scalable deposition on flexible substrates, supporting the move from laboratory-scale development to industrially relevant coating processes and prototypes.
- **Characterisation -** structural, compositional, optical, electrical and functional characterisation combined with process-structure-property analysis.
- **Functional materials -** oxide, nitride, hydride and mixed-anion thin films for smart windows, optoelectronics, UV detection, protective surfaces and antimicrobial coatings.

SELECTED PROJECTS

SWEB - Smart Windows for Zero Energy Buildings
Horizon Europe, ERA Chairs · coordinator
Contributes chromogenic materials, magnetron-sputtering processes and scalable coating technologies for energy-efficient smart windows, alongside research-capacity building and industrial cooperation.

SAFEPOWER - Safer and More Reliable Wide- and Ultra-Wide-Bandgap-Based Power Electronics
Horizon Europe, Cluster 5 · project partner
Gallium and nickel oxide thin-film deposition, composition and defect control, and structural, optical and electrical characterisation for next-generation power devices.

RESEARCH INFRASTRUCTURE & FACILITIES

Thin-film deposition facilities for magnetron sputtering, pulsed laser deposition, thermal and electron-beam evaporation, and MOCVD, with plasma process monitoring by optical emission spectroscopy.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, technology centres, SMEs and industrial partners with complementary expertise in functional materials, coating technologies, device development, modelling, characterisation, process scale-up and industrial validation.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Vidzeme University of Applied Sciences - Digital Health and XR

UNIVERSITY · VALMIERA, LATVIA

VIDZEME UNIVERSITY OF APPLIED SCIENCES



Linda Lancere

Lead Researcher

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CORE TEAM

- **Anna Broka** - social welfare, public policy
- **Katrīne Kūkoja** - public health, survey methodology
- **Mairita Zaķe** - system and simulation modelling

KEYWORDS

Digital Health · XR/VR/AR in Healthcare · User-Centred Design · Clinical & Real-World Validation · Health Technology Implementation · Patient Experience & Patient Journey · Public Health & Prevention

DOMAINS OF APPLICATION

Healthcare · Medical Technologies · Education · Digital Technologies · Artificial Intelligence · Robotics & Automation · Environment

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals

WHAT WE CONTRIBUTE

Cross-disciplinary expertise in people-centred digital health and well-being, combining health technology, public health, social care, user-centred design, XR/VR, accessibility and quality assurance. The team supports co-design, validation, pilots and implementation research, and brings modelling of complex sociotechnical systems, digital twins and data-driven decision support.

- **Digital health and XR/VR -** web, mobile, IoT and XR/VR/AR solutions implemented and validated in clinical and real-world environments, including wearables, biofeedback and AI/ML.
- **User-centred development -** needs analysis, co-design with patients and professionals, usability and user-experience evaluation, and accessibility for vulnerable groups.
- **Mixed-methods research -** surveys, instrument adaptation, cognitive testing, interviews, thematic and statistical analysis, and implementation research.
- **Systems modelling -** system and simulation modelling, digital twins, scenario analysis and data-driven decision support.

SELECTED PROJECTS

Virtual Gym - virtual reality and sensor-supported physical activity and rehabilitation

Erasmus+ · project lead and principal investigator

Development and evaluation of technology-supported approaches to physical activity and rehabilitation, combining immersive technologies with user-centred development and real-world evaluation.

Mixed reality exercise for non-specific chronic low back pain

ERDF · principal investigator

Applied digital health study of mixed reality for physical exercise in people with chronic non-specific low back pain, covering user-centred intervention development, usability and clinical and real-world validation.

RESEARCH INFRASTRUCTURE & FACILITIES

XR/VR/AR systems (Meta Quest, Microsoft HoloLens, Magic Leap, HTC Vive/XR, Varjo); physiological and biosignal equipment (sEMG, ECG, respiration, blood pressure, NIRS, glucose monitoring); wearable sensors (Hexoskin, Movesense, biosignalsplux); motion capture; Tobii eye-tracking; spatial/UWB tracking; and 360° video and audio capture, supported by VR-ready computing.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, healthcare and rehabilitation providers, municipalities, social-care bodies, NGOs, SMEs and technology developers.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Cancer · New European Bauhaus			
Widening participation and strengthening the European Research Area			

Institute for Environmental Solutions

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CORE TEAM

- **Ilva Nakurte** - analytical chemistry, chromatography
- **Laura Pastare** - bioenergy, sustainability assessment
- **Andrea Primavera** - medicinal and aromatic plants, agronomy

KEYWORDS

Remote sensing · Earth observation · Environmental monitoring · Habitat mapping · Precision agriculture · Forest monitoring · Geospatial data analysis

DOMAINS OF APPLICATION

Defence · Digital Technologies · Artificial Intelligence · Space Technologies · Smart Cities · Biodiversity · Forestry

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner

Can take on: Proposal writing · WP leadership · Task leadership · Living labs · Pilot implementation

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs

WHAT WE CONTRIBUTE

An independent, interdisciplinary research institute working on the sustainable management of natural resources, with its own airborne remote sensing platform and analytical laboratories - able to take a consortium from data acquisition to validated, decision-ready outputs.

- **Earth observation -** airborne, UAV and Copernicus data acquisition, multi-sensor fusion, ML classification, time-series and change detection.
- **Environment & biodiversity -** habitat mapping and modelling, biotope expert assessment, nature conservation monitoring.
- **Forestry & agriculture -** data-based forest inventory and health assessment, logging monitoring, smart farming for medicinal and aromatic plants.
- **Phytochemistry -** quality, safety and contaminant research in medicinal plant value chains (GC-MS, LC-UV-MS, MP-AES).

SELECTED PROJECTS

ScaleAgData - scaling agricultural sensor data for agri-environmental monitoring

Horizon Europe RIA · GA 101086355 · 2023-2026 · 27 partners, 14 countries · coord. VITO (BE)

Leads the Water Productivity Research and Innovation Lab, fusing in-situ IoT sensor data with remote sensing for irrigation decisions and early detection of crop water stress.

LIFE PeatCarbon - peatland restoration for GHG reduction in the Baltic Sea region

LIFE Climate Action · No. 101074396 · 2022-2027 · €4.43 m · LV, FI, DK, DE

Delivers the remote sensing component: airborne hyperspectral mapping of peatland vegetation as the basis for GHG emission modelling and national reporting.

RESEARCH INFRASTRUCTURE & FACILITIES

ARSENAL airborne laboratory - eight integrated sensors (UV, VNIR, SWIR, MWIR, TIR, LWIR, LiDAR, high-resolution RGB) flown from the institute's own airfield in Vidzeme; UAV fleet, ground-penetrating radar and field spectroradiometry.

EXPERTISE WE ARE LOOKING FOR

AI and machine learning for EO, sensor and IoT developers, SAR and satellite data providers, soil and hydrological modellers, and GHG flux specialists.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe			
Widening participation and strengthening the European Research Area			

AS Sadales tīkls

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CORE TEAM

· **Pēteris Lūsis** - innovation manager
· **Rihards Sirmais** - innovation unit
· **Diāna Gauče** - development manager, network management

KEYWORDS

Smart Grids · Energy Transition · Critical Infrastructure Resilience · AI · Grid Digitalisation · Flexibility Services · DER Integration

DOMAINS OF APPLICATION

Energy · Smart Grids · Medical Technologies · Digital Technologies · Artificial Intelligence · Cybersecurity · Smart Cities

PROFILE AT A GLANCE

TRL: 4-6
Horizon Europe experience: Funded as a project partner
Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Pilot implementation
Seeks partners among: Universities · SMEs · Large industry · Public authorities · Research infrastructures

WHAT WE CONTRIBUTE

Access to Latvia's national electricity distribution network, with more than 93,000 km of infrastructure, over 1.1 million metering points and 100% smart meter deployment, for real-world testing and validation. Expertise in smart grids, grid digitalisation, AI and big data, DER integration, flexibility services, network resilience and predictive maintenance.

- **Smart grids & flexibility -** DER integration, flexibility services and markets, load and generation forecasting, state estimation, DER management systems (DERMS) and battery storage integration.
- **AI & data analytics -** AI and big data applications, grid observability and AI-driven forecasting, such as pre-storm damage prediction.
- **Infrastructure inspection -** drone inspection, LiDAR surveying, computer vision defect detection and digital twins across more than 55,000 km of overhead network.
- **Earth observation -** satellite-based monitoring for vegetation management and critical infrastructure surveillance.

SELECTED PROJECTS

ST FLEX - Flexibility services for network congestion management
Recovery and Resilience Facility (RRF), Latvia · 2024-2026 · project lead
Flexibility platform for forecasting congestion, reserving flexibility and activating retailer and aggregator resources. Provides real network environments, smart meter data, pilots and validation.

ST ODA - AI-based pre-storm damage forecasting for distribution networks
Recovery and Resilience Facility (RRF), Latvia · 2024-2026 · project lead
Big-data and machine-learning platform predicting weather-related failures in medium- and low-voltage overhead networks. Provides operational datasets, infrastructure knowledge, model validation and deployment environments.

RESEARCH INFRASTRUCTURE & FACILITIES

A national-scale electricity distribution network (more than 93,000 km, over 1.1 million metering points, 100% smart meters) as a living lab for critical infrastructure testing.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, SMEs, technology providers, critical infrastructure operators and public authorities with expertise in smart grids, AI, digital twins, DER, flexibility, storage, cybersecurity, Earth Observation, autonomous inspection, robotics and resilience.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Baltic Photonics

LARGE ENTERPRISE · GARKALNE, LATVIA · BALTICPHOTONICS.LV

Ilona Vanaga

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CORE TEAM

- **Ainārs Ozols** - technical director
- **Pēteris Pitāns** - lead electronics engineer
- **Guntars Veckāgans** - senior mechanical and manufacturing engineer

KEYWORDS

Night-vision technologies · Gen3 image intensifiers · GaAs photocathodes · Microchannel plates · Low-light imaging · Vacuum optoelectronics · High-voltage electronics

DOMAINS OF APPLICATION

Defence · Electronics & Photonics

PROFILE AT A GLANCE

TRL: 7-9

Horizon Europe experience: Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry

WHAT WE CONTRIBUTE

Expertise in night-vision technologies, image intensification and electro-optical sensing under photon-limited conditions, combining semiconductor materials science, vacuum optoelectronics, optical engineering and high-voltage electronics. In consortia, contributes experimental methodology, component development, prototype integration, performance testing and work-package leadership.

- **Image intensifiers -** third-generation (Gen3) image intensifiers, gallium arsenide (GaAs) photocathodes, microchannel plates and phosphor screens, including customised tubes.
- **Photocathode processing -** wafer-processing optimisation, photocathode activation and photoemission characterisation.
- **High-voltage electronics -** compact and pulsed high-voltage power supplies, circuit simulation, transformer design, EMC and embedded electronics.
- **System integration -** component miniaturisation and integration with digital cameras and embedded sensing platforms, prototype integration and laboratory validation.

SELECTED PROJECTS

Head-worn digital night vision and sensor fusion

European Defence Fund · submitted proposal · consortium coordinator

Coordinates a six-partner consortium proposing a digital night-vision system that combines complementary sensor modalities for depth estimation and contextual information.

Passive low-light sensing for autonomous platforms

European Defence Fund · submitted proposal · partner, low-light sensing lead

Develops experimental intensified CMOS sensor heads for passive visible and near-infrared imaging, including miniaturisation, calibration and laboratory characterisation, supporting AI perception on unmanned platforms.

RESEARCH INFRASTRUCTURE & FACILITIES

Laboratory and production infrastructure for night-vision component assembly, characterisation and testing at Berģi, Garkalne Parish.

EXPERTISE WE ARE LOOKING FOR

Technology providers and system integrators in embedded computing, edge AI and detector readout electronics for night-vision and solar-blind UV-C sensing (FPGA development, embedded processors, low-noise electronics, energy-efficient AI inference).

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Baltic Satellite Service

SME · RIGA, LATVIA · FORESTRADAR.COM · GEOHUB.NET



Ilze Barga

Member of the Board

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CORE TEAM

- **Andrei Grishanov** - EO systems and software engineering
- **Linda Gulbe-Viluma** - remote sensing, data analytics
- **Eliza Alexandru** - project development

KEYWORDS

Earth Observation (EO) · Remote Sensing · Geospatial Intelligence · GeoHub Platform · AI & Machine Learning · GIS & Spatial Analytics · Environmental Monitoring

DOMAINS OF APPLICATION

Defence · Digital Technologies · Artificial Intelligence · Smart Grids · Energy · Transport & Mobility · Public administration

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Funded as a project partner · Submitted as a project partner · providing services for Horizon project partners

Can take on: WP leadership · Task leadership · Scientific leadership · Pilot implementation · Stakeholder engagement

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs

WHAT WE CONTRIBUTE

An SME delivering Earth observation, geospatial intelligence and digital platform solutions for environmental monitoring, climate resilience, infrastructure management and public sector decision support - bridging research and operational deployment, from methodology through pilot to sustained service.

- **GeoHub platform -** cloud geospatial intelligence platform integrating satellite, UAV, IoT and GIS data for real-time monitoring, collaborative workflows and interoperable data exchange.
- **Forest monitoring -** change and disturbance detection, biomass and health assessment from Copernicus and commercial data with AI analytics.
- **Smart Flood -** flood risk assessment, near real-time monitoring, impact mapping and decision support for emergency response and climate adaptation.
- **Utility network monitoring -** continuous monitoring of vegetation encroachment and land-use change along energy, water, transport and communication corridors.

SELECTED PROJECTS

EO-BALP - Earth Observation Baltic Platform (GeoHub)

European Space Agency · lead partner and platform developer

Built and extended the GeoHub platform for discovery, visualisation, processing and sharing of EO data and value-added services.

Automated vegetation management for overhead power lines

European Space Agency · lead partner · with the Latvian distribution system operator

AI-enabled satellite monitoring across ~60 000 km of electricity distribution infrastructure, automating vegetation risk detection and maintenance prioritisation.

RESEARCH INFRASTRUCTURE & FACILITIES

GeoHub geospatial intelligence platform (geohub.net), available to consortia as a hosting, processing and dissemination environment; testing facilities and established end-user networks in the Baltic countries and beyond for pilot deployment and validation.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

Daugavpils University - Society "Park of Intellect"

NGO · DAUGAVPILS, LATVIA · INTELEKTAPARKS.LV



Maija Burima

Leading Researcher

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CORE TEAM

- **Oļģerts Rihlickis** - project management
- **Sandra Zariņa** - adult education
- **Ingrīda Kupšāne** - cultural studies
- **Eva Bogdāne** - science communication

KEYWORDS

Integration · Migration · Civil society · Refugees · AI · Culture · Science communication · Senior and adult education

DOMAINS OF APPLICATION

Education · Cultural & Creative Industries · Digital Technologies · Artificial Intelligence · Cybersecurity

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Submitted as a project partner

Can take on: WP leadership · Task leadership · Scientific leadership · Pilot implementation · Stakeholder engagement · Dissemination & communication · Data management · AI / Digital tools

Seeks partners among: SMEs · NGOs · Research infrastructures · End users · Public authorities · Universities · Municipalities

WHAT WE CONTRIBUTE

A lifelong learning, culture and science communication society bringing expertise in language education, intercultural communication, social inclusion and community engagement, combining academic knowledge with practical work with youth, adults, seniors, third-country nationals, refugees and minority communities.

- **Education & methodology -** development of learning materials and methodologies, language acquisition, cultural orientation, volunteer training.
- **Digital education -** digital learning platforms, interactive and augmented reality activities, use of AI tools in education.
- **Media literacy -** disinformation prevention, countering hate speech, digital citizenship and social cohesion.
- **Community engagement -** stakeholder and community involvement, inclusive learning environments, pilot activities and validation.

SELECTED PROJECTS

Intercultural communication training for professionals

AMIF · No. PMIF/13.4./2024/1/01 · 2024-2026 · coordinator

Develops and delivers intercultural communication training, strengthening professionals' skills in working with culturally diverse communities.

UA-SUP - support for the integration of Ukrainian civilians in Latvia

AMIF · No. 2024.LV/NVO_UKR/028/L7 · 2025 · coordinator

Supported social and economic integration through language learning, cultural orientation, community activities and practical support.

Inclusion of third-country nationals through Latvian language learning

AMIF · No. PMIF/13.2./2023/1/10 · 2023-2026 · coordinator

Provides language learning and integration activities helping third-country nationals build language skills and connections with the host community.

