VILNIUS TECH
Vilnius Gedminas technical university

An Introduction to Research Valorization at VILNIUS TECH University

Vilma Puriene, Director of Knowledge and technology transfer center

VILNIUS TECH

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Bilbao, Spain

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Vilma Puriene

- Director of Knowledge and Technology transfer centre, Vilnius Gediminas Technical University
- 16+ years in Innovation related activities
- 25+ international/ national R&D&I projects
- Previous experience: business growth, market opportunities
- Chair of the Board of the European digital innovation hub – EDIH VILNIUS
- Likes outside activities, gardening and reading
- Have a wonderful 4-years old daughter and 2 labrador retrievers ☺

We

Community

Values

Creativity — Innovativeness

Sustainability — Connection — Openness

Moonshots

Each learner constructs own learning experience	Each partner receives a knowledge-based smart solution	Each alumnus creates value for the society	International center of attraction for talent, business, society

Impact

Individual — Community — Society

BUSINESS PARTNERS	Bentley Systems, Inc.	Cognizant	Danske Bank	Lithuanian Airports	Lithuanian Railways	Mars	MoSys, Inc.	Siemens	Sweco	Teltonika	Thermo Fisher
CLIENTS for R&D services at VILNIUS TECH research centers and labs					✓		✓	✓		✓	
PARTNERS in international projects (e.g. Horizon Europe, Baltic Sea Region R&D&I)					✓		✓	✓	✓		
PATENTS, **LICENCES**					✓		✓	✓		✓	
CLIENTS for training courses, industrial PhD programmes	✓										✓
TRAINING AND QUALIFICATION DEVELOPMENT for companies	✓										
INTERNSHIPS, work placements	✓	✓	✓	✓	✓	✓			✓	✓	✓
LECTURES	✓	✓	✓	✓	✓	✓			✓	✓	
TOPICS for the students' final thesis			✓	✓	✓					✓	
Site visits to the companies		✓	✓	✓	✓	✓			✓	✓	
INVESTORS for development of students' technical creativity					✓	✓	✓			✓	
SUPPORT (Mentors for the developers of technological ideas, business angels, investors)	✓										✓

Pillars for Capacity Growth

SUNRISE VALLEY ECOSYSTEM

The strongest and largest Lithuania universities operate in the Valley:

- Vilnius University
- Vilnius Tech

Open access research centres:

- Laser Research Centre Naglis
- Life Sciences Centre
- Center for Physical Sciences and Technology
- Civil Engineering Research Centre
- Scholarly Information and Communication Centre

S&T parks and incubators:

- Sunrise Tech Park
- VU Technollogical business incubator
- CERN incubator

- New total R&D and studies area 8,525 m^2

- Investment in new infrastructure ~ 36 million EUR

Mision-based research and business cooperation...

Add on for the attraction of national co-funding opportunities

VILNIUS TECH is leading the SmartEcoTech project

The project aims to reduce the negative environmental impacts, accelerate the transition to **clean energy consumption, transform the country's economy into a high- and medium-high-tech industry, and foster the breakthrough of sustainable, high-value-added innovations in a climate-neutral** economy

VILNIUS TECH part of the investment:

- in the new equipment – 15.7 million EUR
- for joint projects with industry – 2.7 million EUR

VILNIUS TECH partners in the DIGI-DEFENSE project

The project aims to address cyber security issues, **and their links to the spread of disinformation and to increase the resilience of society, public institutions and infrastructure to the growing threat of cyber and information attacks**

VILNIUS TECH part of the investment:

- in the new equipment – 6.2 million EUR
- for joint projects with industry – 0.5 million EUR

VILNIUS TECH partners in the SustAInLivWork project

The project aims to create a joint Centre of Excellence in **AI for sustainable living and working, to strengthen the partners' R&D capabilities in AI.**

