Green Technologies

Software Imagination & Vision

SIMAVI

Software Imagination & Vision

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SIMAVI Business Card

+ 80 R&D projects awarded

Horizon EUROPE
Horizon 2020

DEP EDF
ERASMUS+

ISF
ERA-Net

EUREKA
Eurostars

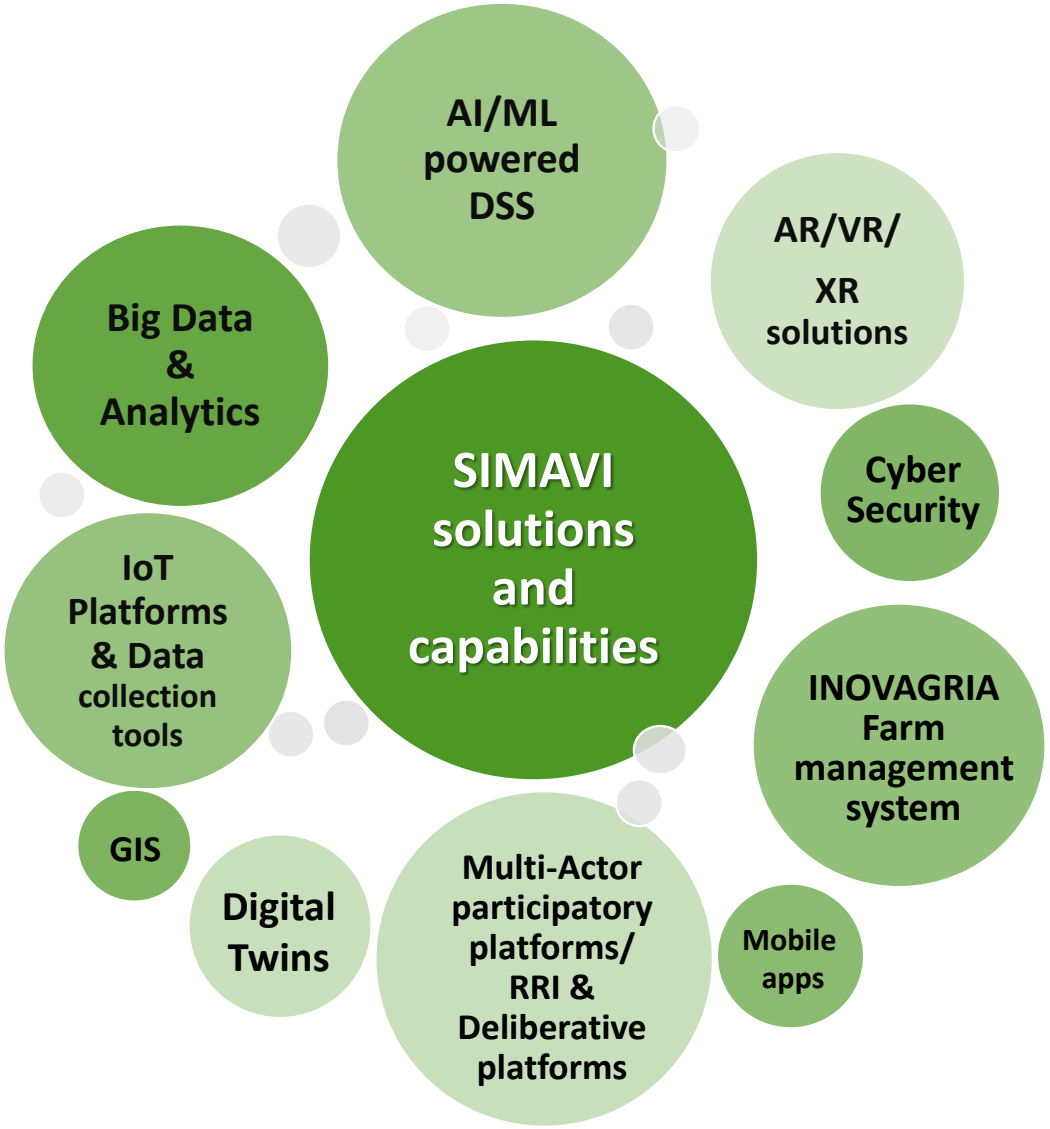
SIMAVI develops solutions for various industries

12 Projects Coordinated

- Energy, mobility & transportation
- Security, cybersecurity & intelligence
- Defence
- eAgriculture, climate change & biodiversity protection
- eTraining
- eHealth
- Industry 4.0 & circular economy
- Research & Development Projects
- eCustoms
- Enterprise Application Suite
- Customized Applications
- eGovernment

https://simavi.ro/en/rd-projects

SIMAVI Overview



COMPETENCES

- ✓ **Platforms development**, **Integration** and **Interoperability**
- ✓ **AI/ML powered Software Tools**, **DSS** and **Analytics**
- ✓ **AR/VR/XR** development for awareness, immersive simulations for field-support and training
- ✓ **User-center design** (UX, UI, UJ)
- ✓ **Pilot deployment** and **implementation** in Eastern Europe, by engaging key partners:
  - Cities & Public Authorities
  - NGOs & Clusters & Research Centers
  - Farmers & farm associations
  - Industry 4.0
  - Energy DSO/TSO
  - Hospitals
  - LEAs & FRs
  - Ministry of Environment, Water and Forests
  - Ministry of Agriculture and Rural Development



Green Deal & Environmental Monitoring

SOLUTIONS & EXPERIENCE

Environmental monitoring

- ✓ GIS
- ✓ ICT Toolkit for simulating and assessing the impacts and risks of climate change
- ✓ Toolbox for Decision Support and adaptive control of air quality monitoring, Soil Pollution monitoring

Urban Safety and Management

- ✓ Integrated toolkit for intelligent management of processes, ethics and technology for Urban Safety
- ✓ ICT framework for environmental emergency & awareness

Forest and Ecosystem Management

- ✓ AI based DSS for optimizing forest management decisions for a low-carbon, climate resilient future in Europe
- ✓ Platform for efficient resource utilization and prevention against global wildfire threats
- ✓ Authoring tool with AR/VR content curation
- ✓ Support large-scale, cross-border demonstrators of ecosystem restoration, focusing on degraded terrestrial, freshwater, coastal or marine ecosystems
- ✓ ECOSUNT – Efficient solutions for waste management

REFERENCES:

Click on Projects

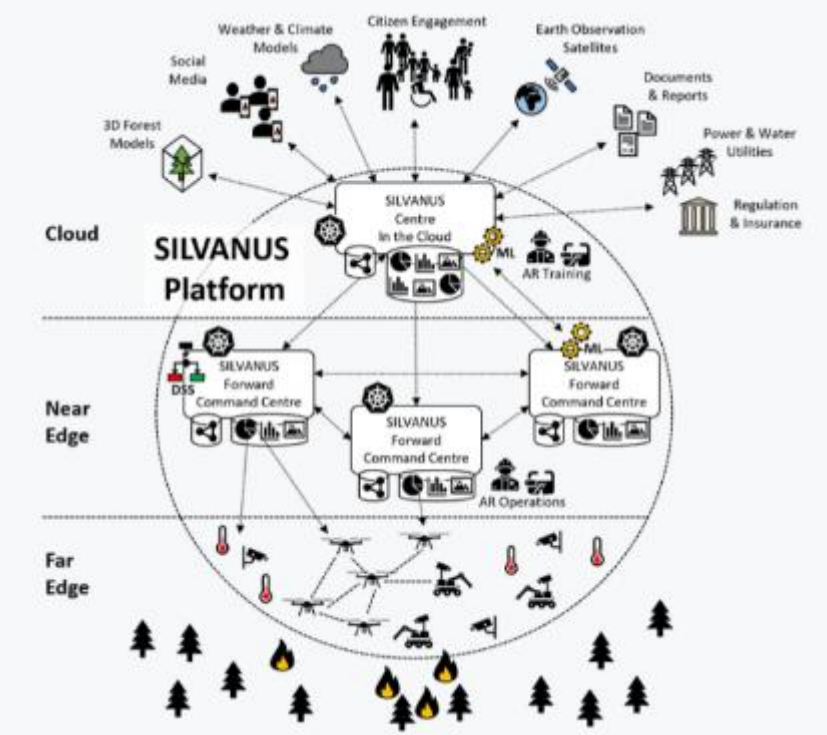
FLOOD-serv

[Coordinator SIMAVI]

Green Deal projects [1/2]

SILVANUS - 'Integrated Technological and Information Platform for Wildfire Management'

- **SIMAVI Role:** Authoring tool with AR/VR content curation for training firefighters, Forest fire ignition models, Pilot deployment and implementation in Romania (Rodna Mountains National Park)



SILVANUS platform will cater to the demands of **efficient resource utilization and provide protection against threats of wildfires** encountered globally. SILVANUS will establish synergies between **environmental, technology and social science** experts for enhancing the ability of regional and national authorities to monitor forest resources, evaluate biodiversity, generate more accurate fire risk indicators and promote safety regulations.

The novelty of **SILVANUS** lies in the development and integration of **advanced semantic technologies** to systematically formalise **the knowledge of forest administration and resource utilization.** The project innovation are validated through **11 pilot demonstrations across Europe and internationally.**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101037247.

Green Deal projects [2/2]

TREEADS - 'A Holistic Fire Management Ecosystem for Prevention, Detection and Restoration of Environmental Disasters'

- **SIMAVI Role:** Integrated Fire Management systems, practices and services, Virtual Reality simulators, pilot deployment and implementation in Romania (Macinului Mountains National Park)



TREEADS proposes the use of a **real-time risk evaluation tool** that can receive multiple classification inputs. To create a model of **Fire adapted communities (FAC)** in parallel to insurance incentives, **TREEADS** will use **alkali activated construction materials (AAM) integrating post-wildfires wood ashes (PWA) for fire-resilient buildings and infrastructure.** **U**ses a variety of technological solutions such as: the Copernicus infrastructure, drones customized for accurate forest supervision, VR for training, wearables for the protective equipment, UAG and airships;

Will be demonstrated and validated under real operating conditions that will involve **8 complex pilot implementations executed in 7 EU countries and in Taiwan.**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no. 101036926.

Environmental Monitoring projects [1/3]

Opt4EU - 'OPTimising FORest management decisions for a low-carbon, climate resilient future in Europe'

- **SIMAVI Role:** OptFor-EU Decision Support System, architecture and technical specifications, DSS backbone framework and ML based scenarios, pilot implementation & deployment in Romania.



The **OptFor-EU** project is developing a **Decision Support System (DSS)** to help **forest managers** and stakeholders **optimize decarbonisation strategies** and enhance **Forest Ecosystem Services (FES)** across Europe.

Leveraging **digital technologies**, the DSS integrates:

- **BigData & existing datasets;**
- **Novel essential forest mitigation indicators;**
- **Climate & forest response modelling;**
- **AI-driven decision-making tools.**

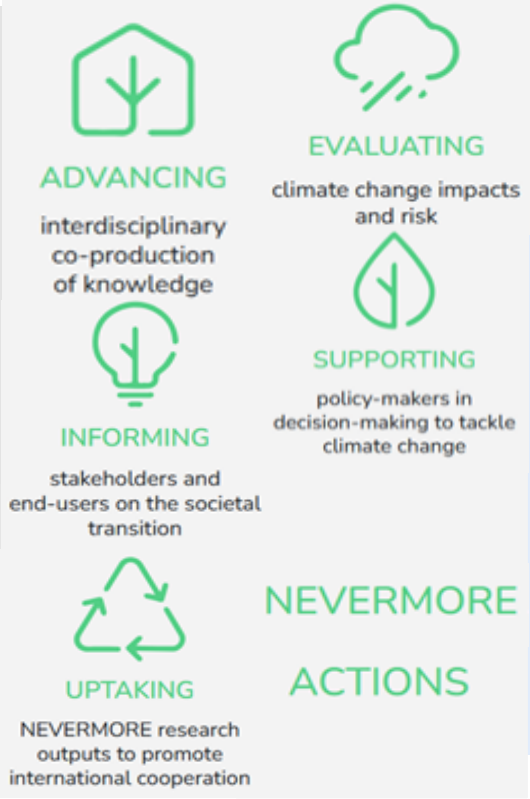
For the **8 case study areas**, the DSS will provide a **ready-to-use digital solution** to support **climate-resilient forest management**, ensuring **sustainability, business adoption,** and **societal impact**.

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N° 101060554

Environmental Monitoring projects [2/3]

NEVERMORE - 'New Enabling Visions and tools for End-useRs and stakeholders thanks to a common MOdeling fRamework towards a climatE neutral and resilient society'

- **SIMAVI Role:** ICT Toolkit design, development and deployment, pilot implementation in Romania for wetland in Danube Delta Region.



The **NEVERMORE project** advances **integrated models** and **interactive digital tools** to assess **climate change risks** and enhance **mitigation and adaptation policies.** It fosters dynamic collaboration among **public and private stakeholders** through **local and transnational councils,** driving **co-design, innovation,** and **impactful policy-making.**

It focuses on **5 case studies,** including **climate change hot-spots such as an islands, the Boreal, Mediterranean and Alpine regions:**

- Island – Sitia, Crete island (EL);
- Mountain region – Trentino region (IT);
- Boreal region – Norrbotten County (SE);
- Mediterranean region – Murcia region (ES)
- Wetland – Danube Delta (RO).