RESEARCH INFRASTRUCTURE & FACILITIES

Digital research and innovation infrastructure including the MySkills cloud-based skills and networking platform and the Text Laboratory (TekstLAB) for creative writing, learning and knowledge exchange, together with a digital environment for disseminating research results and methodological materials.

EXPERTISE WE ARE LOOKING FOR

Universities, municipalities, research institutes, NGOs and SMEs interested in inclusive and connected communities - with experience in integration and migration, civil society and refugee support, AI and digital solutions, culture, science communication, adult and senior education, and youth work.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Digital Accelerator of Latvia

NGO · LATVIA · DIGITALLATVIA.LV

Līga Ignate

CEO

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CORE TEAM

- **Salvis Roga** - GovTech, public sector innovation
- **Kārlis Siliņš** - cybersecurity, digital resilience
- **Ivars Eglājs** - AI, advanced digital technologies

KEYWORDS

Digital Transformation · GovTech · Digital Innovation Ecosystems · Artificial Intelligence Adoption · Digital Skills · Public Sector Innovation · Technology Uptake

DOMAINS OF APPLICATION

Education · Digital Technologies · Defence · Artificial Intelligence · Public administration · Cybersecurity · Smart Cities

PROFILE AT A GLANCE

Horizon Europe experience: No experience yet

Can take on: Stakeholder engagement · Dissemination & communication · Training & capacity building · WP leadership · Task leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs

WHAT WE CONTRIBUTE

Expertise in digital transformation, GovTech, digital innovation ecosystems, digital skills and the practical uptake of innovative technologies. Acts as a bridge between technology providers, research organisations, public authorities, SMEs and end users, contributing pilots, stakeholder engagement, dissemination, exploitation and project coordination.

- **Digital transformation -** identification of digitalisation needs, innovation uptake and collaboration between technology providers and potential users.
- **GovTech -** engagement of public authorities, identification of public-sector challenges and piloting of innovative digital solutions in real operational environments.
- **Pilots & demonstration -** stakeholder recruitment, coordination of use cases, user engagement and validation of solutions with organisations in Latvia.
- **Skills & capacity building -** training needs assessment, development and coordination of training activities, and adoption of emerging technologies.

SELECTED PROJECTS

POLIGONS - Digital and Security Technology Skills Fund

European Social Fund Plus (ESF+) · coordinator, lead organisation

Coordinates a national initiative strengthening advanced digital and cybersecurity skills, bringing together skills development organisations and supporting training that responds to labour-market needs.

GovTech4All / GovTech4All 2.0

Digital Europe Programme · project partner

Connects public-sector organisations, innovation actors and technology providers in the European GovTech ecosystem, through stakeholder engagement, dissemination and support for scaling digital solutions.

RESEARCH INFRASTRUCTURE & FACILITIES

Access to a digital innovation ecosystem of public authorities, SMEs, technology providers, training organisations, regional stakeholders and potential end users, as part of the European Digital Innovation Hub ecosystem.

EXPERTISE WE ARE LOOKING FOR

Universities, research and technology organisations, public authorities, municipalities, SMEs, large technology companies and innovation agencies with expertise in trustworthy AI, cybersecurity, data spaces, GovTech, smart cities, human-centred technology, digital skills, technology assessment and evidence-based policy.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Climate-neutral and smart cities · New European Bauhaus			
Widening participation and strengthening the European Research Area			

dots. (WeAreDots)

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CORE TEAM

· **Project teams** - formed per project scope - senior project manager, lead software architect, AI/data analytics specialist, computer vision and sensor integration engineer, business analysis and validation expert

KEYWORDS

Artificial Intelligence (AI) · Custom Software Development · Cloud Computing · Data Analytics · Computer Vision · Digital Twins · IoT and Sensor Integration

DOMAINS OF APPLICATION

Transport & Mobility · Public administration · Defence · Digital Technologies · Artificial Intelligence · Smart Cities · Robotics & Automation

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner

Can take on: WP leadership · Task leadership · Pilot implementation · Living labs · AI / Digital tools

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Research infrastructures

WHAT WE CONTRIBUTE

A technology company with more than 20 years of experience in custom software development, digital transformation, artificial intelligence, cloud technologies and data-driven innovation, designing and scaling digital solutions for complex operational, societal and infrastructure challenges across the public and private sectors.

- **Software & system engineering -** custom development, enterprise platforms, application modernisation, data integration and API development.
- **AI & analytics -** machine learning, computer vision, sensor fusion, AI-driven prediction and decision support.
- **Digital twins & simulation -** digital twin design and implementation for infrastructure and mobility.
- **Intelligent transport systems -** smart mobility, road safety solutions, traffic and infrastructure monitoring.

SELECTED PROJECTS

SMARTIN - smart digital solutions for multimodal, resilient urban infrastructure

Horizon Europe · 2025-2028 · €5.53 m · 17 partners · coord. ERTICO ITS Europe

Leads work on multimodality, dynamic space management and digitalisation uptake, including passenger transport planning tools, dynamic lane management and AI-based travel pattern modelling.

EvoRoads - a holistic safe system approach for all road users

Horizon Europe · 2024-2027 · €5.39 m · 20 partners · coord. ERTICO ITS Europe

Leads smart micromobility safety solutions and the deployment and validation of infrastructure monitoring, AI-based defect detection and digital twin technologies in Riga.

RESEARCH INFRASTRUCTURE & FACILITIES

The FITS solution - a modular software platform for data collection, integration, processing, analytics and decision support, serving as a research, demonstration and validation environment for AI, computer vision, digital twin, smart infrastructure and IoT work.

EXPERTISE WE ARE LOOKING FOR

Partners in AI and data analytics, computer vision and advanced sensing, digital twins and simulation, smart cities and ITS, road safety and vulnerable road users, sustainable and multimodal mobility, infrastructure monitoring and predictive maintenance, CCAM, IoT and edge computing, and geospatial data and mobility modelling.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

EKA University of Applied Sciences

UNIVERSITY · RIGA, LATVIA · AUGSTSKOLA.LV



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CORE TEAM

· **Jelena Titko**
· **Kristine Uzule**
· **Jelena Budanceva**

KEYWORDS

Sustainability and Green Transition · Entrepreneurship and Innovation · Digital Transformation · Creative Industries · Education and Skills · Social Inclusion · Consumer Behaviour

DOMAINS OF APPLICATION

Education · Cultural & Creative Industries · Digital Technologies

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Submitted as a project partner

Can take on: WP leadership · Task leadership · Scientific leadership · Pilot implementation · Stakeholder engagement

Seeks partners among: Universities · SMEs · Research infrastructures · Public authorities · NGOs

WHAT WE CONTRIBUTE

Cross-disciplinary expertise in business and management, sustainability, entrepreneurship, education, social sciences, digital technologies and creative industries. Offers qualitative, quantitative and mixed-method research, stakeholder engagement and co-creation, pilot design, training, impact evaluation and dissemination in European projects on sustainability, digital education and inclusion.

- **Research methods -** qualitative, quantitative and mixed-method research, surveys, interviews, focus groups, case studies, stakeholder and policy analysis, and statistical and bibliometric analysis.
- **Behavioural research -** consumer behaviour, UX/UI testing and eye-tracking studies using Smart Eye AI-X and iMotions software.
- **VR & neurotechnology -** research on human-computer interaction, cognitive processes and immersive learning using VR systems and ECG/EKG sensors.
- **Entrepreneurship & education -** entrepreneurship education, digital and inclusive education, capacity building and Train-the-Trainer activities.

SELECTED PROJECTS

GREENENTRE4DEAF - green entrepreneurship education for deaf and hard-of-hearing people

Erasmus+ KA220-HED · project partner · task leader

Co-leads project management and co-design activities with higher education professionals, deaf and hard-of-hearing learners and green entrepreneurs, and leads a Business Model Canvas-based green enterprise tool.

Eco-Escaper - digital escape rooms for climate literacy education

Erasmus+ KA220-SCH · project partner · work package leader

Leads development of the Gamified Online Teacher Ecosystem for educators using digital escape rooms, and contributes teacher guidance, quality assurance, risk planning and the sustainability strategy.

RESEARCH INFRASTRUCTURE & FACILITIES

Consumer Behaviour Research Lab (Smart Eye AI-X eye-tracking and iMotions), VR Neurotechnology Lab with VR and ECG/EKG sensors, digLAB for digital game and VR prototyping and testing, and research software including NVivo, Jamovi, VOSviewer and SmartPLS.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, SMEs, technology providers, public authorities, municipalities, NGOs and industry with expertise in sustainability, entrepreneurship and innovation ecosystems, digital technologies and AI, education, social inclusion, creative industries, behavioural research, UX/UI and VR.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

GroGlass

LARGE ENTERPRISE · LATVIA · GROGLASS.COM

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CORE TEAM

· **R&D department** - optical measurement and modelling, large-scale sputtering and sol-gel coating, coating development on glass and plastics

KEYWORDS

Magnetron sputtering · Physical vapour deposition (PVD) · Sol-gel coatings · Large-area coating · Optical thin films · Anti-reflective coatings · Optical modelling and simulation · Thin-film characterization · Glass and polymer substrates · Industrial scale-up

DOMAINS OF APPLICATION

Manufacturing · Advanced Materials

PROFILE AT A GLANCE

TRL: 7-9

Horizon Europe experience: No experience yet

Can take on: Pilot implementation · Validation & testing

Seeks partners among: Large industry · SMEs · Universities · Research infrastructures · End users

WHAT WE CONTRIBUTE

Thin-film coating development from optical design through to full industrial scale, combining optical modelling of multilayer stacks, large-area magnetron sputtering (PVD) and large-area sol-gel coating on glass and polymer substrates larger than 2 × 3 m. Offers process scale-up, coating characterisation, demonstrator and pilot-scale samples for partners, and industrial validation and exploitation.

- **Optical modelling -** optical measurement and modelling of multilayer thin-film stacks, including anti-reflective coatings.
- **Magnetron sputtering -** large-area physical vapour deposition (PVD), including high-power impulse magnetron sputtering (HiPIMS) on targets of approximately 2.6 m.
- **Sol-gel coating -** large-area wet-chemical coating of glass and polymer substrates.
- **Alternative deposition -** plasma-enhanced and plasma-ion-beam-assisted CVD and large-area ion implantation evaluated for glass surface modification.
- **Scale-up & validation -** process development from laboratory coupon to production-size parts, with prototype testing through tempering, environmental cycling and optical performance evaluation.

SELECTED PROJECTS

HiPIMS for large-area glass and acrylic coating processes

Latvian RRF / NextGenerationEU 5.1.1.2.i (CFLA) · 10/2024-03/2026 · project owner

Integrated commercial HiPIMS power supplies into an industrial vacuum coating line, deposited and characterised SiO_2, TiO_2, Al-doped ZnO and SiN_x layers, and produced full-size anti-reflective prototypes.

Silicon nitride barrier layers for temperable anti-reflective coatings

Latvian RRF 5.1.1.2.i (CFLA) · 01/2026-09/2027 (ongoing) · project owner

Develops a scalable process for defect-free Si_3N_4 sodium-diffusion barrier layers, benchmarking five substrate pre-treatment routes and validating the chosen process on full-size prototypes.

Alternative deposition methods to magnetron sputtering for large-format coatings

Latvian Competence Centre programme, co-financed by RRF · 10/2023-09/2025 · project owner

Evaluated hollow-cathode plasma-enhanced CVD, plasma-ion-beam-assisted CVD and large-area ion implantation, and validated selected routes on prototypes partly made on the company's own line.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

InnoMatrix

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Līga Brasliņa

Founder & Research and Innovation Lead

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CORE TEAM

· **Līga Brasliņa** - founder, research and innovation lead

KEYWORDS

Research-to-market · Technology commercialisation · Market intelligence · Market validation · Exploitation strategy · Stakeholder engagement · User research

DOMAINS OF APPLICATION

Healthcare · Transport & Mobility · Public administration · Digital Technologies · Smart Cities · Food Systems · Agriculture

PROFILE AT A GLANCE

Horizon Europe experience: No experience yet

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation · Stakeholder engagement

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals · NGOs

WHAT WE CONTRIBUTE

Research and innovation SME specialising in research-to-market pathways, market intelligence, commercialisation, market validation and stakeholder and user research. Combines social sciences, innovation management and data-driven analysis to turn research results into solutions that respond to market and societal needs.

- **Market intelligence -** international market, competitor and ecosystem analysis, segmentation, benchmarking and secondary-data analysis.
- **Market validation -** surveys, structured expert and stakeholder interviews, and user and customer research.
- **Commercialisation -** exploitation and commercialisation planning, business model development and market uptake strategies.
- **Impact assessment -** socio-economic impact assessment and dissemination-oriented research.

SELECTED PROJECTS

Mini Private 5G - international market and commercialisation potential
LMT · 2025 · research and market intelligence partner
Assessed international market potential and adoption environment through market and regulatory analysis and research with more than 400 industry experts, identifying barriers, priority industries and commercialisation pathways.

Mobility data product commercialisation strategy
LMT · 2023 · market research and commercialisation strategy partner
Developed a commercialisation strategy covering market definition, target segments, benchmarking, customer research, regulatory and privacy considerations, and a roadmap for piloting and market entry.

FORGE - Fair, Open Research-to-market Growth Engine
Horizon Europe EIE proposal development · 2026 · research-to-market expertise
Contributes research-to-market, commercialisation, market validation and innovation ecosystem expertise to a research-to-market transfer approach combining technology-transfer diagnostics, exploitation tools and pilots.

RESEARCH INFRASTRUCTURE & FACILITIES

Own CAWI (Computer-Assisted Web Interviewing) research panel in Latvia, giving direct access to respondents for quantitative research, market validation, user research and public opinion studies, and supporting pilot testing and user-needs assessment. Tools for mixed-method research, including stakeholder and expert interviews, market and competitor analysis, ecosystem mapping and socio-economic assessment, and project-specific datasets.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, technology developers, SMEs, industry, public authorities and innovation intermediaries with research-based technologies that need market validation, user research, commercialisation and impact assessment.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Cancer · Adaptation to climate change · Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Institute of Economics of the Latvian Academy of Sciences

RESEARCH INSTITUTE · RIGA, LATVIA · EILZA.LV



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CORE TEAM

· **Janis Vanags**

· **Valdis Seglins**

KEYWORDS

Macroeconomic analysis · Labor market intelligence · Human capital evaluation · Artificial intelligence and economy · Sustainable economic development · Policy impact assessment · Regional development

DOMAINS OF APPLICATION

Public administration · Education · Digital Technologies · Artificial Intelligence · Environment · Agriculture

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Funded as a project partner · Submitted as a project coordinator

Can take on: Consortium coordination · Proposal writing · Scientific leadership · WP leadership · Task leadership

Seeks partners among: Universities · Large industry · SMEs · Public authorities · NGOs

WHAT WE CONTRIBUTE

Expertise in macroeconomic and regional development, structural economic transformation, human capital evaluation and labour market intelligence, including the socio-economic impacts of technological and AI-driven change. Contributes methodology development, pilot implementation analysis, data-driven intelligence, and dissemination and policy forums.

- **Macroeconomic analysis -** macroeconomic modelling, statistical indicator analysis and forecasting, including long-term scenario planning for sustainable national and regional development.
- **Labour market intelligence -** employment shifts, up-skilling frameworks and human capital evaluation, including socio-economic impacts of technological and AI-driven transformations.
- **Policy & impact assessment -** quantitative and qualitative research methods, and policy and impact assessments tailored to European and regional priorities.
- **Datasets & forecasting -** economic intelligence datasets, labour market indicators and specialised forecasting tools.

SELECTED PROJECTS

EQUALS-EU - European Regional Partnership for Gender Equality in the Digital Age

Horizon 2020 · research partner, consortium contributor

Contributes research on bridging gender gaps in the digital sector through regional partnerships, social innovation research and evidence-based policy recommendations.

Vision to 2050 - Strategic Development Doctrine and Long-Term National Growth

National institutional research, self-funded · lead research institution

Macroeconomic forecasting, evaluation of structural quantitative and qualitative growth indicators, and long-term scenario planning for sustainable national and regional development.

RESEARCH INFRASTRUCTURE & FACILITIES

Office spaces, administrative facilities and meeting infrastructure for international project coordination, consortium workshops and hosting visiting researchers and experts.