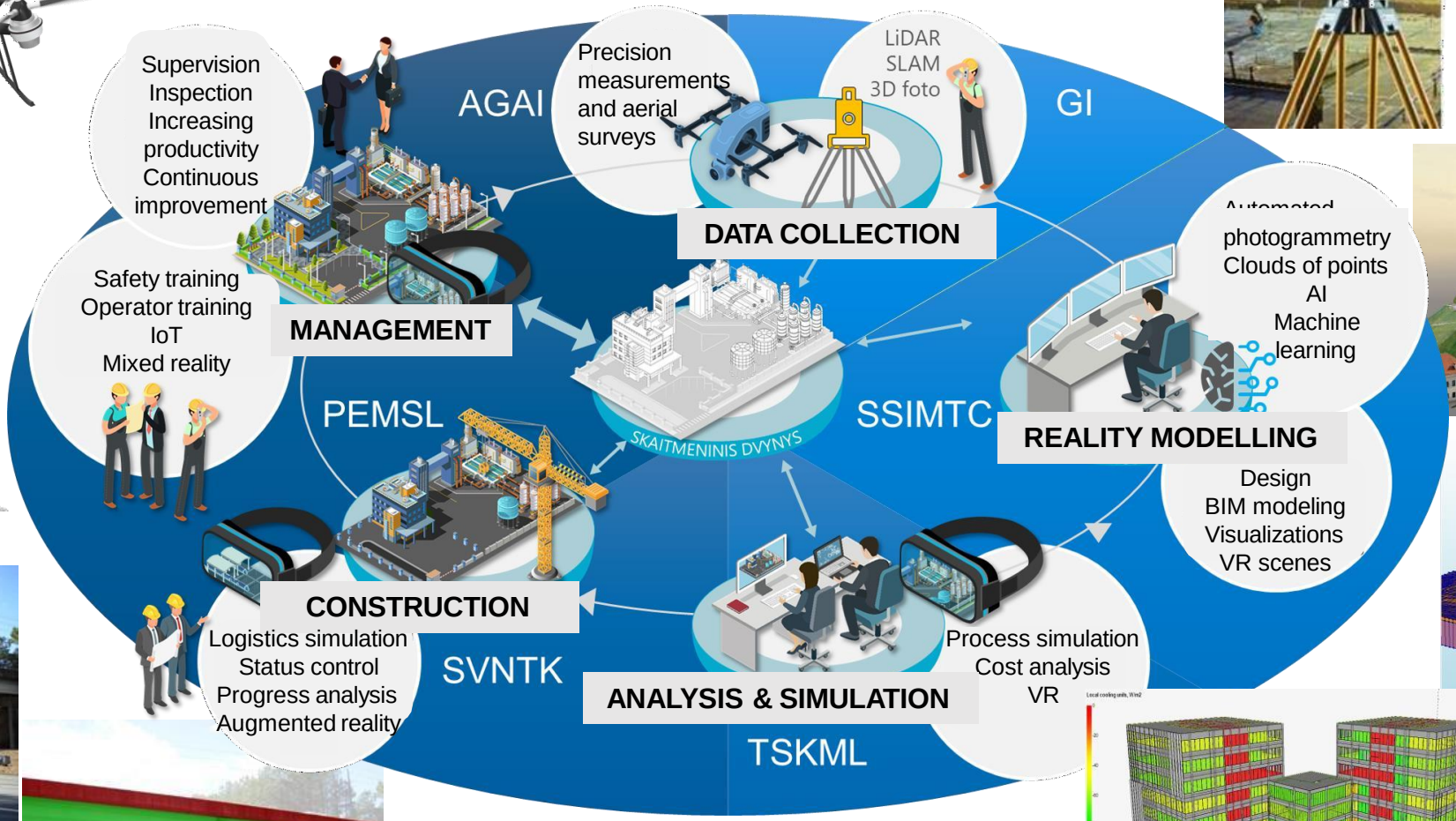
Investment in the Centre of Excellence – 30 million EUR

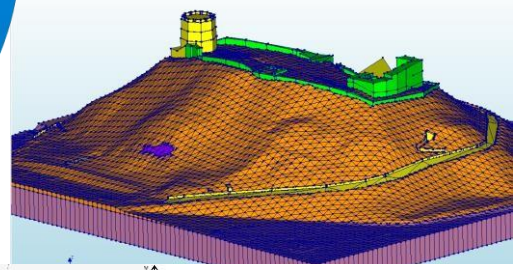
Innovation & Entrepreneurial Capacity of VILNIUS TECH and all Campus