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N° 101056858

Environmental Monitoring projects [3/3]

GEOMONITOR - 'Integrated monitoring solution for natural and anthropogenic phenomena triggering societal risks, for the safety of the population in the affected area'

- **SIMAVI Role:** Integrated Digital Portal, Mobile Application



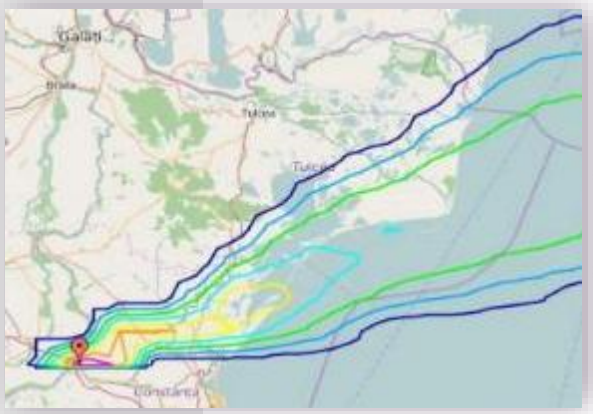
The **GEOMONITOR** project develops an integrated digital platform for monitoring natural and anthropogenic risks in vulnerable areas. Using advanced geospatial and geophysical technologies, the project supports real-time monitoring, risk assessment, public safety, and communication between authorities and citizens, consisting of:

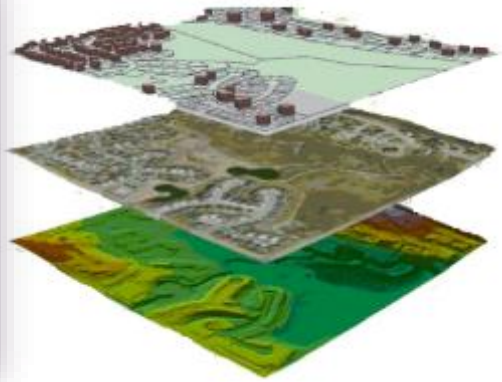
- **Integrated web-GIS portal** and **mobile application**;
- **Real-time monitoring** and **alert system**;
- **Geospatial** and **geophysical data integration**;
- **Automated maps** and **thematic reports**;
- **Citizen incident reporting** and **public information tools**;
- Advanced technologies: **LiDAR, InSAR, sensors, and satellite data**.

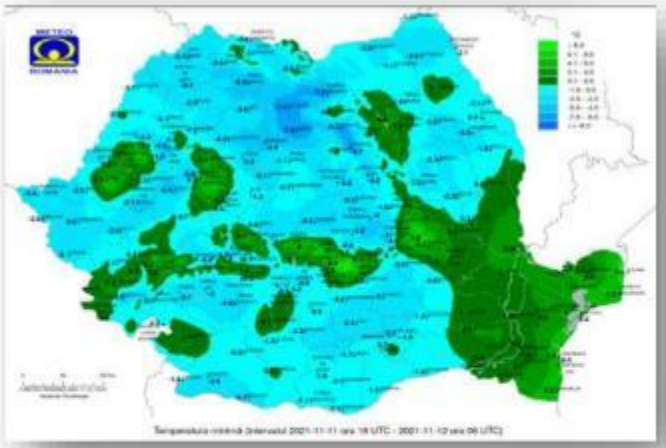
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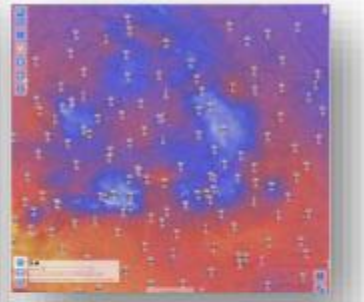
GEOPORTAL - GIS solution



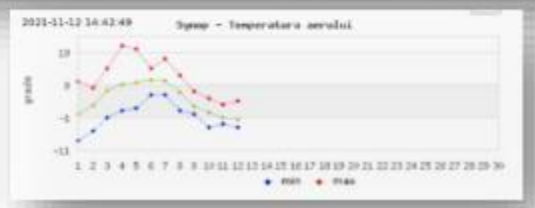












- ✓ **Interactive map interface for displaying and visualizing geospatial data resources**;
- ✓ **Management and visualization of vector and raster datasets and WEB services**;
- ✓ **GIS-specific map navigation functionality**;
- ✓ **Simulation scenarios using spatial analysis tools**;
- ✓ **Manage and display geospatial datasets** in the map using configurable legend;
- ✓ **Toolbar access** for **manipulating data displayed** in the map interface and representation of geospatial data using **symbolization techniques/display styles** depending on the type of vector data geometry;
- ✓ Ability to connect **GIS Desktop solutions** to the database to extend **WEB capabilities (e.g. QGIS, ESRI ArcGIS, etc.).**

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ECOSUNT

ECOSUNT
EFFICIENT SOLUTIONS FOR WASTE MANAGEMENT

- ✓ Web-based solution for **waste management** activities, providing organizations with a significant reduction in the IT infrastructure spending;
- ✓ With the help of the **ECOSUNT** application, companies can monitor and manage:
  - Waste generation;
  - Waste collection;
  - Waste transportation;
  - Waste treatment;
  - Waste disposal by authorized firms;
  - Waste recovery through authorized firms.
- ✓ Customized Reporting for: **NAPM (National Agency for Environmental Protection and County Agencies), ADI - Intercommunity Development Associations, County Councils** according to concession contracts;
- ✓ ECOSUNT is also a **statistical tool** that delivers **precise data on waste generation and management**, enabling continuous assessment and strategic optimization.