EXPERTISE WE ARE LOOKING FOR

Multidisciplinary universities, research institutes, public authorities, municipalities, SMEs and technology providers with expertise in artificial intelligence governance, advanced data analytics, macroeconomic modelling, digital transformation, labour market intelligence, socio-economic impact assessment, sustainability and policy innovation, for Horizon Europe collaborative projects.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Latvia University of Life Sciences and Technologies - Business Incubator

UNIVERSITY · JELGAVA, LATVIA · LBTU.LV

Karlis Markus

Lead Researcher

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CORE TEAM

- **Baiba Rivza**
- **Peteris Rivza**
- **Andrejs Siskins**
- **Ervins Blumbergs**

KEYWORDS

Business incubators · Startups · Commercialization of ideas · Regional entrepreneurship

DOMAINS OF APPLICATION

Energy · Manufacturing · Education · Digital Technologies · Advanced Materials · Environment · Biotechnology

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Submitted as a project partner

Can take on: Proposal writing · Living labs · Stakeholder engagement · Data management · AI / Digital tools · Validation & testing

Seeks partners among: Universities · SMEs · Large industry · NGOs · Research infrastructures

WHAT WE CONTRIBUTE

Interdisciplinary capacity across life sciences, engineering and social sciences, with a focus on the bioeconomy and sustainable use of natural resources. In consortia it can act as research partner, pilot site, testing and validation facility, methodology developer and coordinator of dissemination and exploitation.

- **Agriculture & forestry -** sustainable agriculture and agronomy, forest engineering, veterinary medicine, animal genetic resources, and food and nutrition science.
- **Environment & engineering -** environmental science, water management, landscape planning, agricultural and mechanical engineering, applied energetics and ICT.
- **Laboratory methods -** field and laboratory experimentation, molecular biology, microbiology, genetics, and physico-chemical testing of crops and animal feed.
- **Social & economic research -** rural and regional development economics, techno-economic and policy analysis, life-cycle and circular-economy assessment, and social research.

SELECTED PROJECTS

Regional Business Incubation Programme

ERDF · administered by the Investment and Development Agency of Latvia (LIAA)

Led mentoring and business-incubation services for early-stage entrepreneurs at five regional locations, covering operations, procurement compliance and reporting (Deputy Executive Director, JIC Business Incubator).

Establishment of a Regional Bioeconomy Business Incubator at LBTU

researcher and contributor

Contributed to the design and development of the incubator concept at Latvia University of Life Sciences and Technologies (LBTU).

Environmentally friendly recovery of cadmium from battery waste via electroslag remelting

Latvian Council of Science · project No. lzp-2018/1-0415 · expert

Provided expert input on a recycling method to recover cadmium from spent batteries and accumulators, assessing its feasibility and applied value.

EXPERTISE WE ARE LOOKING FOR

Partners for Horizon Europe, Interreg, Erasmus+ and other international projects on the bioeconomy, regional and rural development and entrepreneurship-driven innovation: universities, research institutes, municipalities, SMEs and start-ups, cooperatives, incubators, NGOs and technology providers.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - Adaptation to climate change · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

Latvia University of Life Sciences and Technologies - digiMEI

UNIVERSITY · JELGAVA, LATVIA · LBTU.LV

Andrejs Krauklis

Associate Professor (Tenured) and Head of digiMEI

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CORE TEAM

· **Zane Vincēviča-Gaile**
· **Ilmārs Preikšs**
· **Ilze Vircava**

KEYWORDS

Advanced materials · Material-environment interactions · Artificial intelligence · Machine learning · Digital twins · Materials durability · QSPR modelling

DOMAINS OF APPLICATION

Energy · Manufacturing · Digital Technologies · Defence · Artificial Intelligence · Advanced Materials · Smart Cities

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Submitted as a project coordinator · Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs

WHAT WE CONTRIBUTE

digiMEI (Digital Material-Environment Interactions) bridges advanced materials, environmental engineering and AI modelling, turning experimental and materials data into predictive models, digital tools and sustainable material solutions. Partner in the €15 million Horizon Europe NoE-AIMat / RAISE network of excellence, with experience of work package leadership and project coordination.

- **AI & materials informatics -** machine learning, QSPR/QSAR and graph-based models to predict material properties, ageing and performance.
- **Durability & ageing -** material-environment interactions, lifetime prediction, and targeted accelerated ageing and non-destructive evaluation (NDE) to build and validate models.
- **Polymers & composites -** durability and environmental ageing of polymers and composites, including lightweight composite hydrogen storage.
- **Digital twins & LCA -** digital-twin demonstrators, life-cycle assessment and life-cycle cost analysis (LCA/LCCA).

SELECTED PROJECTS

NoE-AIMat - Network of Excellence in AI-driven Materials Science

Horizon Europe RAISE · 2026-2030 · ~€15 million · partner

Partner in a network coordinated by the University of Cambridge with 22 organisations from 14 countries, focused on AI-driven materials science, materials informatics and shared research infrastructure.

H2ELIOS - hydrogen lightweight and innovative tank for zero-emission aircraft

Horizon Europe · 2023-2026 · ~€12.1 million

Work package leader and researcher in the NTNU group, contributing expertise in lightweight composite hydrogen storage, durability and lifetime prediction, and LCA/LCCA.

RESEARCH INFRASTRUCTURE & FACILITIES

Mainly digital: Python- and R-based workflows for materials informatics, QSPR/QSAR, machine learning, graph-based modelling, database development, LCA/LCCA and digital-twin demonstrators.

EXPERTISE WE ARE LOOKING FOR

Universities and research organisations in AI for science, materials informatics, advanced characterisation, computational materials science, digital twins, non-destructive evaluation and life-cycle assessment, and industrial partners with real-world materials problems and datasets (polymers, composites, recycling, energy materials).

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe · Restore our Ocean and Waters · New European Bauhaus			
Widening participation and strengthening the European Research Area			

Latvia University of Life Sciences and Technologies - Precision Agriculture and Beekeeping

UNIVERSITY · JELGAVA, LATVIA · LBTU.LV



Aleksejs Zacepins

Professor, Senior Researcher

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CORE TEAM

- **Vitālijs Komašilovs** - software engineering
- **Olvija Komašilova** - data analysis
- **Daniels Kotovs** - embedded systems
- **Nikolajs Bumanis** - information systems

KEYWORDS

Precision agriculture · Precision beekeeping · IoT and sensor systems · Data analytics · Artificial intelligence and machine learning · Hardware development · Software development · Environmental monitoring · Decision-support systems · Digital agriculture

DOMAINS OF APPLICATION

Digital Technologies · Artificial Intelligence · Smart Cities · Food Systems · Agriculture · Environment

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Pilot implementation · Data management · AI / Digital tools · Validation & testing

Seeks partners among: Universities · SMEs

WHAT WE CONTRIBUTE

Cross-disciplinary expertise in precision agriculture, precision beekeeping, data analytics and digital technology development, combining agricultural and environmental science with hardware engineering, software development and data-driven decision support.

- **Sensor systems & IoT -** design and implementation of sensor-based monitoring, automated data acquisition, custom hardware and embedded field devices.
- **Data analytics & AI -** processing pipelines, databases, dashboards, statistical analysis, machine learning and time-series analysis.
- **Precision agriculture -** monitoring of crops, soil and microclimate; data-driven approaches to resource-efficient management.
- **Precision beekeeping -** sensor-based colony monitoring, automated data collection and assessment of colony state and environmental interaction.
- **Decision support -** turning raw sensor and field data into actionable information for prediction, optimisation and early detection.

SELECTED PROJECTS

SAMS - smart apiculture management services
Horizon 2020 · GA 780755 · project partner
Developed and tested ICT-based sensor systems for remote bee colony monitoring, including data acquisition, processing and methods for remote colony-state assessment.

HIVEOPOLIS - futuristic beehives for a smart metropolis
Horizon 2020 FET · GA 824069 · project partner
Contributed precision beekeeping, digital monitoring and technology development to an interdisciplinary project combining biology, robotics and sensing.

HEALTHYTOMATO - tomato disease risk warning system
ICT-AGRI-FOOD transnational project · leading partner and coordinator
Develops a cost-effective disease risk warning system for small and medium greenhouses using RGB and hyperspectral imaging, AI image analysis and risk modelling.

RESEARCH INFRASTRUCTURE & FACILITIES

IT Solutions, Mathematical Modelling and Statistics Laboratory for ICT development, modelling, simulation and statistical analysis; IoT and sensor prototyping facilities for Arduino-, Raspberry Pi- and other embedded solutions including environmental sensors, weighing systems and remote data acquisition; and instrumented beehives and sensor-based systems for precision beekeeping experiments.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Latvian Environment, Geology and Meteorology Centre - Data Systems and AI

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CORE TEAM

- **Juris Braučs** - head, information technology department
- **Vaira Obuka** - project manager
- **Mārtiņš Stepiņš** - programmer, service developer
- **Roberts Berovskis** - head, technical operations support, observations

KEYWORDS

Real-time data acquisition and processing · Artificial intelligence · High availability · Automation · Interdisciplinary data · Data-driven research

DOMAINS OF APPLICATION

Energy · Public administration · Defence · Digital Technologies · Cybersecurity · Robotics & Automation · Environment

PROFILE AT A GLANCE

TRL: 7-9

Horizon Europe experience: No experience yet

Can take on: WP leadership · Pilot implementation · Dissemination & communication · Data management · AI / Digital tools · Validation & testing

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs · Research infrastructures · End users

WHAT WE CONTRIBUTE

High-availability ICT infrastructure, real-time data acquisition and processing, data quality control and high-performance solutions for public information services, including web-based solutions. Experience in cross-sector IT innovation, interdisciplinary data analysis, new products at TRL 7-9, AI models in operational information processing, and preparation of high-value and open data.

- **High-availability ICT -** information and communication technology infrastructure for public information services, including web-based solutions.
- **Real-time data -** real-time data acquisition and processing, data quality control and real-time data dissemination.
- **Artificial intelligence -** application of AI models in operational information processing.
- **Open data -** preparation and use of high-value and open data, data warehouse infrastructure and interdisciplinary data analysis.
- **Product development -** cross-sector IT innovation and development of new products at TRL 7-9.

SELECTED PROJECTS

ICEWATCH - river ice-jam flood monitoring and assessment of flood damage

European Space Agency · No. 4000148755/25/NL/MH/cd

Develops automated Sentinel-1 satellite data processing, visualisation and forecasting solutions for river ice, ice jams, floods and related damage.

CAMS NCP Latvia - Copernicus Atmosphere Monitoring Service national programme

ECMWF Copernicus programme · No. CAMS2_72LV_UL · project partner

Contributes to deployment of the SILAM air quality model, integration of CAMS data, locally tailored forecasts and modernisation of national air quality information services.

DAGR - data dissemination and management platform

National public-administration digitalisation project · No. 2.2.1.1/21/I/001

Contributed to real-time data exchange, interoperability and integration with a centralised high-performance data dissemination platform.

RESEARCH INFRASTRUCTURE & FACILITIES

Datasets, software platforms, data warehouse infrastructure, open data preparation infrastructure, real-time data dissemination solutions and data quality control solutions.

EXPERTISE WE ARE LOOKING FOR

Partners with scientific expertise and experience in the use of large-scale data, application of artificial intelligence tools, digitalisation and automation.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Latvian Environment, Geology and Meteorology Centre - Digital Environmental Services

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CORE TEAM

· **Andris Vīksna** - head, forecasting and climate division
· **Liene Ābele** - head, information analysis division
· **Daiga Pipira** - head, subsoil division

KEYWORDS

Secure data management · Digital environmental services · Meteorology and hydrology · Climate and Environmental Data Science · Chemical risk assessment · Air quality forecasting · Hydrogeology

DOMAINS OF APPLICATION

Energy · Public administration · Digital Technologies · Artificial Intelligence · Cybersecurity · Defence · Environment

PROFILE AT A GLANCE

TRL: 7-9

Horizon Europe experience: Funded as a project partner

Can take on: WP leadership · Task leadership · Scientific leadership · Stakeholder engagement · Dissemination & communication

Seeks partners among: Universities · Large industry · Research infrastructures · SMEs

WHAT WE CONTRIBUTE

Scientific, technical and operational expertise in meteorology, climatology, hydrology, environmental monitoring, air quality, geology and hydrogeology, combined with digital capabilities in AI, real-time data processing, big data analytics and remote sensing. Provides environmental datasets and monitoring infrastructure, and supports solutions from methodology development to pilots, validation and deployment.

- **Meteorology and hydrology -** climatology, environmental monitoring, forecasting, early warning systems, climate change adaptation, natural hazard assessment and disaster risk reduction.
- **Digital services -** AI, process digitalisation, environmental product modelling, real-time data processing, big data analytics, geospatial technologies and remote sensing.
- **Atmospheric sciences -** air quality assessment, forecasting and modelling, greenhouse gas inventories, emissions estimation and environmental reporting under EU legislation.
- **Geology -** hydrogeology, groundwater and mineral resource management, geological information systems and geospatial data analysis.

SELECTED PROJECTS

LIFE GoodWater IP - river basin management plans towards good surface water status

EC LIFE programme · LIFE18 IPE/LV/000014 · lead partner, coordinating beneficiary

Coordinates implementation of the Daugava, Gauja, Lielupe and Venta river basin management plans, from monitoring and practical measures to support for institutions and public knowledge transfer.

GSEU - Geological Service for Europe

Horizon Europe Coordination and Support Action · project partner

Provides national geological and coastal datasets, harmonises geological information at European scale, contributes to coastal vulnerability assessments and supplies metadata to the European Geological Data Infrastructure.

RESEARCH INFRASTRUCTURE & FACILITIES

Digital research infrastructure, environmental datasets and software platforms for environmental data management, real-time monitoring, automated data quality control, modelling, visualisation and secure digital service delivery.

EXPERTISE WE ARE LOOKING FOR

Partners in AI, process digitalisation, real-time data processing, big data analytics, remote sensing, geospatial technologies and cybersecurity, as well as universities, research institutes, public authorities and SMEs.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Latvian Environment, Geology and Meteorology Centre - Meteorology and Climate Services

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Andris Vīksna

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CORE TEAM

· **Kristiāns Pāps**
· **Svetlana Aņiskeviča**
· **Dace Zandersone**
· **Uldis Zandovskis**

KEYWORDS

Meteorology · Climatology · Hydrology · Climate Services · Environmental Monitoring and Modelling · Data Science · Artificial Intelligence

DOMAINS OF APPLICATION

Healthcare · Energy · Smart Grids · Transport & Mobility · Public administration · Defence · Digital Technologies

PROFILE AT A GLANCE

Horizon Europe experience: Funded as a project partner

Can take on: Task leadership · Pilot implementation · Stakeholder engagement · Dissemination & communication · Data management · AI / Digital tools

Seeks partners among: Universities · Large industry · Public authorities · Research infrastructures · End users · SMEs

WHAT WE CONTRIBUTE

Expertise in weather and climate forecasting, hydrology, climate change analysis, environmental data science and AI-supported forecasting. Capabilities include model development and validation, climate risk assessment, data integration and decision-support tools, backed by operational forecasting experience, climate datasets and high-performance computing.

- **Weather & climate forecasting -** operational forecasting experience, model development and validation, and AI-supported forecasting.
- **Hydrology -** hydrological expertise, monitoring data and support for flood, drought and environmental risk assessment.
- **Climate risk & adaptation -** climate change analysis, climate scenarios, climate risk assessment and adaptation planning tools.
- **Environmental data science -** data integration, climate projection and reanalysis datasets, geospatial and Earth observation processing, and machine learning.

SELECTED PROJECTS

DEODE III - Destination Earth On-Demand Extremes

Destination Earth Initiative · partner

Contributes to the development and validation of a high-resolution digital twin for forecasting extreme weather and environmental hazards, supporting impact-based decision-making across Europe.

CLIMAAX - climate risk and vulnerability assessment framework and toolbox

Horizon Europe · pilot region partner

Supports the development and testing of European climate risk assessment methodologies and tools, with a focus on regional climate resilience and adaptation planning.

Climate Change Policy Integration into Sectoral and Regional Planning

Norwegian Financial Mechanism · national implementation partner

Develops climate scenarios, adaptation planning tools, warning systems and policy integration methods to strengthen climate resilience across multiple sectors.

RESEARCH INFRASTRUCTURE & FACILITIES

Operational hydrometeorological monitoring network; weather and climate databases; climate projection and reanalysis datasets; Earth observation and geospatial data processing infrastructure; AI and machine learning development environments; climate and environmental service demonstrators; and decision-support platforms for weather, climate, flood, drought and environmental risk assessment.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, public authorities, environmental agencies, technology providers and sectoral experts from agriculture, forestry, water management, energy, transport, civil protection, health and urban planning.