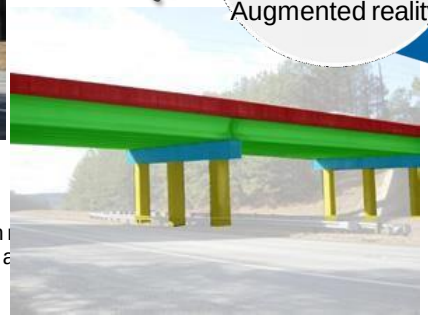
- **Digitalisation** – joint projects EDIH Vilnius, MERIT: Master of Science in Smart, Secure and Interconnected Systems
- **Cleantech:** participation in Cleantech Cluster, Cleantech for Baltics, Vilnius Tech leading SmartEcoTech mission-based project to create climate-neutral production technologies and materials
- **Deep Tech Focus:** focus on deep tech areas like Biotech, Robotics, Laser technologies, and IoT, as well as being an incubator for CERN technologies, highlights specialization in high-tech, innovative fields that require significant expertise and resources.
- **Large community of Startups and SMEs** : Sunrise Tech park is in daily contact with over 50 startups and SMEs engaged in cleantech and deep tech: ICT, IoT, laser, robotics, biotech
- **Extensive experience in providing innovation support services:** Sunrise Tech Park has 20 years of experience in running incubation, pre-acceleration, and acceleration programs and has ability to support tech startups effectively through various stages of growth.
- **International network and partnerships**: Sunrise Tech Park member of various international coalitions and memberships such as EIT Climate KIC, Digital SME Aliance, European Entrepreneurs, AIOTI, CleanTech for Baltics and has strong networking capabilities and the ability to leverage partnerships for the benefit of the startups

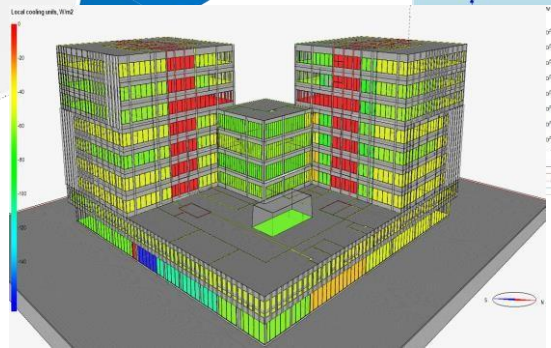
Quick Outlook of Ongoing Valorization activities

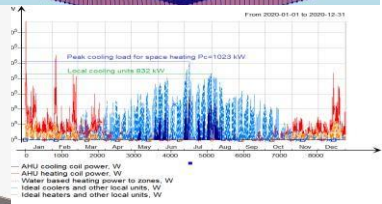
Reality Modelling, BIM, GIS and VR Integration Services at VILNIUS TECH









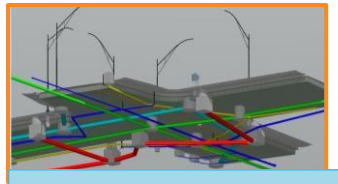


Enhancing Build Environment th
Twin Technology Development a

Concept of Preparation, Storage and Management of 3D Data of Real Estate (precommercial procurement)

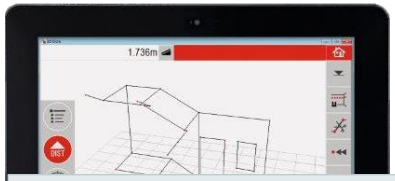
REGISTRŲ CENTRAS

1.1. Creation of over-ground 3D data of Real Estate Cadaster

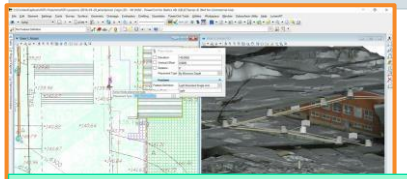


1.2. Creation of under-ground 3D data of Real Estate Cadaster

1.4. Automated processing technology for laser scanning and aerial photo data

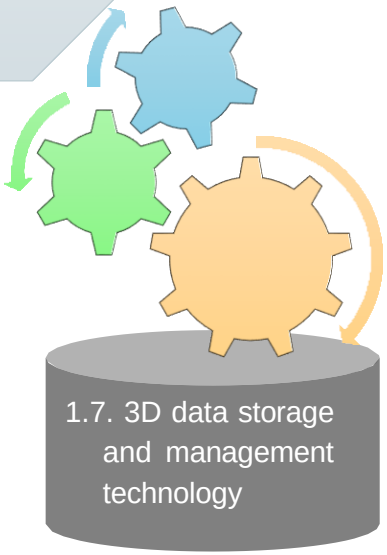


1.6. Technology to make a new measurements of Real Estate Cadaster object in 3D, and/or automated reconstruction of 3D from 2D drawings