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Food & eAgriculture

SOLUTIONS & EXPERIENCE

- ✓ **INOVAGRIA farm management system** created for managing the activity of agricultural, vegetable or animal farm
- ✓ **AI-based Decision Support Systems (DSS)** for precision farming and resource optimisation
- ✓ **Community participatory platforms/ RRI platforms**
- ✓ **Geographic Information Systems (GIS)** for mapping and spatial analysis
- ✓ **Interactive Dashboards** to provide real-time visualizations of key indicators, helping stakeholders make informed decisions
- ✓ **Digital Twin**
- ✓ **IoT platforms** and **real-time data collection** from **IoT sensors**
- ✓ **Mobile apps**
- ✓ Data driven **AR/VR/XR** immersive simulations

REFERENCES:

Click on Projects

INOVAGRIA

AgriData Value

AGRARIAN

demeter

TRIBIOME

Beneficiary: **Payment and Intervention Agency for Agriculture**

Integrated Administration and Control System (IACS)

Figures and Facts:

The system ensures consistency and compatibility between national schemes for farmers, covering:

- **944 076 unique applications submitted for a yearly campaign**
- **34,55 million agricultural physical blocks, for all schemes required**
- **1,45 million farmers in the database**
- **Over 13,4 billion EUR paid**
- **Over 83 million operations performed in the APIA's information system**

Organizational structure:

- **42** county centres
- **5,000** internal users
- **+900,000** beneficiaries

Food & eAgriculture projects [1/3]

DEMETER – 'Building an Interoperable, Data-Driven, Innovative and Sustainable European Agri-Food Sector'

- **SIMAVI Role:** IoT Corn Decision Support System for farmers with focus on water and energy management, pilot implementation & deployment with Romanian Maize Growers Association (APPR).



DEMETER aims to put digital means at the service of farmers:

- using a **human-in-the-loop model,** the focus is on **interoperability** as the key digital enabler, extending it across **data, services, platforms, M2M (machine to machine) communication,** and **online intelligence** but also human knowledge, and the implementation of interoperability by connecting farmers, advisors and providers of ICT solutions and machinery;
- transforming the sector through a combination of digital technologies: **Internet of Things, Earth Observation, Big Data, AI –** along with **digital practices** such as **cooperation, mobility** and **open innovation**.

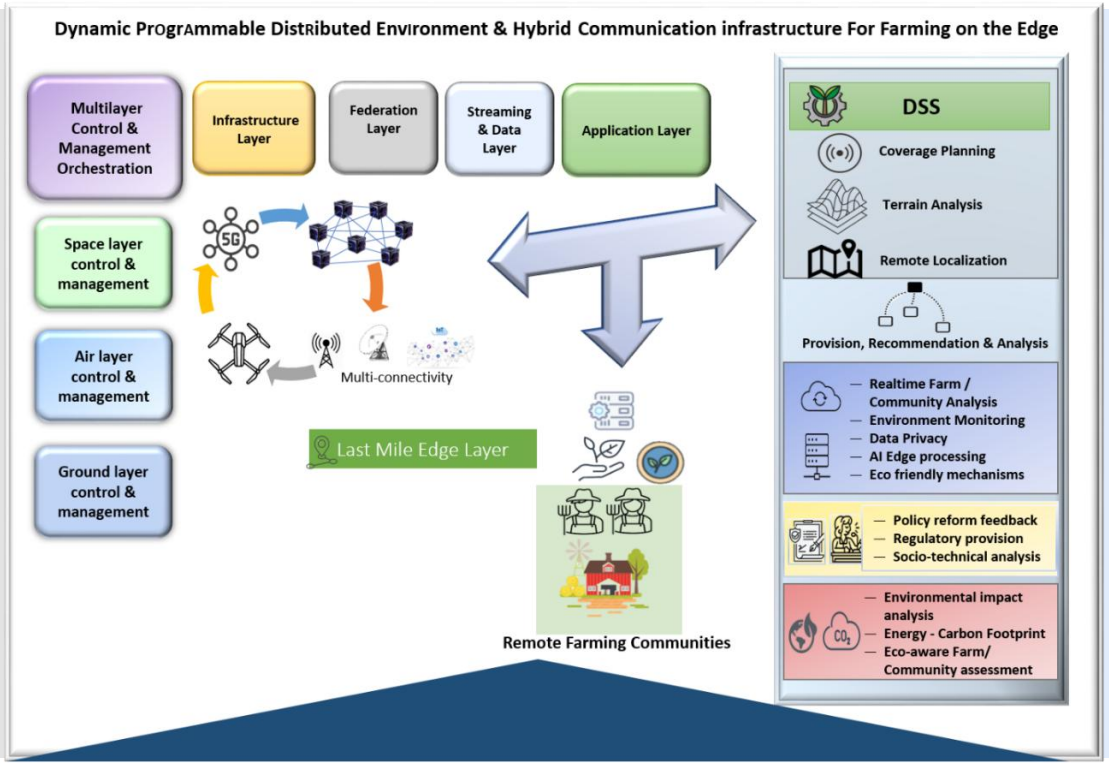
Large user base (**approximately 6,000 farmers**) and extensive piloting coverage (**20 pilots across 18 countries – Belgium, Czech Republic, Finland, Georgia, Germany, Greece, Ireland, Italy, Latvia, Montenegro, Norway, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Turkey**).

This project has received funding from the European Union's Horizon 2020 programme under Grant Agreement N° 857202

Food & eAgriculture projects [2/4]

AGRARIAN – 'SpAce-AIr-Ground Last Mile InfRastructure & Dynamic PrOgrAmmable DistRibuted EnvIronment For Edge FArmiNg'

- **SIMAVI Role:** Agrarian Decision Support System; integration & interoperability; Pilot Assessment and Open Call interfaces; Romanian pilot with Romanian Maize Growers Association (APPR).



AGRARIAN project aims to establish an **open** and **dynamic environment** that enhances the **sustainability performance** and **competitiveness** of the agriculture sector. It will achieve this by developing tailored open-source digital solutions focused on tools, reuse, composability and orchestration.

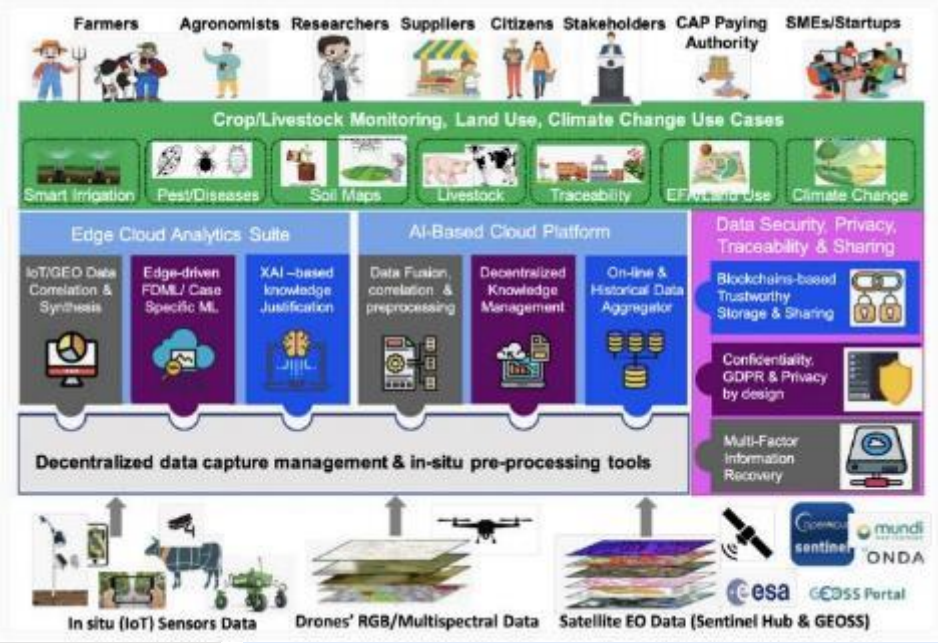
The project aims to provide **smart connectivity, standardised management of distributed digital infrastructure**, and dynamic deployment of services and applications that are time - and location-dependent. AGRARIAN will create a robust **Agricultural Decision Support System tool** that considers the **specific needs of farmers in rural communities**, enabling end users and stakeholders to maximise their benefits.