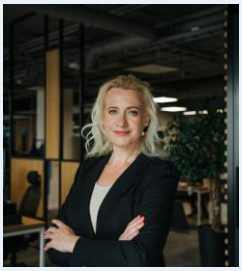
INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Latvian State Radio and Television Centre (LVRTC)

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LATVIA STATE RADIO AND TELEVISION CENTER



Ilze Žukova

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CORE TEAM

- **Jānis Delviņš** - cybersecurity and data centre business
- **Reinholds Nulle** - telecommunications network engineering
- **Sendijs Dzenītis** - cybersecurity technical department
- **Dita Krecere** - fibre infrastructure

KEYWORDS

Cybersecurity · Cyber resilience · Critical infrastructure protection · Critical infrastructure monitoring · Artificial Intelligence (AI) · Machine Learning · Computer Vision

DOMAINS OF APPLICATION

Defence · Digital Technologies · Artificial Intelligence · Cybersecurity

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: No experience yet

Can take on: WP leadership · Task leadership · Pilot implementation · Validation & testing · Policy recommendations · Stakeholder engagement

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Research infrastructures

WHAT WE CONTRIBUTE

Latvia's state operator of secure digital infrastructure and trusted digital services, contributing operational environments where innovative digital solutions can be validated and deployed at national scale - cybersecurity, resilient connectivity, sovereign data centres, quantum communication and secure digital identity.

- **Secure digital identity -** eIDAS-compliant trust services, electronic signatures, the European Digital Identity Wallet.
- **Cybersecurity -** Security Operations Centre capabilities, threat detection, incident response, cyber resilience testing.
- **Resilient connectivity -** high-capacity fibre and broadcast networks, critical undersea infrastructure monitoring.
- **Quantum communication -** national QKD backbone, integration of quantum technologies into existing networks.

SELECTED PROJECTS

Regional Hub for Critical Undersea Infrastructure Protection

Digital Europe Programme · project partner

Equips submarine fibre-optic cables with Distributed Acoustic Sensing for real-time monitoring, and develops an early warning system and cross-border information exchange procedures for the Baltic Sea region.

LATQN - deploying advanced national QCI systems and networks

Digital Europe Programme · coordinator

Coordinates Latvia's national Quantum Communication Infrastructure as part of EuroQCI, establishing a QKD backbone and validating secure use cases for public administration, healthcare, finance and 5G.

NOBID - European Digital Identity Wallet pilot

Digital Europe Programme · technology partner

Developed Latvia's prototype wallet within the multinational NOBID consortium and validated cross-border digital identity, credential exchange and payment functions under eIDAS 2.0.

RESEARCH INFRASTRUCTURE & FACILITIES

Sovereign data centres with high-availability cloud and AI infrastructure; one of Latvia's largest fibre backbone networks as a live environment for connectivity, sensing and resilience research; Security Operations Centre and cyber range; eIDAS-compliant trust services; quantum communication test environment for QKD; AI and computer vision demonstration environments.

EXPERTISE WE ARE LOOKING FOR

Partners working on SOC networks and cross-border cyber threat intelligence, distributed acoustic sensing and subsea cable monitoring, quantum key distribution and QCI integration, AI-supported threat detection, and secure digital identity - with a view to interoperable regional capabilities at European scale.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Linearis

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CORE TEAM

· **Lauris Zemturis**
· **Eriks Bunclers**
· **Linda Silaja**

KEYWORDS

Digital · AI · Language · Multilingual · Market access · Social · Data security · Cybersecurity

DOMAINS OF APPLICATION

Healthcare · Public administration · Education · Cultural & Creative Industries · Digital Technologies · Artificial Intelligence

PROFILE AT A GLANCE

TRL: 7-9

Horizon Europe experience: No experience yet

Can take on: WP leadership · Task leadership · Pilot implementation · Stakeholder engagement · Dissemination & communication · Data management · AI / Digital tools · Policy recommendations · Validation & testing · Training & capacity building

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals · NGOs · End users

WHAT WE CONTRIBUTE

Expertise and AI-supported tools for language applications in multilingual setups, combining social sciences with digital technologies, innovation management and internationalisation experience. Contributes technology, assessment, methodology development, anonymised data, market access for testing and piloting, project management and dissemination.

- **AI language tools -** AI-supported tools for language applications in multilingual setups.
- **Methodology & assessment -** development of methodologies and assessment approaches that combine social sciences with digital technologies.
- **Innovation management -** innovation management and internationalisation experience.
- **Piloting & market access -** market access in the Baltics for testing and piloting of solutions, supported by anonymised data.
- **Project delivery -** project management and dissemination.

SELECTED PROJECTS

RESEARCH INFRASTRUCTURE & FACILITIES

Multilingual data sets for language applications and access to the market in the Baltics.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - New European Bauhaus			
Widening participation and strengthening the European Research Area			

Logics Research Centre SIA

SME · LATVIA

Mikus Vanags

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CORE TEAM

· **Mikus Vanags** - founder, postdoctoral researcher

KEYWORDS

Artificial Intelligence · AI for Science · Formal Methods · Programming Languages · Scientific Computing · Domain-Specific Languages · Software Engineering · Mathematics Education · Physics Education · Automated Assessment

DOMAINS OF APPLICATION

Education · Public administration · Digital Technologies · Artificial Intelligence

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: No experience yet

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation · Dissemination & communication · Exploitation · Data management · AI / Digital tools · Validation & testing · Training & capacity building

Seeks partners among: Universities · SMEs · Large industry · Research infrastructures · End users

WHAT WE CONTRIBUTE

Expertise in programming language design, formal methods, AI-assisted scientific computing, research software engineering and digital technologies for mathematics and physics education. Contributes methods and tools that make AI-generated calculations more structured, reproducible and verifiable, plus research software, demonstrators and validation.

- **Language design -** domain-specific language design and compiler and interpreter development, supported by patented concepts such as implicit parameters and extension-style property calls.
- **Formal methods -** formal specification and verification with Lean 4, and formal modelling of computational approaches.
- **Research software -** .NET/C# software engineering, rapid prototyping, automated testing, benchmarking and integration of research results into software tools and demonstrators.
- **AI-assisted computing -** reliable computational tools for AI-assisted problem solving in mathematics and physics, with reproducible and verifiable calculations.
- **Educational assessment -** automated assessment and digital technologies for mathematics and physics education.

SELECTED PROJECTS

KatLang - Domain-Specific Language for Mathematics and Physics Problem Solving

European Regional Development Fund, Postdoctoral Research Programme · 2026-2029 · project implementer

Develops KatLang, a formally specified language for reliable mathematical and physical computation: semantic design, Lean 4 verification, .NET/C# runtime and tools, validation, assessment methods and a browser-based demo.

RESEARCH INFRASTRUCTURE & FACILITIES

KatLang, an open-source domain-specific language and research platform for AI-assisted mathematics and physics, comprising a formally specified semantic model in Lean 4, a .NET/C# runtime and command-line tools, an automated validation and testing environment and a browser-based interactive demonstrator. Also patented programming-language concepts (implicit parameters, extension-style property calls) for research on language design and developer tools.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, technology companies, research infrastructures and end-user organisations working in AI for Science, formal methods, programming languages, scientific computing, mathematics and physics education, and trustworthy AI. Expertise sought includes large language models for scientific reasoning, automated theorem proving, educational assessment and human-AI interaction, and use cases, datasets and pilot environments.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

National Institute of Research and Innovation - Biotic Interaction Research Group

RESEARCH INSTITUTE · RIGA, LATVIA · NIRI.LV

Dāvids Fridmanis

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CORE TEAM

- **Dita Gudrā** - bioinformatics
- **Ineta Kalniņa** - molecular genetics
- **Ance Roga** - metagenomics
- **Edgars Liepa** - sequencing technologies

KEYWORDS

Metagenomics · Bioinformatics · Genomics · GPCR pharmacology · ARG · Pathogens · Molecular interactions · Environmental interactions

DOMAINS OF APPLICATION

Healthcare · Pharmaceuticals · Smart Cities · Biodiversity · Forestry · Natural Resources · Food Systems · Agriculture · Environment

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Funded as a project partner · Submitted as a project coordinator · Submitted as a project partner

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals · NGOs · Research infrastructures · End users

WHAT WE CONTRIBUTE

Two complementary methodological domains: sequencing-based analysis of nucleic acids from virtually any biological sample, and molecular cloning and functional characterisation of recombinant proteins, particularly G protein-coupled receptors.

- **Sequencing & bioinformatics -** long- and short-read NGS of DNA and RNA; whole genome, transcriptome, metagenome and amplicon analysis with algorithmic and AI tools.
- **Environmental & microbiome studies -** microbial communities in marine and soil environments, plant-microbe interaction, pathogen and antimicrobial resistance gene monitoring in wastewater and the human gut.
- **Animal genomics -** population genetics of wild animals and genomics of domesticated species.
- **GPCR pharmacology -** expression in E. coli, P. pastoris and mammalian and avian cell systems; functional characterisation, medically relevant mutations, ligand search for known and orphan receptors.
- **Quantification -** qPCR and ddPCR quantitation of selected nucleic acid sequences.

SELECTED PROJECTS

Functional characterisation of GPCR gene mutations and search for new ligands

Latvian Council of Science · lzp-2025/1-0507 · 2026-2028 · project leader

Characterises disease-relevant mutations in G protein-coupled receptors and screens for novel ligands.

Streptomyces SynComs against ash dieback and acute oak decline

Latvian Council of Science · lzp-2024/1-0109 · 2025-2027 · co-leader

Uses genomics and transcriptomics to stack antagonistic mechanisms from an underexplored strain collection into synthetic microbial communities.

BlueRemediomics - harnessing the marine microbiome for sustainable biogenics

Horizon Europe · No. 101082304 · 2022-2026 · collaboration partner

Contributes metagenomic sequencing and analysis of marine microbial communities for novel bioactive compounds and ecosystem services.

RESEARCH INFRASTRUCTURE & FACILITIES

The Genome Centre - Latvia's main provider of biobanking and genome analysis services; a cell biology and microscopy core facility with BSL2 and BSL3 cell culture areas; a specific-pathogen-free small animal facility for in vivo work; and a biotechnology core facility covering expression systems, production optimisation, purification protocols and scale-up to 20 L.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

National Institute of Research and Innovation - Cancer Gene Therapy Group

RESEARCH INSTITUTE · RIGA, LATVIA · NIRI.LV

Anna Zajakina

Head of the Cancer Gene Therapy Group

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CORE TEAM

· **Juris Jansons** - viral vector engineering
· **Dace Skrastiņa** - preclinical models
· **Karīna Spunde** - immunology

KEYWORDS

Virus vectors · Pseudoparticles · Virus-like particles · Cancer immunotherapy · Gene delivery · Vaccines · Adjuvants · Cancer biology

DOMAINS OF APPLICATION

Biotechnology · Healthcare · Pharmaceuticals · Medical Technologies · Environment · Immunology

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Funded as a project partner · Submitted as a project coordinator · Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Dissemination & communication · Data management · Training & capacity building · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals · NGOs · Research infrastructures

WHAT WE CONTRIBUTE

Expertise in cancer gene therapy, viral vector development, tumour-associated macrophage reprogramming, myeloid cell biology, cancer immunotherapy and genetic adjuvants, with preclinical evaluation of novel therapeutic strategies. A particular strength is replication-deficient alphavirus vectors for local delivery of cytokines and immune-modulating factors into tumours.

- **Viral vectors -** design and production of alphavirus vectors, pseudoparticles and virus-like particles for gene delivery and vaccines.
- **Tumour immunology -** macrophage reprogramming, CAR-macrophage development, modelling of intratumoral immune infiltration.
- **Preclinical evaluation -** in vivo tumour models, multiparametric cytometry, microscopy and molecular analysis.
- **Vaccines & adjuvants -** recombinant vaccine prototypes and genetic adjuvants, including HBc VLP-based platforms.

SELECTED PROJECTS

Tumour-associated myeloid cell dynamics in response to alphavirus-driven immunomodulation

Latvian Council of Science · lzp-2024/1-0254 · 2025-2027 · €300 k · coordinator

Explores how alphavirus-driven immunomodulation reshapes myeloid cell populations within the tumour microenvironment.

CAR-macrophages and intratumoral infiltration in a breast cancer model

ANM consolidation project · 2024-2026 · €300 k · coordinator

Develops chimeric antigen receptor macrophages and models their infiltration into breast tumours.

Programming the breast cancer microenvironment towards immune responsiveness

Latvian Council of Science FLPP · 2022-2024 · €300 k · principal investigator

Converted immunologically "cold" tumours into responsive ones through targeted modulation of the microenvironment.

RESEARCH INFRASTRUCTURE & FACILITIES

BSL2 and BSL3 laboratories, animal core facility, electron microscopy core facility, cell culture and flow cytometry core facility, microbiology core facility and genome sequencing core facility.

EXPERTISE WE ARE LOOKING FOR

Partners in AI and computational modelling of immune processes - tumour-immune interaction, myeloid cell dynamics, treatment response prediction, biomarker discovery and multidimensional data integration - and groups working with CAR technologies and advanced in vitro and in vivo models such as tumour organoids and 3D co-culture systems.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Cancer · Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe · Restore our Ocean and Waters · New European Bauhaus			
Widening participation and strengthening the European Research Area			

Rīga Stradiņš University - Extended Reality in Rehabilitation

UNIVERSITY · RIGA, LATVIA · RSU.LV



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CORE TEAM

· **Edgars Bernans**
· **Gints Peleckis**
· **Issei Ogasawara**
· **Guna Semjonova**

KEYWORDS

Extended reality · Mixed reality · Cognitive function · Decision making · Stress · Sport · Athletes · Adolescent · Breathing biofeedback · Seniors

DOMAINS OF APPLICATION

Healthcare · Digital Technologies · extended reality

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Submitted as a project partner

Can take on: WP leadership · Living labs · AI / Digital tools · Training & capacity building · Validation & testing · Task leadership · Scientific leadership · Pilot implementation · Data management

Seeks partners among: Universities · SMEs · Research infrastructures · End users

WHAT WE CONTRIBUTE

Expertise in sports science, exercise physiology, rehabilitation, sport biomechanics, cognitive performance and technology-supported athlete assessment, with experience of pilot studies and randomised controlled trials with adolescent athletes. A mixed-reality platform with eye tracking and breathing biofeedback has been tested in real training environments.

- **Mixed-reality interventions -** development and evaluation for attention, stress regulation, breathing biofeedback and sport-specific cognitive-motor performance.
- **Athlete assessment -** wearable and laboratory-based methods, eye tracking, biomechanics and cognitive-motor testing.
- **Trials in sport -** pilot and feasibility studies and randomised controlled trials with adolescent athletes, including ethics and statistical analysis.
- **Project delivery -** protocol development, research governance, participant recruitment, intervention implementation, data collection, dissemination and coordination.

SELECTED PROJECTS

Mixed-reality platform for adolescent basketball players

Pilot studies and three-arm feasibility randomised controlled trial · 81 athletes

Scientific leadership, study design, intervention development, recruitment, data collection, physiological and cognitive assessment, statistical analysis, coordination and dissemination.

RESEARCH INFRASTRUCTURE & FACILITIES

Facilities and equipment of the RSU Sport Academy and the Healthcare Sports Research Centre, and sport-specific testing environments for research with athletes. Standalone HTC VIVE Focus Vision mixed-reality headsets with binocular eye tracking, mixed-reality software for cognitive attention and breathing-biofeedback training, basketball-specific testing environments and functional XR prototypes.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, sports and healthcare organisations, SMEs and technology providers with expertise in extended reality, eye tracking, biomechanics, wearable sensors, artificial intelligence and digital health, to develop and validate immersive technologies for sports science, rehabilitation and injury prevention. Complementary infrastructure, athlete or patient populations and Horizon Europe experience are also sought.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Rīga Stradiņš University - Feminist Investigations research group

UNIVERSITY · RIGA, LATVIA · RSU.LV



Jana Kukaine

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CORE TEAM

· **Diāna Kiščenko**
· **Elza Lāma**
· **Agnese Bankovska**

KEYWORDS

Gender and intersectionality · Social anthropology · Post-socialist studies · Digital and media studies · Food studies

DOMAINS OF APPLICATION

Healthcare · Education · Cultural & Creative Industries · Defence · Artificial Intelligence

PROFILE AT A GLANCE

Horizon Europe experience: Funded as a project partner · Submitted as a project partner

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation

Seeks partners among: Universities · Public authorities · NGOs · Research infrastructures · End users

WHAT WE CONTRIBUTE

Interdisciplinary expertise in feminist research, social anthropology, sociology, media and communication studies, art studies and cultural analysis, connecting the social sciences and humanities with medical, environmental, technological and cultural research.