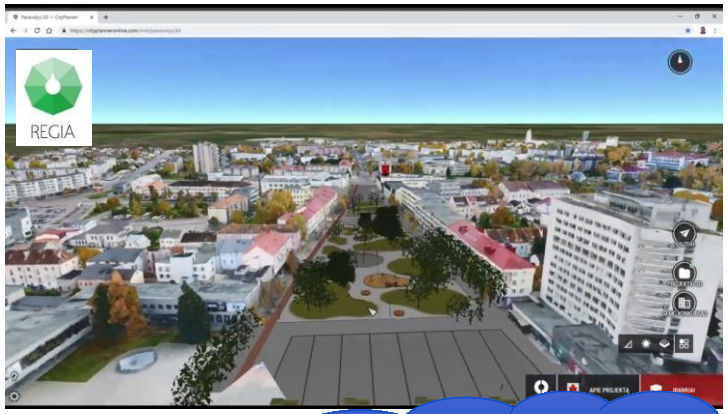


1.3. Integration of digital terrain models with Real Estate Cadaster 3D models

1.5. Integration of other important cadasters and registers spatial data (BIM models)



1.7. 3D data storage and management technology



2. Publishing of 3D models over Internet using REGIA system

1.8. Dynamic representation of the history of spatial data changes

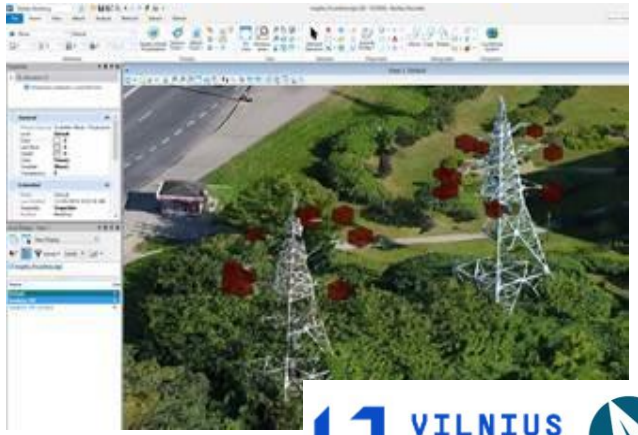
VILNIUS TECH DRONE TEAM INRE Computer-Aided Engineering Services

Power Line Inspection (precommercial procurement)

eso

Photogrammetry, Machine Learning and AI

Development of automated technologies designed for overhead power line diagnostics and detection of failures – defects



Some metrics:

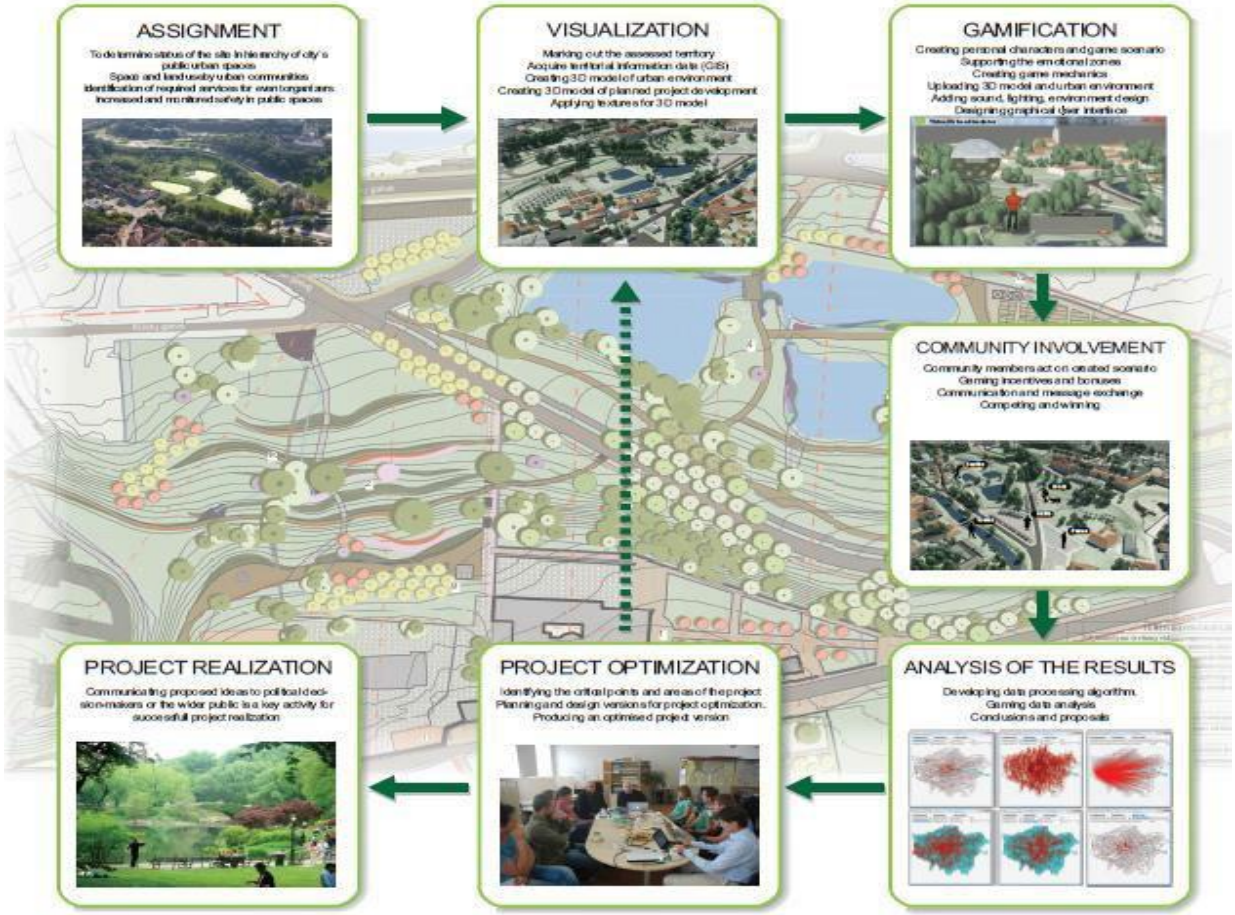
Number of labeled images	190
Number of tags	805
Detector creation time	8h15