This project has received funding from the European Union's Horizon 2020 programme under Grant Agreement N° 101134128

Food & eAgriculture projects [3/4]

AgriDataValue – 'Smart Farm and Agri-environmental Big Data Space'

- **SIMAVI Role:** Agri-environment/Climate approaches for in-situ real-time IoT/EO data, pilot implementation & deployment with Romanian Payment and Intervention Agency for Agriculture (APIA) and Bio Romania - Association Of Operators In Organic Agriculture.



AgriDataValue introduces an **intelligent, multi-technology, fully distributed "platform of platforms"** to enhance **smart farming, competitiveness, and sustainability.**

It leverages **Big Data, data spaces (BDVA/IDSA/GAIA-X), Edge computing, and AI,** integrating **agricultural knowledge, business models, and policies** as it drives breakthrough research and innovation in real-time sensor data upscaling.

AGRIDATAVALUE IN NUMBERS

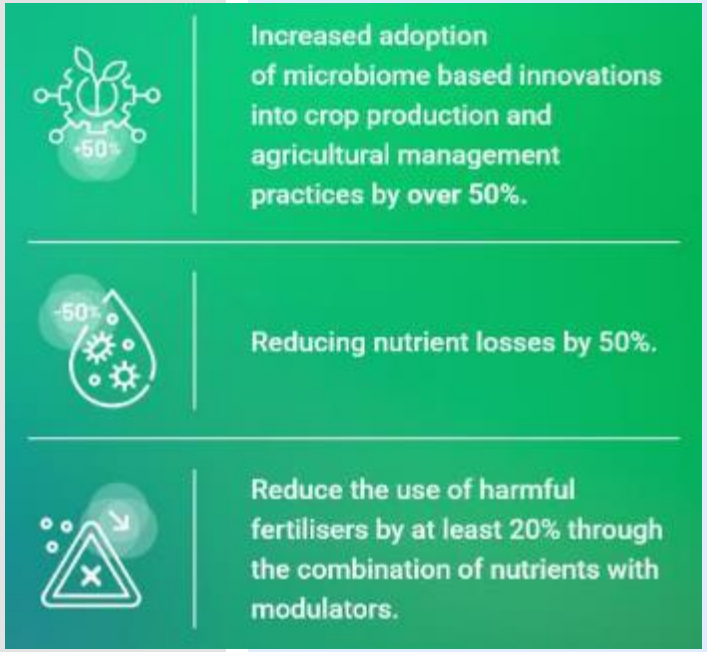
- 23 Pilots in 9 Countries
- Representing More than 181,000ha
- 25 Types of Crops that Span from South-West to North-East Europe
- More than 2,000 animals of 5 types
- More than 4,500 additional Sensors will be Installed

This project has received funding from the EU Horizon Europe research and innovation Programme under Grant Agreement No. 101086461

Food & eAgriculture projects [4/4]

TRIBIOME – 'Advanced tools for integration and synergistic inTeRconnectIon of microBIOMEs in resilient food systems'

- **SIMAVI Role:** Innovative multi-stakeholder digital decision supporting tool to facilitate cooperation and examination of preliminary solutions in the food systems.



TRIBIOME will **ensure a resilient food production** system through **modulation of the interaction of soil-plant microbiomes** to adapt them to **climate changes** using the **microbial diversity** specific to each EU region.

OBJECTIVES:

- innovative multi-stakeholder approach for agri-food sustainability through a decision support network;
- modelling microbiomes to boost soil microbiome dynamics for a better crop quality and productivity;
- ensuring circularity and climate change adaptation;
- setting up a robust and reliable interconnection between plant, animal and human microbiomes that contributes to sustainable healthy nutrition.

This project has received funding from the EU Horizon Europe research and innovation Programme under Grant Agreement No. 101084485

INOVAGRIA – Farm Management System



The software created for farmers, for managing the activity of an **agricultural, vegetable** or **animal farm**

- The possibility of integration with ERP software or other existing solutions
- Integrated solution with existing electronic systems on agriculture
- Increasing the profit
- Affordable solution and mobile environments: tablet, Smartphone



- Identification of **material** and **fuel losses**
- **Crops** evolution registration
- **Water assessment** in case of drought and **irrigation**
- Identification of **land** with low production
- **Soil characteristics** by fertilization history

INOVAGRIA – Farm Management System



Simple, intuitive and user friendly

Integrated farm management software

COMPONENTS:

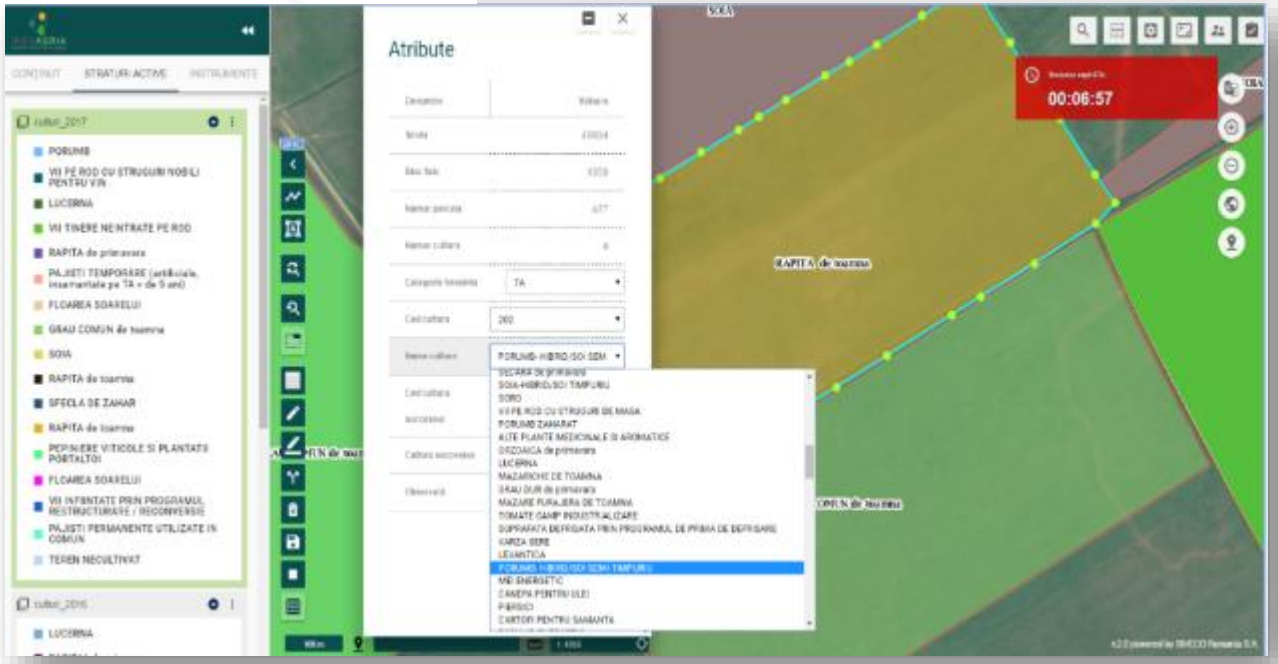
- **Farmland**
- **Mobile Application**
- **Crops Rotation**
- **Agricultural Activities**
- **Maps**
- **Silos**
- **Lease Contracts**
- **GPS Monitoring**
- **Fertilizing Management**
- **Subsidies**
- **Livestock registry**

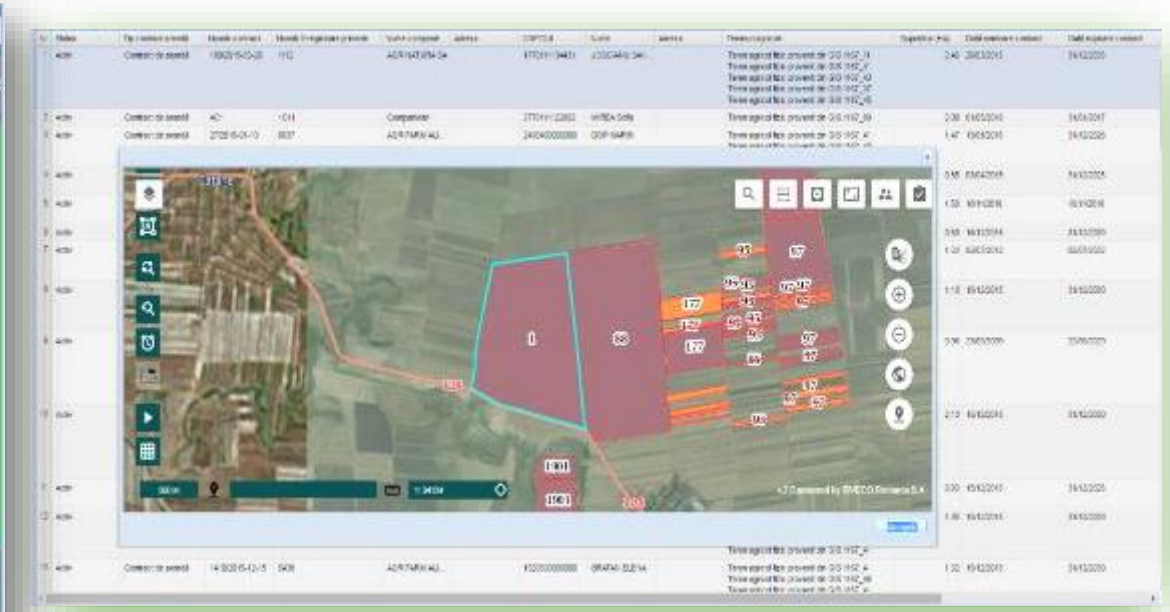


INOVAGRIA – Farm Management System



One-point data entry system ensures coherence, uniformity, and **correlation of information**, giving you real-time control over all agricultural operations - enables **accurate, timely,** and **informed decision-making** for improved efficiency and productivity.





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Smart Communities & Water ecosystems

SOLUTIONS & EXPERIENCE

- ✓ **AI-based Decision Support Systems** dedicated to policymakers and communities
- ✓ Smart City **Digital Twins**
- ✓ Data collection tool from **IoT & sensors**
- ✓ **Citizen participatory** platform / **RRI** platform
- ✓ **Social Media Data Acquisition Engine**
- ✓ AI-powered **credit risk assessment** and **factoring indicators**
- ✓ **Mobile Application** for citizens engagement
- ✓ **Augmented & Virtual Reality**
- ✓ **Interactive & educational games** development, **serious games & gamification**
- ✓ **Interoperable climate-neutral** digital platform for **sustainable peri-urban transformation**
- ✓ **ICT Framework** for water ecosystems

REFERENCES:

Click on Projects

NAIADES

LIVING INNOVATION

ITHACA
AI To Enhance Civic Participation

PANTHEON

SPURUP

ACAB

SUPER MoRRI

EUNOMIA

NEVERMORE

Smart Communities projects [1/3]

PANTHEON – 'Community-Based Smart City Digital Twin Platform for Optimised DRM operations and Enhanced Community Disaster Resilience'

- **SIMAVI Role:** Smart City Digital Twin (SCDT) platform, AI-based modelling & self-adaptive simulations, Integration & testing of PANTHEON platform



PANTHEON focuses on developing a **Community-based Digital Ecosystem for Disaster Resilience** utilising **Smart City Digital Twin (SCDT) technology** and other emerging innovations to advance the existing risk assessment methods, mitigate potential vulnerabilities and build a strong community disaster resilience foundation:

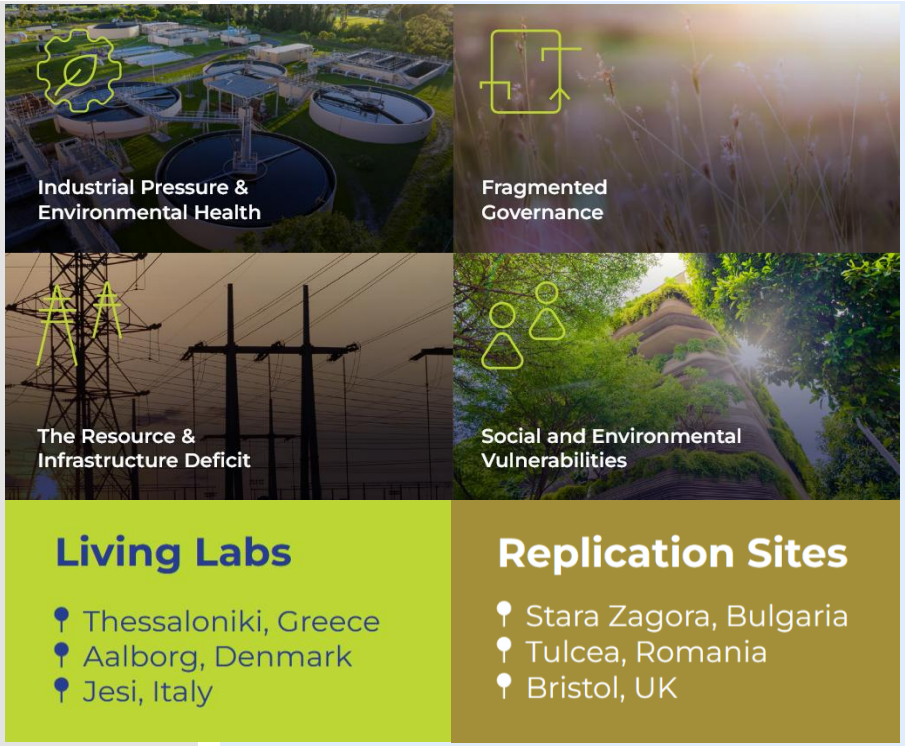
- ***PANTHEON Disaster - Resilient Communities Model***
- ***Smart City Digital Twin (SCDT) for Community Disaster Risk Management (DRM)***
- ***Decentralised and Participatory Governance & Tools***
- ***Intelligence, CM-SCDT Processes and Optimal Disaster Risk Management Operations***
- ***Data Delivery Scheme and Remote Sensing for Community-based SCDT***
- ***Interactive User Interface for a Holistic Simulation Environment & Synthetic Environment***

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N°101074008

Smart Communities projects [2/3]

SpurUP – 'Sustainable Peri-Urban framework for Climate Neutral development'

- **SIMAVI Role:** Interoperable climate-neutral SpurUP digital platform for sustainable peri-urban transformation



SpurUP, an EU Mission Cities project, aims to **integrate net-zero technologies** and **foster participatory governance** to tackle environmental pressures and fragmented governance.

It will establish **Local Green Deals (LGDs)** to unite public and private sectors in reducing greenhouse gas (GHG) emissions, improving energy efficiency, and promoting social equity and sustainability.

Key digital technologies include:

- **Digital Twins** for peri-urban planning and decision support;
- **IoT**-enabled monitoring and **sensing systems**;
- **AI-driven data analytics**;
- **GIS** and **spatial intelligence tools**;
- **Collaborative digital platform** for stakeholder engagement and LGDs.

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement No 101239566

Smart Communities projects [3/3]

LIVING INNOVATION – 'Implementing RRI through co-creation of smart futures with industry and citizens'

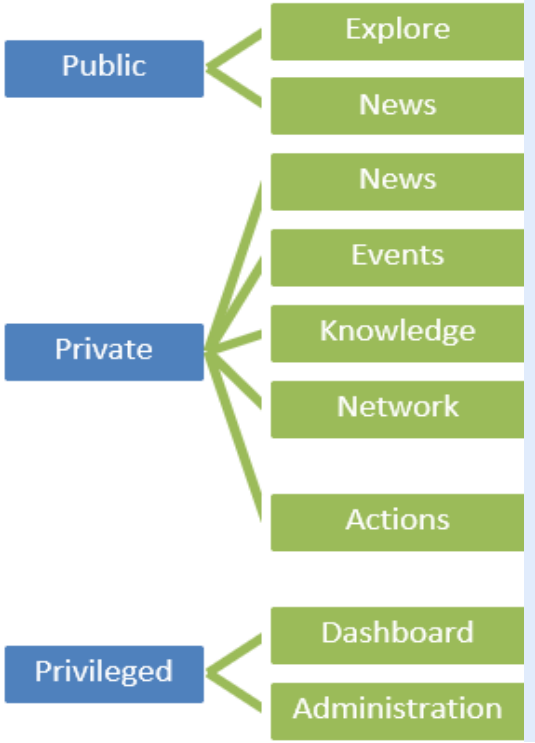
- **SIMAVI Role:** Development & Implementation of the Virtual Community Platform





In the **LIV:IN project,** major industry leaders join forces to co-create more **responsible approaches to innovation** building on the premise that **recognition of the value of RRI among industry** is necessary for achieving the aim of the call **"to progress further in integrating RRI in industrial contexts".**

Its **Virtual Community Platform (VCP)** tackles challenges of **virtual communities** by incentivizing **collaboration**, fostering **content co-creation**, showcasing **use cases**, and accumulating **credits** based on **content creation** and **user interactions**.

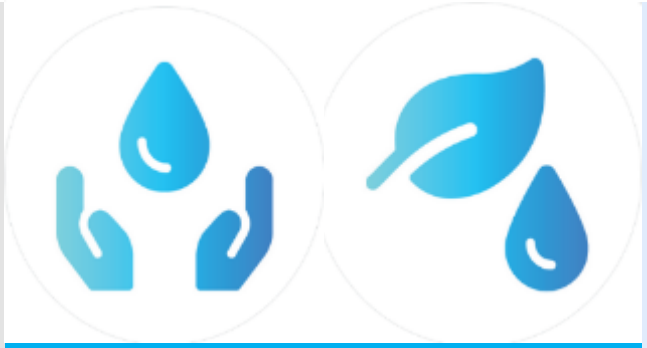


This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 78799

Water ecosystems projects

NAIADES – 'A holistic water ecosystem for digitization of urban water sector'

- **SIMAVI Role:** NAIADES ICT framework integration & communication platform, pilot implementation and evaluation with Dunărea Brăila Public Utilities Company (RO)



- **Water consumption & efficiency**
- **Confidence of water consumers**
- **Safety & reliability**
- **Personalized persuasive feedback and services**

NAIADES aims to **modernize and digitize** the water sector by providing a **holistic ICT framework for efficient water ecosystem management**, integrating **innovative tools**:

- **optimization of water consumption** and **smart water operation scheduling** tool;
- **personalized water behavioral change support** mobile application, which will aim to enhance **public awareness** on **water consumption** and **usage savings**;
- **water demand prediction Toolkit** which will predict the **water demand,** save **water resources**, reduce **operation and energy costs** and **greenhouse gases**.