- **Gender & intersectionality -** intersectional, postcolonial and post-socialist feminist approaches; gender and sexuality, reproductive politics, care and social reproduction, motherhood, family and kinship, and migration.
- **Qualitative methods -** ethnographic and anthropological research, semi-structured interviews, thematic, critical discourse, media, visual and narrative analysis, and non-verbal and creative methods.
- **Digital culture & food -** digital communication, social media and online narratives, digital care work, and the anthropology of food and alternative food systems.

SELECTED PROJECTS

INCLUDE - fostering inclusive biomedicine gaps in research and higher education

Horizon Europe · 2025-2026 · partner coordinator, Rīga Stradiņš University

Coordinates the university's contribution on gender equality and inclusion in biomedical research and higher education, identifying structural gaps and supporting institutional change through gender equality planning.

SHIFT - shaping informed frameworks for trust

EU-funded research project · 2026-2027 · researcher, partner team

Contributes to a 13-country project on the societal impact of disinformation, combining cross-national research, behavioural segmentation and campaign testing to develop evidence-based counter-narratives.

RESEARCH INFRASTRUCTURE & FACILITIES

Interdisciplinary research environments linking social sciences and humanities with health and biomedical research; qualitative research capacity for interviews, ethnography, focus groups, narrative and discourse analysis; digital and media research environments; qualitative datasets on gender, motherhood, migration, food practices and kinship (subject to ethical and data-protection requirements); and participatory spaces for workshops, stakeholder engagement, seminars, exhibitions and public events.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, public authorities, NGOs, cultural organisations and other societal partners whose expertise complements social sciences, humanities, cultural studies and interdisciplinary research.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe · Restore our Ocean and Waters · New European Bauhaus			
Widening participation and strengthening the European Research Area			

Rīga Stradiņš University - Integrative Bioinformatics Group

UNIVERSITY · RIGA, LATVIA · SCIENCE.RSU.LV

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KEYWORDS

Omics data integration · Multimodal health data · Machine learning · Biomarker discovery · Synthetic health data · Privacy-preserving analytics · FAIR computational workflows

DOMAINS OF APPLICATION

Healthcare · Pharmaceuticals · Medical Technologies · Digital Technologies · Artificial Intelligence · Cybersecurity · Biotechnology

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Submitted as a project partner

Can take on: WP leadership · Task leadership · Scientific leadership · Consortium coordination · Pilot implementation

Seeks partners among: Universities · Hospitals · Large industry · Research infrastructures

WHAT WE CONTRIBUTE

Computational approaches for integrating multi-modal health, phenotypic and omics data across cohorts and experimental systems, combining supervised and unsupervised learning to derive reproducible, interpretable representations for biomarker discovery, risk prediction and subgroup stratification - under FAIR-aligned automated workflows on HPC and cloud, aligned with Latvia's accession to ELIXIR.

- **Multi-omics integration -** combining clinical, phenotypic and omics data to improve diagnostic yield and biological interpretation in complex disease.
- **Machine learning -** classification, regression, clustering, latent factor models and network-based approaches for high-dimensional data.
- **FAIR workflows -** containerised, reproducible pipelines in Nextflow, Docker and Apptainer, scalable across HPC and cloud.
- **Synthetic health data -** systematic evaluation of realism, analytical utility and privacy for responsible use in health research.

SELECTED PROJECTS

HiCALS - hypothalamic mechanisms of high-calorie intervention in ALS

EU Joint Programme Neurodegenerative Disease Research (JPND) 2022 · partner and WP lead

Led bioinformatics on integrating clinical and lipidomics data, developing a network-informed machine learning workflow linking lipid co-abundance modules to nutritional intervention outcomes.

PROGRESS - AI for integrated assessment of the coronary collateral circulation

ERA PerMed / Horizon 2020 ERA-NET Cofund · partner and WP lead

Integrated genetic, clinical and lifestyle data for coronary artery disease risk prediction, including large-scale UK Biobank analysis and reproducible computational methods.

RESEARCH INFRASTRUCTURE & FACILITIES

A computational research environment for reproducible multi-modal analysis: FAIR-aligned containerised workflows (Nextflow, Docker, Apptainer); pipelines for multi-omics integration, network analysis, machine learning, biomarker discovery and synthetic health data evaluation; HPC access through institutional partnerships and Azure-based cloud computing; secure data management platforms and curated cardiovascular, ALS and immune-related datasets.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, hospitals, biobanks and consortia holding large, well-characterised multi-modal health, phenotypic and omics datasets, and experienced coordinators able to provide experimental or clinical validation of computational findings.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Cancer			
Widening participation and strengthening the European Research Area			

Riga Technical University - Antibacterial Biomaterials and Hydrogels

UNIVERSITY · RIGA, LATVIA · BBI.RTU.LV



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CORE TEAM

- **Artemijs Sceglovs** - antibacterial biomaterials, hydrogels
- **Liga Stipniece** - calcium phosphate biomaterials

KEYWORDS

Antibacterial Biomaterials · Calcium Phosphates · Hydrogels · Bone Regeneration · Implant-associated Infections · Antimicrobial Resistance · Nanomaterials

DOMAINS OF APPLICATION

Healthcare · Medical Technologies · Pharmaceuticals · Manufacturing · Advanced Materials

PROFILE AT A GLANCE

Horizon Europe experience: Funded as a project partner · Funded as a project coordinator

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Dissemination & communication · Validation & testing

Seeks partners among: Universities · SMEs · Hospitals · Research infrastructures · Large industry

WHAT WE CONTRIBUTE

Expertise in antibacterial and regenerative biomaterials, including calcium phosphate materials, injectable hydrogels, polymer-ceramic composites and non-antibiotic strategies for bone and tissue infections. The team can contribute scientific and work package leadership, methodology development, validation, prototype development, training and exploitation.

- **Biomaterial synthesis -** calcium phosphate and nanoparticle synthesis, hydrogel and composite formulation, and rheology and injectability testing.
- **Characterisation -** physicochemical characterisation including XRD, FTIR, SEM/EDS, particle size, porosity and thermal analysis.
- **Antibacterial testing -** antibacterial and antibiofilm testing, including antimicrobial resistant strains.
- **Cell studies -** cytocompatibility and cell-material interaction studies.

SELECTED PROJECTS

BBCE - Baltic Biomaterials Centre of Excellence

Horizon 2020 Teaming Phase 2 · 2020-2027 · institute leadership and scientific contribution

Strengthens advanced biomaterials research and international collaboration, focusing on calcium phosphate materials, hydrogels, bone regeneration and translation.

BoneART - Injectable hydrogel for fracture-related bone infections

BioPhoT, National Research Programme Innovation Fund · 2026 · project lead

Advances a medical device concept through formulation optimisation, sterile prototype development, in vitro validation and preparation for further translational development.

RESEARCH INFRASTRUCTURE & FACILITIES

Integrated biomaterials research infrastructure covering synthesis, processing, characterisation, cell culture and microbiological evaluation: calcium phosphate and nanoparticle synthesis laboratories, hydrogel and composite formulation, freeze-drying, granulation and thermal processing, XRD, FTIR, SEM/EDS, particle size and porosity analysis, rheology and thermal analysis. Biological testing includes Class II biosafety cabinets, CO_2 incubators, fluorescence microscopy, plate readers and facilities for cytocompatibility, antibacterial and biofilm studies.

EXPERTISE WE ARE LOOKING FOR

Hospitals, clinical partners, universities, research institutes, SMEs and technology providers with expertise in bone and tissue infections, antimicrobial resistance, regenerative medicine and translational biomaterials, including clinically relevant bacterial models, organ-on-chip systems, in vivo validation and preclinical testing.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Riga Technical University - Faculty of Civil and Mechanical Engineering

UNIVERSITY · RIGA, LATVIA · RTU.LV



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CORE TEAM

- **Diāna Bajāre** - tenured professor, leading researcher
- **Mohammed H. Alzard** - postdoctoral researcher, self-healing concrete
- **Omid Hassanshahi** - senior researcher, composites and modelling

KEYWORDS

Sustainable construction materials · Circular construction · Waste valorisation · Alkali-activated materials · Durability

DOMAINS OF APPLICATION

Energy · Education · Artificial Intelligence · Advanced Materials · Environment

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Submitted as a project coordinator · Submitted as a project partner

Can take on: Proposal writing · WP leadership · Consortium coordination · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs

WHAT WE CONTRIBUTE

Expertise in sustainable and circular construction materials, durability and service-life assessment, waste valorisation and data-driven prediction of material performance.

- **Sustainable materials -** cementitious, lime-based and alkali-activated materials incorporating industrial and municipal waste streams, including bottom ash and fly ash.
- **Testing & characterisation -** mechanical and durability testing under environmental exposure, microstructural and mineralogical characterisation, and non-destructive evaluation.
- **Life-cycle assessment -** environmental and circularity assessment, infrastructure carbon-footprint estimation and eco-efficiency optimisation.

SELECTED PROJECTS

Eco-efficient and circular construction materials from Baltic waste streams

Latvian research funding / RTU postdoctoral research · postdoctoral researcher

Develops and characterises construction materials made with Baltic industrial and municipal waste streams such as bottom ash and fly ash, including formulation, mechanical and durability assessment, and circularity evaluation.

Twinning proposal - advanced engineering and materials research

Horizon Europe WIDERA / Twinning · proposal development and consortium contributor

Contributed to an international research-capacity-building proposal involving RTU and leading European universities, covering advanced materials, digital methods, researcher training, networking and collaboration.

RESEARCH INFRASTRUCTURE & FACILITIES

Laboratories for construction-material development and testing: material preparation, mechanical and durability testing, scanning electron microscopy with elemental analysis, thermal and mineralogical characterisation, thermal imaging and additive manufacturing, including 3D concrete printing.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, SMEs, industry, municipalities, infrastructure owners and technology providers in circular construction, advanced materials and climate-resilient infrastructure.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities · New European Bauhaus			
Widening participation and strengthening the European Research Area			

Riga Technical University - High Performance Materials and Structures

UNIVERSITY · RIGA, LATVIA · RTU.LV

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CORE TEAM

· **Janis Varna**
· **Andrejs Pupurs**
· **Sandris Rucevskis**

KEYWORDS

Composites · High-performance materials · Modelling · Multifunctional materials

DOMAINS OF APPLICATION

Manufacturing · Defence · Space Technologies · Smart Cities · Advanced Materials · Natural Resources · Healthcare · Energy · Transport & Mobility · Cultural & Creative Industries · Robotics & Automation

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Submitted as a project coordinator · Funded as a project partner

Can take on: Proposal writing · WP leadership · Task leadership · Pilot implementation · Dissemination & communication · Validation & testing · Data management

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs · Research infrastructures · End users

WHAT WE CONTRIBUTE

Expertise in composite and multifunctional materials, mechanical characterisation and materials and structural modelling, with a focus on lightweight materials that combine load-bearing with functions such as electrical conductivity, thermal management or energy storage. Offers materials design, testing, simulation support and technical validation.

- **Multifunctional composites -** development and testing of materials that combine mechanical load-bearing with electrical conductivity, thermal management or energy storage for lightweight, high-performance applications.
- **Mechanical characterisation -** experimental investigation of material behaviour under static and dynamic loading, including viscoelastic response, creep and stress relaxation.
- **Modelling & simulation -** analytical and finite element modelling to predict material and structural performance, supported by numerical simulation tools.
- **Composite manufacturing -** composite manufacturing, mechanical testing and characterisation in the Scientific Laboratory of Experimental Mechanics of Materials.
- **Technical validation -** validation of new material solutions for weight-sensitive sectors including aeronautics, automotive and electronics.

SELECTED PROJECTS

RESEARCH INFRASTRUCTURE & FACILITIES

Equipment includes an in-house induction heating system for composites; a Jeol JSM-IT200 scanning electron microscope with EDS, 3D surface topography module and DEBEN MT1000 in-situ mechanical testing rig; a FLIR A6752SC thermal imaging camera; a USPC 3010 ultrasonic testing system for damage in composites; a POLYTEC PSV-500-3D laser vibrometer; universal testing machines from 1 kN to 250 kN with a climate chamber option (-80 to 350°C); and an INSTRON Dynatup 9250 HV impact tower (up to 1600 J, 20 m/s, 5 MHz data capture).

EXPERTISE WE ARE LOOKING FOR

Research teams outside materials science, in fields such as medicine, defence, automotive, energy and other application domains, whose work would benefit from lightweight, high-performance composite or multifunctional materials.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Riga Technical University - Industrial and Power Electronics

UNIVERSITY · RIGA, LATVIA · RTU.LV



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CORE TEAM

· **Ģirts Staņa**
· **Jānis Voitkāns**
· **Kristaps Vītols**

KEYWORDS

Industrial electronics · Power electronics · Electrical engineering · Control systems

DOMAINS OF APPLICATION

Energy · Smart Grids · Electronics & Photonics · Smart Cities

PROFILE AT A GLANCE

Horizon Europe experience: No experience yet

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation · Dissemination & communication · Validation & testing

Seeks partners among: Universities · SMEs · Large industry · Research infrastructures

WHAT WE CONTRIBUTE

Expertise in power electronics converter design, electrical drive control systems, industrial electronics and DC microgrid power flow optimisation. The team contributes simulation model development, algorithm and methodology development, experimental prototype implementation, efficiency analysis and measurement, dissemination and exploitation, and is ready to join cross-disciplinary projects.

- **Power electronics -** design of power electronics converters, including GaN-based inverters, filter design and analysis of converter modularity.
- **Drive control -** research in electrical drive control systems and control methods that shorten speed and position transients.
- **DC microgrids -** power flow optimisation in DC microgrids.
- **Modelling & prototyping -** simulation model development, algorithm and methodology development and experimental prototype implementation.
- **Efficiency measurement -** efficiency analysis and measurement of converters and drive systems.

SELECTED PROJECTS

Enhance Europe - Energy harvesting collectors for urban road pavement

CETPartnership · 2024-2027 · budget about €2.3 million · partner scientific leader

Develops electrical pump control and power supply from PV panels, wireless power charging of sensors and control systems, in a 13-partner, nine-country consortium coordinated by the University of Padua.

GaN-based BLDC motor converter with dual power supply

Latvian Council of Science project · project scientific leader

Developed a gallium nitride inverter with dual power supply for a three-phase permanent-magnet motor, with filter design and control methods that shorten speed and position transients.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Riga Technical University - Innovation and Technology Transfer

UNIVERSITY · RIGA, LATVIA · RTU.LV

Irēna Vaivode

Postdoctoral researcher

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CORE TEAM

· **Individual researcher** - postdoctoral project led by the contact person

KEYWORDS

(1) Innovation and technology transfer · (2) business models · (3) research on digital solutions in industry · (4) research on the impact of knowledge factors and enterprise collaborative thinking on company innovativeness · (5) strategies

DOMAINS OF APPLICATION

Manufacturing · Energy · Digital Technologies

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Worked as a researcher on a Horizon Europe project several years ago.

Can take on: Proposal writing · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Research infrastructures

WHAT WE CONTRIBUTE

Interdisciplinary expertise combining the social sciences (economics and business management) with innovation, technology transfer and digital technology research, applied to the effects of digital transformation on innovation in traditional manufacturing companies in Latvia.

- **Interdisciplinary research -** combining economics and business management with innovation, technology transfer and digital technology research.
- **Digital transformation -** research on the effects of digital transformation on innovation in traditional manufacturing companies in Latvia.
- **Smart specialisation -** research aligned with the Latvian Research and Innovation Strategy for Smart Specialisation (RIS3), addressing ICT and, indirectly, smart materials, technologies and engineering systems.