VILNIUS TECH

DRONE TEAM

IN RE
Computer-Aided Engineering Services

VIRTUAL URBAN SIMULATION



VILNIUS TECH current scientific activities

Decision Support System of Well-being and Sustainability-oriented Digital Twin

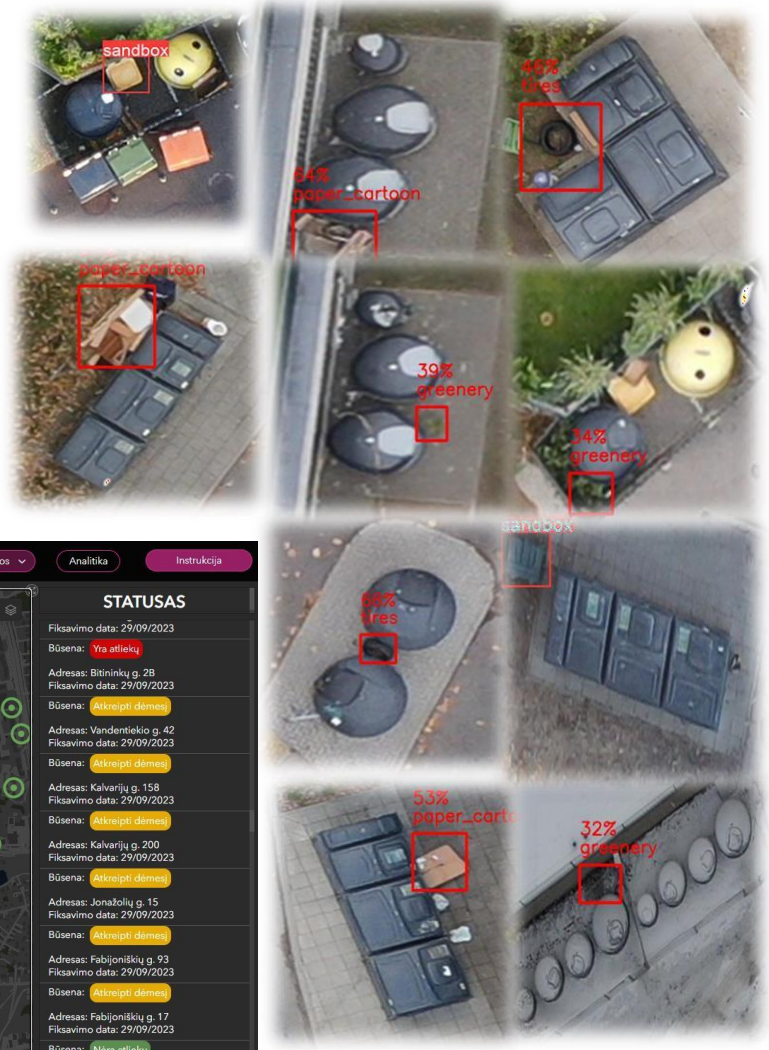
for higher social accessibility and inclusiveness