SELECTED PROJECTS

Effects of Digital Transformation on Innovation in Traditional Manufacturing in Latvia

EU Cohesion Policy 2021-2027 · No. 1.1.1.9/LZP/1/24/151 · scientific supervisor

Postdoctoral research project (Measure 1.1.1.9) on how digital transformation affects innovation in traditional manufacturing companies in Latvia. The contact person is the scientific supervisor.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Riga Technical University - Personal Protective Equipment Laboratory (PPELab)

UNIVERSITY · RIGA, LATVIA · RTU.LV



Inga Dāboliņa

Professor, Head of the Personal Protective Equipment Laboratory, Senior Researcher

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CORE TEAM

- **Liene Siliņa** - researcher, textile materials testing
- **Beatrise Santa** - PhD researcher, clothing performance
- **Madara Mazkalniņa** - PhD researcher, textile and clothing

KEYWORDS

Textile Engineering · Personal Protective Equipment (PPE) · Protective Clothing · Advanced Textile Testing · Thermal Comfort

DOMAINS OF APPLICATION

Healthcare · Medical Technologies · Manufacturing · Transport & Mobility · Cultural & Creative Industries

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Submitted as a project coordinator · Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs

WHAT WE CONTRIBUTE

An ISO/IEC 17025 accredited laboratory for testing, validation and performance assessment of textile materials, clothing systems and personal protective equipment (PPE).

- **Textile testing -** fibre composition, mechanical and physical performance, air and water permeability, moisture management, colour, weathering and durability assessment.
- **Thermal comfort -** thermal insulation, heat and moisture transfer and clothing-body interaction using a sweating thermal manikin and guarded hotplate.
- **Protective performance -** heat and flame protection, thermal protective performance, contact heat and chemical splash testing.

SELECTED PROJECTS

CELLFIL - cellulose lyocell filaments for circular textile production

Horizon Europe · 2024-2028 · RTU Work Package 4 leader

Leads end-use validation and performance assessment of cellulose filament-based textiles for performance wear, automotive and technical applications, including benchmarking, testing and comfort assessment.

Iron hexacyanoferrate textile sorbents for radionuclide-protective face masks

Latvian Council of Science · lzp-2024/1-0015 · 2025-2027 · led by LU, RTU partner

Contributes textile substrate selection, standardised testing and performance evaluation, and leads work on ergonomics and service life of Prussian Blue-modified textiles for protective face masks.

RESEARCH INFRASTRUCTURE & FACILITIES

ISO/IEC 17025 accredited laboratory with a 35-zone sweating thermal manikin (ANDI), climatic chamber and Sweating Guarded Hotplate; tensile, tear, bursting, abrasion, pilling, air permeability, hydrostatic pressure and moisture management testing; heat, flame, thermal protective performance, contact heat and chemical splash testing; X-Rite colour measurement, UV/VIS spectrometry, Q-SUN xenon weathering and controlled laundering; and a Vitus Smart XXL 3D body scanner with Anthroscan software and anthropometric datasets.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, textile and advanced-material manufacturers, PPE and workwear producers, recycling actors, technology providers and end users.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Riga Technical University - Surface and Biomaterial Spectroscopy

UNIVERSITY · RIGA, LATVIA · BINI.RTU.LV

Yuri Dekhtyar

Professor

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CORE TEAM

· **Marina Romanova**
· **Hermanis Sorokins**
· **Nicole Burtovaja**
· **Marks Gorohovs**
· **Mirko Rocco**

KEYWORDS

XPS · SISM · Electron spectroscopy · Biomaterials · Nanodosimetry

DOMAINS OF APPLICATION

Healthcare · Medical Technologies · Education · Defence · Advanced Materials · Space Technologies · Biotechnology · Environment

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Funded as a project coordinator

Can take on: Consortium coordination · Proposal writing · WP leadership · Scientific leadership · Dissemination & communication · Exploitation · Training & capacity building

Seeks partners among: Universities · SMEs · Large industry · Hospitals · Research infrastructures · End users

WHAT WE CONTRIBUTE

Analytical support for the characterisation of solid material surfaces, using secondary ion mass spectrometry (SIMS), Auger, X-ray photoelectron (XPS) and infrared (FTIR) spectroscopies. Research topics include thin films with embedded nanoparticles for dosimetry of ionising radiation and surfaces of laser-treated titanium alloy.

- **Surface analysis -** characterisation of solid material surfaces by SIMS, Auger, XPS and FTIR spectroscopies.
- **Radiation dosimetry materials -** thin films with embedded nanoparticles for dosimetry of ionising radiation, and polymer nanocomposites for 3D printed patient-personalised boluses in radiation therapy.
- **Biomaterial surfaces -** surface electrical potential and cell immobilisation ability of laser-treated titanium alloy.
- **Field emission devices -** planar field emission microtriode structures.

SELECTED PROJECTS

Thin films with embedded nanoparticles for dosimetry of ionising radiation

Planar field emission microtriode structure

Surface electrical potential and cell immobilisation ability of laser-treated titanium alloy

Polymer-based nanocomposite for 3D printed patient-personalised boluses in radiation therapy

RESEARCH INFRASTRUCTURE & FACILITIES

SIMS, Auger, XPS and FTIR spectroscopy facilities, among others.

EXPERTISE WE ARE LOOKING FOR

Partners for collaboration in the research areas described in this profile.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Sprayify

SME · LATVIA · SPRAYIFY.ME



Rihards Ruska

Researcher

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CORE TEAM

- **Rihards Ruska** - physicist, luminescence methods, commercialisation
- **Toms Elvijs Šusts** - chemist, biocidal product compliance
- **Laura Paunina** - organic chemist, social media

KEYWORDS

Luminescence · Organic chemistry · Coatings · Biocides · Manufacturing · Social media management

DOMAINS OF APPLICATION

Healthcare · Manufacturing · Defence · Electronics & Photonics · Smart Cities · Advanced Materials · Biotechnology

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: No experience yet

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation · Stakeholder engagement · Dissemination & communication · AI / Digital tools

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals · NGOs · Research infrastructures · End users

WHAT WE CONTRIBUTE

Physics and chemistry expertise combined with innovation management and legal expertise, used to scale up research results and bring them to market. Coordinated a research project that developed and tested a monitorable antimicrobial luminescent coating.

- **Luminescence & coatings -** luminescence methods and the development of coatings with monitorable biocidal protection against microorganisms on surfaces.
- **Organic chemistry -** chemical development of coating formulations and related materials.
- **Biocidal compliance -** legal compliance of biocidal products.
- **Commercialisation -** innovation management, scale-up of research results and market entry, including patent filing.
- **Communication -** social media management and dissemination.

SELECTED PROJECTS

LUMICOAT - bioactive luminescent coatings for antimicrobial protection

BioPhoT research project · coordinator

Developed a novel coating providing monitorable biocidal protection against microorganisms on surfaces and tested it in real-world conditions. A patent application was submitted on the basis of the results.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Cancer · Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe · Restore our Ocean and Waters · New European Bauhaus			
Widening participation and strengthening the European Research Area			

Stratex

SME · LATVIA · STRATEXGROUP.IO



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CORE TEAM

- **Valdis Pornieks**
- **Anton Semenov**
- **Gustavs Ērglis**
- **Signe Valtiņa**

KEYWORDS

Cybersecurity · Dual-use · Digital democracy · Applied artificial intelligence · Secure software development · Vulnerability assessment · Penetration testing

DOMAINS OF APPLICATION

Digital Technologies · Artificial Intelligence · Cybersecurity · Public administration · Defence · Education

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Funded as a project coordinator · Submitted as a project coordinator · Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation

Seeks partners among: Universities · SMEs · Large industry · Public authorities · NGOs · Research infrastructures

WHAT WE CONTRIBUTE

Expertise in cybersecurity, dual-use technologies, applied artificial intelligence, secure software development and digital democracy, combined with practical experience in citizen participation and organisational development. Can define technical requirements, build prototypes and demonstrators, run pilots, validate security and usability, and deliver training.

- **Cybersecurity -** security assessments, penetration testing and RAVEN, an AI-enabled platform for continuous vulnerability assessment and risk prioritisation.
- **Applied AI -** AI-supported solutions and cybersecurity automation that turn technical findings into practical remediation guidance.
- **Secure software -** development of web and mobile applications, software integration, rapid prototyping and iterative testing.
- **Digital democracy -** tools for collective decision-making and citizen participation, developed with user-centred design.

SELECTED PROJECTS

RAVEN - AI-enabled cybersecurity platform
Co-developer with Cyber Squad Global
Develops a platform for continuous vulnerability assessment, threat prioritisation and actionable security reporting, drawing on applied AI and cybersecurity automation.

ManaBalss.lv mobile application - digital citizen participation
Recovery and Resilience Facility (RRF), NextGenerationEU · mobile application developer
Developed a mobile application that lets citizens browse and support public initiatives and make donations, improving mobile access to civic participation.

Varu.Daru - Cultivating Civic Habits, youth civic engagement
ECAS EURECA regranting scheme, co-funded by CERV · development partner
Develops a mobile application supporting civic competence and participation among young people aged 14-18.

RESEARCH INFRASTRUCTURE & FACILITIES

Software development and testing environments for web and mobile applications, together with cybersecurity assessment tools. Subject to project-specific arrangements, RAVEN can support demonstrations and evaluation of AI-enabled vulnerability assessment and risk reporting. Access to platforms and testing environments is agreed per project according to technical requirements, licensing and data protection.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, technology companies, public authorities and civil society organisations for long-term partnerships, with expertise in cybersecurity, trustworthy AI, human factors, digital governance and democratic participation.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Transport and Telecommunication Institute (TSI)

UNIVERSITY · RIGA, LATVIA · TSI.LV



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CORE TEAM

- **Irina Yatskiv** - professor
- **Igor Kabashkin**
- **Nadezda Spiridovska** - data analytics and AI cluster

KEYWORDS

Transport engineering · Intelligent transport systems · Artificial intelligence · Intelligent systems · Multi agent system · Mobility and transportation · Big data

DOMAINS OF APPLICATION

Energy · Smart Grids · Transport & Mobility · Digital Technologies · Artificial Intelligence · Electronics & Photonics · Smart Cities

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Funded as a project coordinator · Submitted as a project coordinator · Submitted as a project partner

Can take on: WP leadership · Task leadership · Scientific leadership · Dissemination & communication · Exploitation

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Research infrastructures

WHAT WE CONTRIBUTE

Expertise in artificial intelligence, big data, modelling and additive manufacturing, with access to live urban testing in the Riga city network and 20+ simulation studies. More than 50 active researchers with 900+ Scopus publications, WP leadership and coordination experience in Horizon Europe and Latvian national funds, and dissemination through the RelStat conference and the Transport & Telecommunication journal.

- **AI and data analytics -** artificial intelligence, data analytics and software engineering, including AI-based synthetic data generation and data quality evaluation.
- **Transport and logistics -** AI-driven optimisation, system modelling and evaluation of sustainable logistics, sustainable urban mobility pilots and transport automation skills.
- **Modelling and simulation -** applied modelling and simulation, including 20+ simulation studies on the Riga city network.
- **Additive manufacturing -** metal additive manufacturing in the Additive Lab.

SELECTED PROJECTS

BIO-INTEL-MOB - citizen-centric intelligent solutions for mobility and logistics in cities

Horizon Europe Missions · 2026-2030 · partner

Leads the main urban-peri-urban pilot in Riga.

HOLOGISTICS - holistically optimised logistics operations and green solutions

Horizon Europe Cluster 5 · 2025-2028 · partner

Leads AI-driven optimisation, system modelling and evaluation of sustainable logistics frameworks.

RESEARCH INFRASTRUCTURE & FACILITIES

20 specialised laboratories, including the Additive Lab for metal additive manufacturing, and 3 research clusters with expertise in artificial intelligence, data analytics, cyber-physical systems, telecommunications, robotics, applied modelling and software engineering.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

University of Latvia - Center for Sustainable Chemistry

UNIVERSITY · RIGA, LATVIA · MDZF.LU.LV

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CORE TEAM

· **Roman Viter** - associate professor
· **Eduards Bakis** - associate professor

KEYWORDS

Organic Luminophores · Aggregation-Induced Emission · Volatile Spoilage Markers · Optical Gas Sensors · Smart Packaging

DOMAINS OF APPLICATION

Healthcare · Advanced Materials · Food Systems

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: No experience yet

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership · Validation & testing

Seeks partners among: Universities · SMEs · Large industry · Research infrastructures

WHAT WE CONTRIBUTE

Organic and functional material synthesis, optical physics, sensor engineering and smart packaging formulation, centred on pyridinium-based luminophores with aggregation-induced emission (AIE) and ratiometric optical sensors for temperature, moisture and volatile compounds. The team links fundamental organic chemistry with applied optoelectronics.

- **Luminophore design -** rational molecular design of pyridinium-based AIE luminophores, with structural optimisation, kinetic polymorphism studies and DFT calculations.
- **Optical gas sensors -** ratiometric sensors for volatile biogenic amines and carboxylic acids, validated in custom climate-controlled chambers, with models linking fluorescence to analyte concentration.
- **Synthesis and scale-up -** route optimisation from milligram to 10 g batches and thermal robustness for melt extrusion at 180-220°C.
- **Characterisation -** NMR, FTIR, XRD, XPS, LC-MS, GC, Raman, TGA and DSC.

SELECTED PROJECTS

BioSmartFilm - intelligent bioplastic packaging for meat and fish freshness

EUREKA Eurostars · Project No. 10527 · project manager and researcher

Leads chemical formulation and scale-up integration of AIE luminophores into bioplastic films for real-time optical sensing of volatile biogenic amines in meat and seafood packaging.

FRESHWAVE - optical sensor solution for smart seafood packaging

BioPhoT platform · Grant No. OSI_PIP_BioPhoT-2025/1-0013 · project manager, lead researcher

Oversaw design and validation of ratiometric optical gas sensors for seafood quality control and the move from laboratory molecules to packaging prototypes tested against spoilage gases.

BRIGHTS - binary ionic organic systems for solid state lighting

ERDF · Grant No. 1.1.1.3/1/24/A/006 · work package leader

Leads the work package on synthesis and structural engineering of ionic organic luminophores, improving photoluminescence quantum yield and photostability.

RESEARCH INFRASTRUCTURE & FACILITIES

Synthetic chemistry laboratories equipped for air- and moisture-sensitive reagents; NMR, FTIR, XRD, XPS, LC-MS, GC, Raman, TGA and DSC characterisation; custom gas exposure testing chambers; 3D bioprinting equipment for surface deposition.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

University of Latvia - Centre for European and Transition Studies

UNIVERSITY · RIGA, LATVIA · LU.LV



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CORE TEAM

· **Inna Steinbuka** - professor
· **Janis Zvirgzdins**
· **Tatjana Muravska** - professor

KEYWORDS

Social sciences · European studies · Socio-economic analysis · Regional development · Regional economics · Territorial development · Innovation policy

DOMAINS OF APPLICATION

Energy · Public administration · Education · Cultural & Creative Industries · Defence · Smart Cities · Biodiversity

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project coordinator · Funded as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Living labs

Seeks partners among: Universities · Public authorities · NGOs · Research infrastructures · Large industry

WHAT WE CONTRIBUTE

Interdisciplinary expertise in social sciences, economics, European studies, regional and territorial development, innovation policy, digital transformation and public policy, combining academic research with applied approaches. Contributes methodology development, stakeholder engagement and co-creation, impact assessment, policy recommendations, capacity building and project coordination.

- **Research methods -** qualitative, quantitative and mixed-method research, including comparative and case-study analysis, surveys, interviews, focus groups, policy and document analysis, benchmarking, and indicator and KPI development.
- **Impact assessment -** socio-economic and policy impact assessment, needs and gap analysis, stakeholder mapping, policy recommendations and roadmaps.
- **Co-creation & living labs -** co-creation, stakeholder engagement, living and transition labs, peer review and mutual learning.
- **Thematic areas -** digital and green transitions, societal resilience, demographic change, youth and social inclusion, territorial inequalities, innovation ecosystems and technology uptake.

SELECTED PROJECTS

AI4Debunk - Participative AI-powered Tools to Debunk Disinformation

Horizon Europe · coordinator

Coordinates the project, contributing interdisciplinary research, stakeholder engagement, policy analysis, validation, dissemination and exploitation for participatory AI tools against disinformation.

Distance LAB - Developing Remote Working Skills and Services

Interreg Baltic Sea Region 2021-2027 · project manager

Develops Living Labs and an International Multidisciplinary Living Labs Network linking universities, businesses and public authorities, and is responsible for international networking.

RESEARCH INFRASTRUCTURE & FACILITIES

Social science research infrastructure for surveys, interviews, focus groups, stakeholder consultations, comparative research and policy analysis.

EXPERTISE WE ARE LOOKING FOR

Universities and research institutes, municipalities and regional authorities, public institutions, SMEs, NGOs and technology providers, to build or join consortia combining technology with social sciences, economics and policy research.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities · New European Bauhaus			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Atomic Physics and Spectroscopy

RESEARCH INSTITUTE · RIGA, LATVIA · ASI.LU.LV



Roman Viter

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CORE TEAM

· **Artis Kinens**
· **Mindaugas Tamosiunas**
· **Agris Berzins**

KEYWORDS

Metal oxides · Organic luminophores · Nanocomposites · Hydrothermal growth · Electrospinning · 3D printing · Optical gas and chemical sensors · Non-destructive optical methods

DOMAINS OF APPLICATION

Healthcare · Pharmaceuticals · Medical Technologies · Energy · Manufacturing · Defence · Electronics & Photonics · Space Technologies · Advanced Materials

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project coordinator · Funded as a project partner · Submitted as a project coordinator · Submitted as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership · Living labs · Validation & testing · Dissemination & communication

Seeks partners among: SMEs · Large industry · End users · Public authorities

WHAT WE CONTRIBUTE

Expertise in the synthesis, characterisation and application of nanomaterials with advanced optical properties. The team also brings dissemination and exploitation, project preparation, coordination and management to international consortia.

- **Nanomaterial synthesis -** metal oxides, organic luminophores and nanocomposites, using hydrothermal growth, electrospinning and 3D printing.
- **Optical sensors -** optical gas and chemical sensors, luminescence sensors for ion detection and non-destructive optical methods.
- **Spectroscopic characterisation -** UV-VIS-NIR and photoluminescence spectroscopy, FTIR and Raman.
- **Application areas -** smart food packaging, surface defect detection on wind turbine blades, cancer detection biosensors and agricultural sensing, with microfluidic integration.
- **Project management -** project preparation, coordination, dissemination and exploitation.

SELECTED PROJECTS

Novel 1D photonic metal oxide nanostructures for early stage cancer detection

H2020-MSCA-RISE-2017 · GA 778157

Development of luminescence biosensors based on ZnO nanostructures for cancer detection, integrated with microfluidic systems.

SENS4CORN - novel optical nanocomposite sensors for corn plant analysis

HORIZON-MSCA-2021-SE-01-01 · GA 101086364

Development of luminescence sensors for ion detection and nanocomposites for agricultural application, integrated with microfluidic systems, for analysis of micro and macro elements in corn plants.

FreshSens - optical sensor solution for smart packaging of fresh seafood

BioPhoT · OSI_PIP_BioPhoT-2025/1-0013

Develops new luminescence materials for smart food packaging, with transfer to commercialisation and application in the food industry and food transportation.

RESEARCH INFRASTRUCTURE & FACILITIES

UV-VIS-NIR spectroscopy, photoluminescence spectroscopy, FTIR and Raman; electrospinning, 3D printing, hydrothermal synthesis and glassware manipulation; optical gas and chemical sensor setup.

EXPERTISE WE ARE LOOKING FOR

Industrial partners and national agencies from the sensor sector, agricultural producers (meat, fish, vegetables and fruits), drone detection, the wind energy sector and H2/NH3 storage.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - A Soil Deal for Europe · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Numerical Modelling

UNIVERSITY · RIGA, LATVIA · MODINST.LV

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CORE TEAM

· **Tija Sīle**
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· **Andrejs Timuhins**
· **Aigars Valainis**
· **Rauls Pols**

KEYWORDS

Numerical modelling · AI · Oceanography · Hydrology · Hydrogeology · Hydraulics · Climate · Water quality · Renewable energy

DOMAINS OF APPLICATION

Energy · Artificial Intelligence · Digital Technologies · Biodiversity · Natural Resources · Environment

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Submitted as a project partner

Can take on: WP leadership · Task leadership · Scientific leadership · Pilot implementation · Stakeholder engagement · Dissemination & communication · Data management · AI / Digital tools · Validation & testing

Seeks partners among: Universities · SMEs · Large industry · End users

WHAT WE CONTRIBUTE

Expertise in numerical modelling and AI applied to oceanography, hydrology, hydrogeology, hydraulics, climate and water quality, with additional work on renewable energy.

- **Numerical modelling -** numerical modelling of oceanographic, hydrological, hydrogeological and hydraulic processes.
- **Climate & water quality -** climate and water quality modelling.
- **Artificial intelligence -** AI methods applied to ocean, climate and water-related problems.
- **Renewable energy -** modelling and smart management of hybrid renewable energy production.

SELECTED PROJECTS

CE2COAST - downscaling climate and ocean change to services
JPI Climate
Project on downscaling climate and ocean change to services: thresholds and opportunities.

ODIN-AI - Ocean Disaster Intelligent Network using AI
COST Action CA25171
Action on an ocean disaster intelligent network using AI.

Prototype of a hybrid renewable energy production and smart management system
Recovery and Resilience Mechanism project
Development of a prototype hybrid renewable energy production and smart management system for optimal use of resources.

RESEARCH INFRASTRUCTURE & FACILITIES

High-performance computing (HPC) and AI cluster.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Numerical Modelling (INM)

RESEARCH INSTITUTE · RIGA, LATVIA · MODINST.LU.LV



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CORE TEAM

· **Janis Virbulis**
· **Armands Krauze**
· **Andrejs Sabanskis**
· **Maksims Surovovs**
· **Krisjanis Kalme**

KEYWORDS

Crystal growth · Mathematical modelling · Neural networks · CFD · HPC

DOMAINS OF APPLICATION

Energy · Manufacturing · Artificial Intelligence

PROFILE AT A GLANCE

TRL: 1-3
Horizon Europe experience: No experience yet
Can take on: Proposal writing · WP leadership · Task leadership · AI / Digital tools · Validation & testing · Training & capacity building
Seeks partners among: SMEs · Large industry · Public authorities · Universities

WHAT WE CONTRIBUTE

More than 30 years of experience in mathematical modelling of silicon single crystal growth, using specialised and commercial software to simulate crystal growth equipment. Also carries out research on automation and smart control of industrial processes, supported by a dedicated 1000+ core HPC cluster.

- **Crystal growth modelling -** simulation of electromagnetics, heat transfer, hydrodynamics and point-defect transport in silicon single crystal growth equipment.
- **Process control -** research on automation and smart process control for industrial processes.
- **High-performance computing -** numerical solution of computationally demanding problems on a dedicated 1000+ core cluster.
- **Crystal growth experiments -** lab-scale furnace for growing crystals of low melting-point compounds such as LiBr.
- **Silicon growth technology -** development of the pedestal method for silicon crystal growth, supported by a numerical model system.

SELECTED PROJECTS

EuroCC 2 - skills and cooperation in European high-performance computing
project partner
The project aims to identify and address skills gaps in the European high-performance computing (HPC) ecosystem and to coordinate cooperation across Europe to ensure a consistent skills base.

Development of high-level digital skills in Latvia in the field of HPC
project partner
Aims to increase the number of specialists in Latvia with high-level digital skills (DigComp levels 7-8) and to create synergy between higher education, science and industry.

Silicon crystals up to 100 mm in diameter for power rectifiers
work package leader
Develops the pedestal method for silicon crystal growth and creates the numerical model system to support it.

RESEARCH INFRASTRUCTURE & FACILITIES

1000+ core HPC cluster; lab-scale crystal growth furnace for low melting-point compounds (e.g. LiBr); crystal growth modelling software.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Solid State Physics (Theory Laboratory)

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CORE TEAM

· **Yuri Mastrikov**
· **Andrew Chesnokov**
· **Alexander Platonenko**

KEYWORDS

Multi-scale modeling · Density functional theory · Machine learning approaches · Electrochemistry · Photonics · CO2 conversion · Nuclear fuels

DOMAINS OF APPLICATION

Energy · Artificial Intelligence · Electronics & Photonics · Space Technologies · Defence · Advanced Materials · Environment

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner · Submitted as a project coordinator · Submitted as a project partner · Funded as a project coordinator

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · Research infrastructures · NGOs · Large industry · SMEs

WHAT WE CONTRIBUTE

Multiscale modelling and machine-learning approaches, with experience from EU-funded projects on solid oxide electrochemical cells, nuclear fuels, radiation resistance of materials, photonics and e-fuels for CO_2 conversion. Strong expertise in density functional theory (DFT) and data analysis, combined with development of supporting programming tools.

- **Multiscale modelling -** combination of advanced computational methods and codes for materials and electrochemical systems.
- **Density functional theory -** DFT calculations for materials in electrochemical cells, nuclear fuels, photocatalysts and radiation-damage studies.
- **Machine learning -** machine-learning approaches and data analysis, with supporting programming tools.
- **Radiation damage -** radiation-induced defects in optical and dielectric materials for fusion, combining experimental and theoretical methods.

SELECTED PROJECTS

WPMAT-FM - functional materials for DEMO fusion reactors

EUROfusion · project coordination

Studies radiation-induced damage in optical and dielectric materials (Al2O3, MgAl2O4 spinel, amorphous SiO2) under neutron, electron, ion and proton irradiation, combining experimental and theoretical methods.

AETA - defect evolution and disordering in optical and dielectric materials for fusion

EUROfusion · project coordination

Advanced experimental and theoretical analysis of radiation damage in diagnostic windows, lenses, fibres and cables under intense neutron and gamma radiation.

RESEARCH INFRASTRUCTURE & FACILITIES

Computational software and a local Linux cluster.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, municipalities, SMEs, NGOs and technology providers with expertise in energy applications, AI and sustainability, for Horizon Europe collaborative projects.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Solid State Physics - Energy Materials

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CORE TEAM

· **Emmanuel Guilmeau**
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· **Francisco Molina Lopez**

KEYWORDS

Energy Materials · Thermoelectrics · Thermochromic · Lithography · Thermal deposition · Photonics · Battery

DOMAINS OF APPLICATION

Energy · Manufacturing · Electronics & Photonics · Space Technologies · Natural Resources · Environment · Medical Technologies

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Submitted as a project partner · Worked as a researcher in a european project.

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals

WHAT WE CONTRIBUTE

Capabilities across the research and innovation chain for functional materials: nanomaterials synthesis, micro- and nanofabrication, advanced characterisation, thermal analysis, device prototyping and computational modelling. Particular focus on thermoelectric and photochromic materials, supported by cleanroom facilities and high-performance computing.

- **Materials synthesis -** wet-chemical and microwave-assisted synthesis, vacuum deposition, and solution-based casting and coating of thermoelectric, photochromic and other functional materials.
- **Micro- & nanofabrication -** lithography and processing in ISO Class 4-8 cleanroom facilities for sensors, microfluidics and semiconductor-related work.
- **Advanced characterisation -** X-ray diffraction and photoelectron spectroscopy, electron microscopy (SEM, TEM), thermal analysis, thermoelectric transport and Hall effect measurements.
- **Device prototyping -** prototype thermoelectric generators and coolers, sensors and energy-harvesting systems, with optimisation and performance evaluation.

SELECTED PROJECTS

Advanced nanostructured thermoelectric materials for waste heat recovery

Horizon Europe / national research programme · lead researcher, work package leader

Led development of nanostructured thermoelectric materials that convert waste heat into electricity, including synthesis, characterisation and a prototype thermoelectric generator for energy harvesting.

Flexible polymer-inorganic hybrid thermoelectrics for wearable energy harvesting

Horizon Europe / COST Action / national innovation programme · principal investigator

Developed flexible composites of conductive polymers and inorganic thermoelectric nanomaterials, targeting self-powered wearable electronics and low-grade heat recovery.

RESEARCH INFRASTRUCTURE & FACILITIES

Materials synthesis laboratories for thermoelectric, photonic, electronic, ceramic, nanostructured and energy-storage materials; thin-film and coating facilities; a 650 m^2 ISO Class 4-8 cleanroom for micro- and nanofabrication; characterisation laboratories (structural, thermal, electrical, optical, spectroscopic, surface); energy materials laboratories; computing for modelling; and open-access prototype testing facilities.

EXPERTISE WE ARE LOOKING FOR

Researchers, research organisations and industry in advanced materials, energy technologies and device engineering.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Cancer · Adaptation to climate change · Climate-neutral and smart cities · A Soil Deal for Europe · Restore our Ocean and Waters · New European Bauhaus			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Solid State Physics - Ferroelectrics

RESEARCH INSTITUTE · RIGA, LATVIA · CFI.LU.LV

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CORE TEAM

- **Marija Dunce** - ferroelectric ceramics
- **Reinis Ignatans** - structural characterisation
- **Eriks Birks** - dielectric and piezoelectric properties
- **Shadab Dabagh** - magnetoelectric materials
- **Katrina Laganovska** - functional nanomaterials

KEYWORDS

Ferroelectrics · Piezoelectrics · Magnetoelectrics · 2D materials · Energy materials · Scanning Probe Microscopy of functional materials

DOMAINS OF APPLICATION

Advanced Materials · Electronics & Photonics · Biotechnology · Energy · Medical Technologies

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Funded as a project coordinator

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation · Dissemination & communication · Exploitation · Data management · Validation & testing

Seeks partners among: Universities · SMEs · Large industry · Hospitals · Research infrastructures · End users

WHAT WE CONTRIBUTE

Extensive expertise in the fabrication and characterisation of advanced functional materials - dielectrics, ferroelectrics, piezoelectrics, magnetoelectrics, energy materials, 2D and van der Waals materials - supported by a state-of-the-art scanning probe microscopy laboratory for visualising functional properties at the nanoscale.

- **Functional materials -** synthesis and processing of ferroelectric, piezoelectric and magnetoelectric ceramics, thin films and nanostructures.
- **Nanoscale characterisation -** scanning probe microscopy of functional properties, electrochemical strain microscopy, TEM, FIB patterning.
- **Energy materials -** Li-ion cathode materials, degradation studies, piezoelectric and triboelectric energy harvesting.
- **Biomedical devices -** self-assembled peptide nanotubes and biocompatible piezoelectric films for sensing and implantable devices.
- **Project delivery -** methodology development, pilot production, impact assessment, dissemination and exploitation.

SELECTED PROJECTS

FeLow-D - low-dimensional ferroelectrics for advanced electronic and biomedical devices

Horizon Europe WIDERA ERA Chair · 2024-2029 · coordinator

Hosts and coordinates the ERA Chair, building a research group around low-dimensional ferroelectrics and their electronic and biomedical applications.

Piezo2D - piezoelectricity in 2D materials: materials, modelling and applications

Horizon Europe MSCA Staff Exchanges · 2023-2027 · coordinator

Coordinates an international exchange network combining materials synthesis, modelling and application development for piezoelectric 2D materials.

Ensign - comprehensive non-invasive correlative nanoscopy with unprecedented resolution

Horizon Europe MSCA Staff Exchanges · 2022-2026 · partner

Develops correlative nanoscopy methods combining scanning probe and optical techniques for non-invasive characterisation of materials and biological samples.

RESEARCH INFRASTRUCTURE & FACILITIES

Scanning Probe Microscopy Laboratory with four dedicated instruments (including an Oxford Instruments Vero ES); piezoelectric and triboelectric energy harvesting setup; dielectric spectroscopy over wide temperature and frequency ranges; ferroelectric tester, LVDT and poling equipment; hydrothermal synthesis, pulsed laser deposition, magnetron sputtering, TEM and FIB patterning.

EXPERTISE WE ARE LOOKING FOR

Not specified - open to approaches from any complementary partner.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	European Innovation Ecosystems
EU Missions and New European Bauhaus - Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

University of Latvia - Institute of Solid State Physics - Thin Films and Photonics

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CORE TEAM

- **Virginija Vitola**
- **Sergejs Fomins**
- **Katrina Loganovska**

KEYWORDS

Materials Science · Thin Films · Photonics · Nanotechnology · Energy Storage · Microfluidics · Cleanroom Infrastructure

DOMAINS OF APPLICATION

Electronics & Photonics · Advanced Materials · Energy · Environment · Medical Technologies

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Submitted as a project coordinator · Submitted as a project partner · Funded as a project partner

Can take on: Consortium coordination · Proposal writing · WP leadership · Task leadership · Scientific leadership

Seeks partners among: Universities · SMEs · Large industry · Public authorities · Hospitals

WHAT WE CONTRIBUTE

Materials science, physics and cross-disciplinary technologies, with thin films and coatings, synthesis of 0D, 1D, 2D and nanocomposite materials, and characterisation under harsh conditions (space, vacuum, radiation). Research priorities cover photonic materials, energy harvesting and storage, microfluidics and biomedical devices, and computational materials science.

- **Photonic materials -** advanced functional materials for photonic devices and polymer photonics, with photoluminescence and spectroscopic ellipsometry.
- **Energy materials -** smart materials for energy harvesting, storage and conversion, including Li-ion and Na-ion battery electrode materials.
- **Microfluidics -** microfluidics, biomedical devices and organ-on-a-chip technologies.
- **Thin films -** thin film and coating technologies and synthesis of 0D, 1D, 2D and nanocomposite materials.