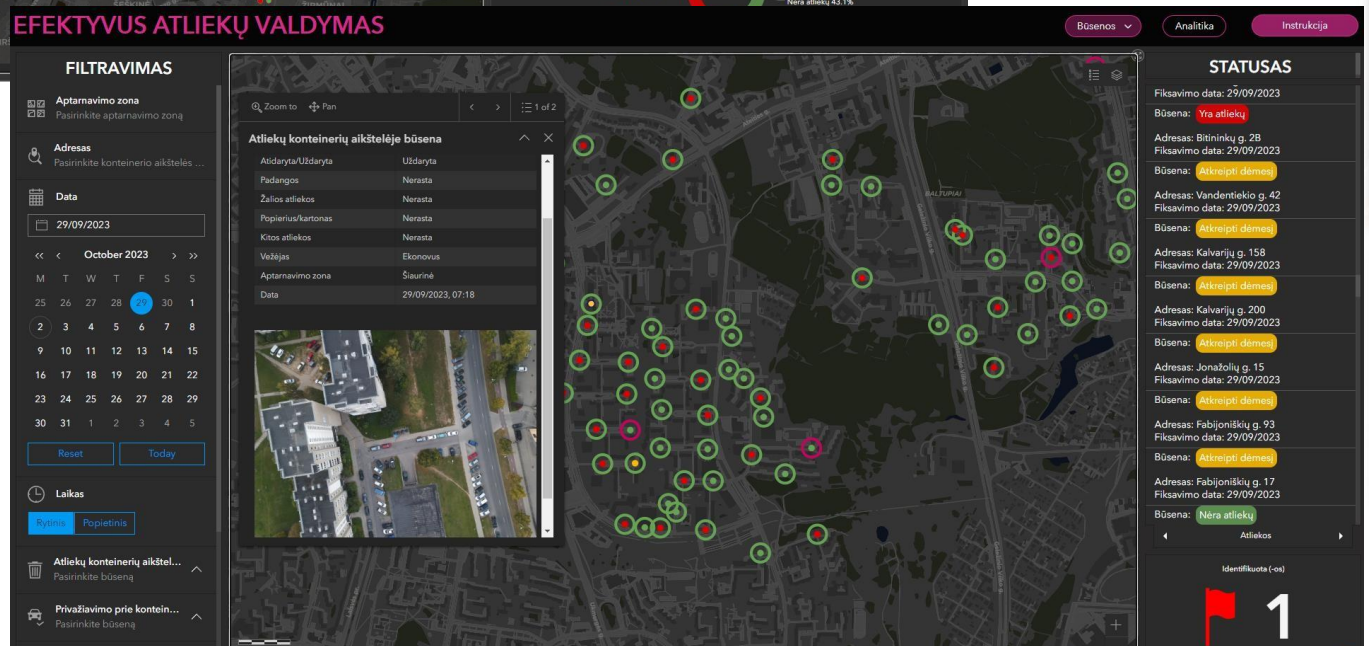
Functional module integrated into the existing platform of Computerized Maintenance Management Systems (CMMS):

- uses Artificial Intelligence (AI) to process the IoT (smart meters, controllers and sensors) data
- combines Well-being and Sustainability Assessment,
- includes a Decision Support System to improve the actual performance of the object.

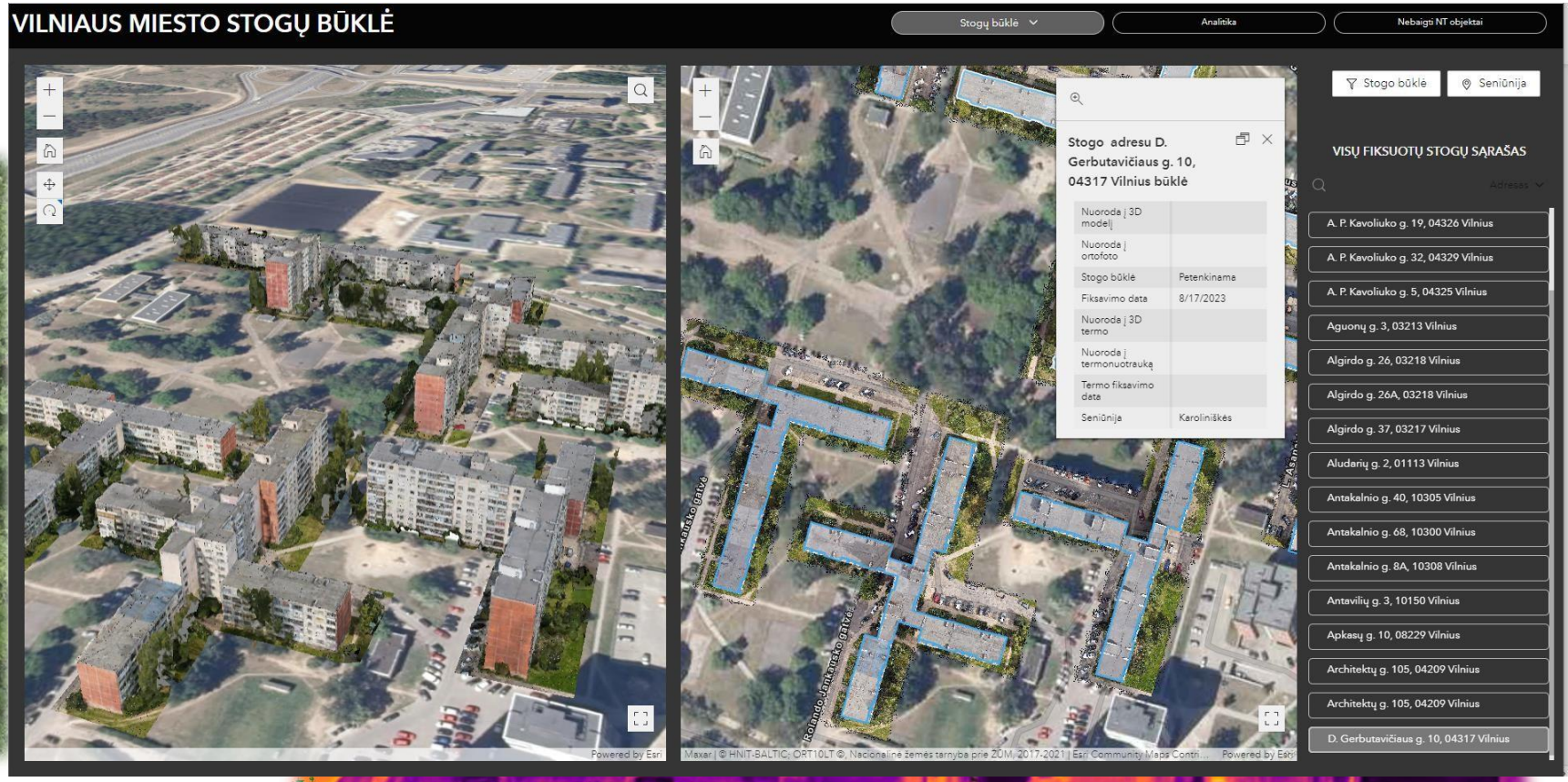
AUTONOMOUS DRONE VILNIUS CITY INSPECTION

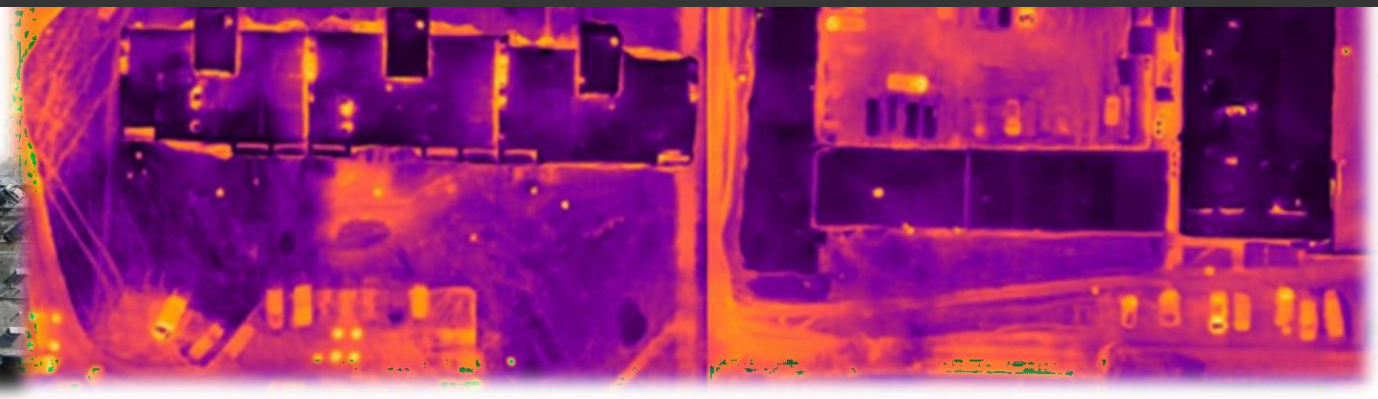
WASTE CONTEINERS INSPECTION





ROOF CONDITION INSPECTION



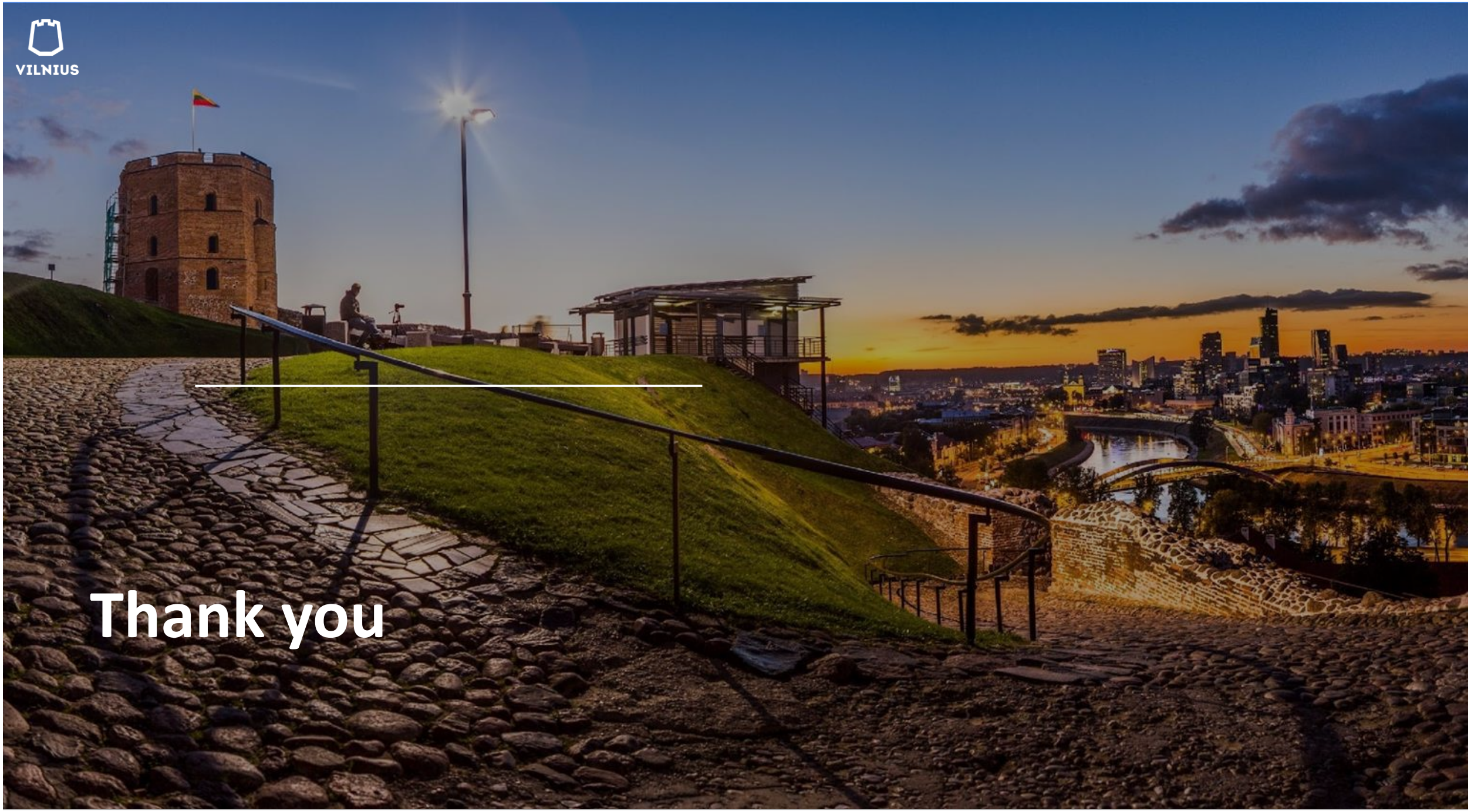


QUALITY OF ROADS, TRAFFIC INSPECTION, ...

Conclusions

Tips to successful valorization

- The valorization process takes time, needs competence and flexibility
- Support and collaboration with the related departments
- Work with the community
- Commitment is a key to success
- Proactive marketing of R&D services
- Stay positive ☺


VILNIUS
Thank you