SELECTED PROJECTS

CAMART² - Centre of Advanced Materials Research and Technology Transfer

Horizon 2020 Teaming · coordinator and lead partner

Upgrades the institute into a regional Centre of Excellence for advanced materials research and technology transfer, working with KTH and RISE (Sweden) to link academic research with industry and commercialisation.

FeLow-D - low-dimensional ferroelectrics for electronic and biomedical applications

Horizon Europe ERA Chairs · coordinator and lead partner

Develops low-dimensional ferroelectric materials for energy harvesting, sensors, smart implants and electronic devices, integrating physics, chemistry and biomedical engineering.

RESEARCH INFRASTRUCTURE & FACILITIES

Over 650 m² of certified cleanroom space (ISO Class 4-8) for micro- and nanofabrication, thin-film deposition, photolithography, wet and dry etching and microfluidic chip prototyping.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, industrial end-users and high-tech SMEs specialising in advanced manufacturing scale-up, AI-driven computational modelling, biomedical in-vitro testing and sustainability assessment (LCA), to co-develop, test and scale solutions in photonics, energy storage and microfluidics within Horizon Europe and international initiatives.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Cancer · Adaptation to climate change · Climate-neutral and smart cities · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

University of Latvia - Spectroscopy and Light Source Technology Laboratory

UNIVERSITY · RIGA, LATVIA · LU.LV

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CORE TEAM

· **Gita Revalde**
· **Natalja Zorina**
· **Anda Abola**

KEYWORDS

Hf/rf electrodeless lamps · UV · Absorption spectroscopy · Plasma sources · Mercury · Standards

DOMAINS OF APPLICATION

Healthcare · Medical Technologies · Manufacturing · Education · Defence · Electronics & Photonics · Space Technologies

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project partner

Can take on: WP leadership · Scientific leadership · Policy recommendations · Exploitation

Seeks partners among: Universities · SMEs

WHAT WE CONTRIBUTE

Expertise in low temperature plasma research and application, in particular the development of UV electrodeless discharge lamps for atomic absorption spectrometry (AAS), quantum standards and precise reference cells. The team also develops optical gas-sensing methods and UV- and plasma-based treatment technologies for environmental, agricultural and biomedical applications.

- **Electrodeless lamps -** high-frequency electrodeless discharge lamps with different fillings for detecting heavy metals such as mercury, lead and arsenic in the environment, air, water and food, and for standards and reference cells.
- **Spectroscopy -** high-resolution spectroscopy, optical emission and absorption measurements and cavity ring-down spectroscopy.
- **Plasma diagnostics -** plasma diagnostics and experimental assessment of light-source stability, treatment performance and sensor response.
- **Optical gas sensing -** development of optical gas-sensing methods.

SELECTED PROJECTS

GMOS - Global Mercury Observation System

FP7 · coordinator in Latvia

Collected and distributed global monitoring data used to obtain mercury concentrations in different ecosystems and the food chain.

Mercury Contamination in Wild Birds in Latvia: Current Patterns and Previous Trends

Latvian Council of Science project · work package leader

Manufactured series of high-frequency electrodeless lamps with mercury fillings and used AAS to measure mercury in eggshells, feathers and food samples as monitoring indicators.

RESEARCH INFRASTRUCTURE & FACILITIES

University of Latvia infrastructure, including atomic mercury analysers with Zeeman background correction for heavy metals, calibrated spectrometers such as Jobin Yvon SPEX 1000M monochromators, AFM/STM integrated with spectroscopy, confocal Raman/fluorescence microscopes, a Fourier transform spectrometer IFS 125HR and systems for producing high-frequency electrodeless lamps.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, SMEs, technology providers and industrial partners with expertise in plasma technologies, photonics, materials science, optical sensing, biotechnology and environmental applications, for Horizon Europe projects that develop plasma-based technologies and products and advance knowledge of plasma sources and their applications.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	European Institute of Innovation and Technology
Research Infrastructures	Cluster 3 "Civil Security for the Society"	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus - A Soil Deal for Europe · Restore our Ocean and Waters			
Widening participation and strengthening the European Research Area			

University of Latvia - Thermoacoustics research group

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CORE TEAM

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· **V. Dzelme**
· **M. Navenickis**

KEYWORDS

Thermoacoustics · Energy harvesting · Renewables · Solar energy · Liquid metals · MHD · Magnetohydrodynamics

DOMAINS OF APPLICATION

Energy · Smart Grids · Manufacturing · Transport & Mobility · Defence · Space Technologies · Environment

PROFILE AT A GLANCE

TRL: 1-3

Horizon Europe experience: Funded as a project partner · Submitted as a project partner

Can take on: WP leadership · Task leadership · Scientific leadership · Validation & testing · Training & capacity building

Seeks partners among: Universities · SMEs · Large industry · End users

WHAT WE CONTRIBUTE

Technological expertise in thermoacoustic technologies, including design, manufacturing, prototyping and testing of thermoacoustic energy harvesters and power generation for renewables, waste heat recovery, off-grid electrification, radio-isotopic power systems and space missions. A particular strength is power generation without mechanically moving parts, including magnetohydrodynamic (MHD) generation.

- **Thermoacoustic power -** design, manufacturing, prototyping and testing of thermoacoustic energy harvesters and generators.
- **MHD generation -** magnetohydrodynamic electrical power generation with liquid metals and thermoacoustic drive, without mechanically moving parts.
- **Space power systems -** radio-isotopic power systems and power supply for space missions.
- **Energy harvesting -** applications in renewables, waste heat recovery and microgrids or off-grid electrification in remote areas.

SELECTED PROJECTS

SpaceTRIPS - Space Thermoacoustic RadioIsotopic Power System

Seventh Framework Programme (FP7) · GA 312639 · consortium partner

Responsible for construction, development and testing of a thermoacoustic-to-liquid metal MHD electrical power generation prototype for deep space power supply.

Linear electricity converters with hydraulic or acoustic coupling

European Space Agency contract 4000114451/15/NL/NDe · principal investigator

Evaluation and development of linear electricity converters with hydraulic or acoustic coupling.

RESEARCH INFRASTRUCTURE & FACILITIES

"SpaceTRIPS" thermoacoustic power generator; liquid metal MHD power generation facility; linear electric generator testing bench for vibrational energy harvesting; 5 tesla superconducting DC electromagnet; laboratory suitable for work with aggressive liquid metals; mechanical workshops.

EXPERTISE WE ARE LOOKING FOR

Scientific and industrial partners for collaboration on innovative electrification and energy harvesting technologies, and research organisations with complementary expertise in energy harvesting for participation in international project consortia.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	**Cluster 5 "Climate, Energy and Mobility"**	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change · Climate-neutral and smart cities			
Widening participation and strengthening the European Research Area			

Vidzeme University of Applied Sciences - AI in Education

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VIDZEME UNIVERSITY OF APPLIED SCIENCES



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CORE TEAM

· **Kaspars Osis**
· **Imelda Zadeja**
· **Anžela Jurāne-Brēmane**

KEYWORDS

Artificial Intelligence · Educational Technologies · Adaptive Learning · Data Analytics · Socio-Technical Systems Modelling

DOMAINS OF APPLICATION

Education · Digital Technologies · Artificial Intelligence · Cybersecurity

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Funded as a project coordinator

Can take on: WP leadership · Task leadership · Proposal writing · Scientific leadership · Pilot implementation

Seeks partners among: Universities · SMEs · End users · Public authorities · Research infrastructures

WHAT WE CONTRIBUTE

Interdisciplinary expertise in AI, educational technologies, data analytics, socio-technical systems modelling and innovation management, linking technological development with educational, organisational and societal perspectives.

- **AI & adaptive learning -** AI-supported adaptive learning, personalised learning content and prototype educational technology development.
- **Digital assessment -** formative and summative assessment models for digital, blended and technology-enhanced learning, and learning analytics.
- **Systems modelling -** simulation and system dynamics modelling, systems analysis and socio-technical systems modelling for decision support.

SELECTED PROJECTS

AI4EduLab - AI-driven, ethical and labour market-aligned personalised learning content

Latvian State Research Programme in Education · 2025-2027 · implementing institution

Develops AI solutions and personalised learning approaches for higher education, with data analysis, piloting and validation, ensuring academic integrity, copyright compliance and responsible AI use.

Climate Neutrality Decision Models in Action

Latvian State Research Programme for climate neutrality · 2024-2026 · partner

Contributes system dynamics and simulation modelling, cross-domain data integration, data quality analysis and decision-support tools, with machine learning for anomaly detection and missing data.

RESEARCH INFRASTRUCTURE & FACILITIES

Virtual and Augmented Reality Laboratory (over ten years developing and testing VR/AR solutions for education, training, healthcare, tourism and cultural heritage, with multi-user environments, digital twins and wearable sensors); Mobile Technology Laboratory (smart devices, microcomputers, IoT equipment, wearable sensor kits); Multimedia Laboratory (filming studio, green screen, lightboard, editing and sound recording); new robotics and automation, cybersecurity and sustainable construction facilities under development.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, municipalities, companies, start-ups, NGOs and technology providers with expertise in AI and machine learning, adaptive learning, learning analytics, human-computer interaction, sensors, digital twins, system dynamics, cybersecurity, data governance and responsible AI.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	Cluster 1 "Health"	**Cluster 4 "Digital, Industry and Space"**	**European Innovation Council**
Marie Skłodowska-Curie Actions	Cluster 2 "Culture, Creativity and Inclusive Society"	Cluster 5 "Climate, Energy and Mobility"	**European Institute of Innovation and Technology**
Research Infrastructures	Cluster 3 "Civil Security for the Society"	Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"	**European Innovation Ecosystems**
EU Missions and New European Bauhaus - Adaptation to climate change			
Widening participation and strengthening the European Research Area			

Vidzeme University of Applied Sciences - ViA VR-Lab

UNIVERSITY · VALMIERA, LATVIA · VA.LV



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CORE TEAM

· **Laura Ozoliņa**
· **Alvis Misjuns**
· **Zintis Erics**

KEYWORDS

Virtual Reality (VR) · Augmented Reality (AR) · Extended Reality (XR) · Immersive Technologies · Mixed Reality (MR) · Human-Computer Interaction (HCI) · Interactive Simulation

DOMAINS OF APPLICATION

Healthcare · Education · Cultural & Creative Industries · Digital Technologies · Smart Cities · Artificial Intelligence · Defence

PROFILE AT A GLANCE

TRL: 4-6

Horizon Europe experience: Submitted as a project partner

Can take on: Proposal writing · WP leadership · Task leadership · Scientific leadership · Pilot implementation

Seeks partners among: SMEs · Universities · Large industry · Public authorities · Hospitals

WHAT WE CONTRIBUTE

The Virtual Reality Technologies Laboratory (VR-Lab) of Vidzeme University of Applied Sciences offers expertise in virtual, augmented and extended reality (VR/AR/XR), immersive technologies, interactive simulation and human-centred digital solutions. It acts as a technology, research, prototyping and validation partner, turning research concepts into functional XR prototypes and evaluated demonstrators.

- **XR development -** VR/AR/XR solution design, multi-user VR, digital twins, 360° immersive environments, spatial interaction and AI-enhanced XR applications.
- **Simulation & training -** immersive simulation and training systems, including safety training and assessment platforms and cloud-based rendering for multi-user environments.
- **Sensing & integration -** eye, hand and body tracking, wearable and motion sensors, smart training equipment, and integration of hardware and software.
- **User-centred methods -** iterative design, rapid prototyping, usability and user-experience evaluation, pilot implementation, experimental testing and technology validation.

SELECTED PROJECTS

VireTS - tactical combat casualty care and battlefield advanced trauma life support

EDIDP-SME-2020-045-VireTS · European Defence Industrial Development Programme · 2022-2023 · WP leader

Provided expertise in cloud-based rendering for multi-user virtual environments, so that computationally demanding immersive scenes could be delivered remotely to several VR users for collaborative medical training.

Interactive Gardens - immersive VR for horticulture, education and well-being

Interreg · work package leader

Researches, designs and develops an interactive VR garden platform combining plant simulation, GIS-based terrain generation and user interaction, with educational, simulation and therapeutic modes.

RESEARCH INFRASTRUCTURE & FACILITIES

XR hardware for cross-platform development and comparative testing, including Meta Quest, HTC VIVE, Pico and Varjo headsets; eye, hand, body, object and facial tracking and wearable sensors; professional 360° and stereoscopic cameras; smart trainers and tracked physical controllers; Unity and Unreal Engine environments with components for multi-user VR, training and assessment scenarios, data visualisation and digital twins; and existing demonstrators in safety training, healthcare, rehabilitation, tourism and education.

EXPERTISE WE ARE LOOKING FOR

Universities, research institutes, SMEs, technology providers, public authorities, healthcare organisations, industry, NGOs and end users interested in developing and validating XR-based solutions.

INTERESTED IN:

PILLAR I	PILLAR II		PILLAR III
European Research Council	**Cluster 1 "Health"**	**Cluster 4 "Digital, Industry and Space"**	European Innovation Council
Marie Skłodowska-Curie Actions	**Cluster 2 "Culture, Creativity and Inclusive Society"**	Cluster 5 "Climate, Energy and Mobility"	European Institute of Innovation and Technology
Research Infrastructures	**Cluster 3 "Civil Security for the Society"**	**Cluster 6 "Food, Bioeconomy, Natural Resources, Agriculture and Environment"**	European Innovation Ecosystems
EU Missions and New European Bauhaus			
Widening participation and strengthening the European Research Area			

Thematic Index

Profiles interested in Pillar 2 Cluster 4 “Digital, Industry and Space”. Listed alphabetically.

Cluster 4 "Digital, Industry and Space"

AS Sadales tīkls
Baltic Photonics
Baltic Satellite Service
Daugavpils University - Society “Park of Intellect”
Digital Accelerator of Latvia
dots. (WeAreDots)
EKA University of Applied Sciences
GroGlass
InnoMatrix
Institute for Environmental Solutions
Institute of Economics of the Latvian Academy of Sciences
Institute of Electronics and Computer Science (EDI)
Latvia University of Life Sciences and Technologies - Business Incubator
Latvia University of Life Sciences and Technologies - digiMEI
Latvia University of Life Sciences and Technologies - Precision Agriculture and Beekeeping
Latvian Environment, Geology and Meteorology Centre - Data Systems and AI
Latvian Environment, Geology and Meteorology Centre - Digital Environmental Services
Latvian Environment, Geology and Meteorology Centre - Meteorology and Climate Services
Latvian State Radio and Television Centre (LVRTC)
Linearis
LMT
Logics Research Centre SIA
National Institute of Research and Innovation - Biotic Interaction Research Group
National Institute of Research and Innovation - Cancer Gene Therapy Group
Rīga Stradiņš University - Extended Reality in Rehabilitation
Rīga Stradiņš University - Feminist Investigations research group
Rīga Stradiņš University - Integrative Bioinformatics Group
Riga Technical University - Antibacterial Biomaterials and Hydrogels
Riga Technical University - Faculty of Civil and Mechanical Engineering
Riga Technical University - High Performance Materials and Structures
Riga Technical University - Industrial and Power Electronics
Riga Technical University - Innovation and Technology Transfer
Riga Technical University - Personal Protective Equipment Laboratory (PPELab)
Riga Technical University - Surface and Biomaterial Spectroscopy
Sprayify
Stratex
Tet
Transport and Telecommunication Institute (TSI)
University of Latvia - Center for Sustainable Chemistry
University of Latvia - Centre for European and Transition Studies
University of Latvia - Institute of Atomic Physics and Spectroscopy
University of Latvia - Institute of Numerical Modelling
University of Latvia - Institute of Numerical Modelling (INM)
University of Latvia - Institute of Solid State Physics (Theory Laboratory)
University of Latvia - Institute of Solid State Physics - Energy Materials
University of Latvia - Institute of Solid State Physics - Ferroelectrics
University of Latvia - Institute of Solid State Physics - Thin Films and Photonics
University of Latvia - Institute of Solid State Physics, Thin Films Laboratory
University of Latvia - Spectroscopy and Light Source Technology Laboratory
University of Latvia - Thermoacoustics research group
Vidzeme University of Applied Sciences - AI in Education
Vidzeme University of Applied Sciences - Digital Health and XR
Vidzeme University of Applied Sciences - ViA VR-Lab