Pilot demonstrations in **3 areas: Alicante (Spain), Brăila (Romania)** and **Ville de Carouge(Switzerland).**

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 820985

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Energy efficiency & Mobility

SOLUTIONS & EXPERIENCE

- ✓ **IoT Platform development & Data integration from IoT sensors**
- ✓ **EIIS (Energy Integrated Information System)** application
- ✓ **Predictive Analytics** Tool to anticipate downtime, failure, critical events
- ✓ **Software Architecture** for small and medium distribution system operators (DSOs)
- ✓ **Integrated Smart GRID Cross-Functional Solutions**
- ✓ **Cybersecurity domain solutions** (vulnerability assessment, threat detection, risk mitigation):
  - Heatmaps to represent vulnerable components or malware/intrusion activity
  - Dashboard and Attack Graphs displaying how an intruder can traverse a network of nodes through vulnerabilities
  - Dark Web Monitoring tool (MT) for potential threats
  - SIEM (System Information Event Management) for collecting and analyzing security event data

REFERENCES:

Click on Projects

ENERGY SHIELD

[Coordinator SIMAVI]

inteGRIDy

FlexiGrid

CyberSEAS

DEM4PED

iDRIVING

INTERPED

Energy efficiency projects [1/2]

FlexiGrid – 'Interoperable solutions for implementing holistic FLEXIbility services in the distribution GRID'

- **SIMAVI Role:** FlexiGrid system architecture, development of cross-functional platform integration, security access control and communication services



The **FLEXIGRID** project develops solutions to ensure the **security and reliability** of electricity grids as **renewable energy** integration grows. It provides an **enabling architecture** for **small and medium DSOs** to unlock **flexibility resources**, offering **IoT**, **peer-to-peer and peer-to-pool marketplaces**, **vehicle-to-grid**, **power-to-heat**, and **power-to-gas** solutions, along with **innovative business models**.

By enabling **cross-sector integration**, **resource optimization**, and **demand response**—including **EV charging schemes** and **storage**—DSOs can address **capacity shortages** while upgrading aging systems with **smart technology**.

- ***8 use cases** will be demonstrated in **4 countries (Sweden, Bulgaria, Turkey, Switzerland)** - the demonstration sites will be operated by **3 DSOs** and **2 large companies.***

This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 864048

Energy efficiency projects [2/2]

InterPED – 'INTERoperable cloud-based solution for cross-vector planning and management of Positive Energy Districts'

- **SIMAVI Role**: InterPED architecture, cybersecurity measures, and platform system integration; user visualization tools and piloting activities with Alba Iulia College District (RO)

GOALS:

- Improved integration of energy (e.g. distributed renewable energy generation, waste heat utilisation, storage) and non-energy sectors (e.g. mobility) within Positive Energy Districts (PEDs).
- Increased participation of consumers and energy communities in the value chain of the energy system.
- Increased availability of tools, guides and interoperable solutions for planning, design, development and management of Positive Energy Districts (PEDs).
- Improved integration of PEDs in energy systems, improved contribution of PEDs to energy grid robustness with regard to dependencies to energy supplies.

InterPED aims to enable the concept of **PEDs via sector coupling, cross-vector integration, demand flexibility and consumer engagement,** while improving utilisation of local RES, storage and excess/waste heat (E/WH) sources. InterPED will deliver **a scalable and adaptable cloud-based platform** composed of **analytical, modelling and optimization services for planning, supervision and control of integrated PEDs** (including power, heating and cooling, mobility).

- *Demonstrated at **4 pilot sites** in: **Lugaritz-Matía Community (San Sebastián, Spain); Ecovillage Findhorn (Scotland), Arena Innovation Community (Switzerland)** and **Alba Iulia College District (Romania).***

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N°101138047

Mobility projects

iDriving – 'Intelligent & Digital Roadway Infrastructure for Vehicles Integrated with Next-Gen Technologies'

- **SIMAVI Role:** Mobile and in-vehicle applications for early warnings, Digital Twin-Based Control Center with XR features, pilot implementation with Municipality of Alba Iulia (RO)



iDriving project focuses on enhancing **road safety** through **intelligent, data-driven solutions** for urban and secondary roads across Europe. Leveraging advanced technologies like **AI, digital twins, and real-time monitoring**, iDriving aims to provide comprehensive **safety and traffic management** by detecting road hazards, optimizing infrastructure maintenance, and enabling efficient vehicle-to-infrastructure communication.

Key Goals:

- **Safety Criteria Catalogue (SCC);**
- **Enhanced V2I Communication;**
- **Real-Time Monitoring and Hazard Detection;**
- **Digital Twin for Predictive Maintenance;**
- **User Training and System Validation;**
- **Open Science and Data Sharing.**

➢ ***Scenarios in 6 unique pilot sites in Austria, France, Spain, Croatia, Romania, and Greece.***

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N°101147004

SIMAVI
Software Imagination & Vision

Circular Economy & Industry 4.0

SOLUTIONS & EXPERIENCE

- ✓ **ICT platforms** –> WhiteGoods Platform, Automotive Platform and collaborative Private Cloud Platform
- ✓ **Data collection tool from IoT & sensors**
- ✓ **AI-based Decision Support System for manufacturing**
- ✓ **AI-Analytics Designer targeted at sustainable consumption patterns**
- ✓ **Digital Twins**
- ✓ **Integration framework** for human-centric **AI multi-agent systems**
- ✓ **Analytics tool** – for process modelling, predictive downtime, failure, critical events
- ✓ **MaaS – Manufacturing as a Service**
- ✓ **Augmented Reality (AR) based inspection and maintenance tool**
- ✓ **Cybersecurity solutions** (data encryption, authentication, authorization)
- ✓ Cloud to edge solutions

REFERENCES:

Click on Projects

ACCURATE

[Coordinator SIMAVI]

KYKLOS 4.0

PREDICT 6G

hivemind

NEMO

MatCHMaker

EUMINE

Circ Thread

FACTLOG

ReCiPSS

ZERO DEFECTS Manufacturing Platform ZDMP

Industry 4.0 projects [1/3]

ACCURATE – 'Achieving Resilience Through Manufacturing as a Service, Digital Twins and Ecosystems'

- **SIMAVI Role:** Coordinator, ACCURATE requirements, integrated ecosystem, Decision Support and Federated MaaS Solution, and pilot implementation with Continental (RO)



ACCURATE project enhances European manufacturing competitiveness by improving **sustainability, stability, resilience,** and **adaptability**. It develops **innovative approaches** and a **human-centric Decision Support System** to manage unforeseen events. ACCURATE ensures **timely services, flexible logistics,** and **production adaptation**, while creating a **trusted data space** for seamless stakeholder collaboration. It also promotes **Manufacturing as a Service (MaaS) solutions** through shared insights.

- ***Use Cases: AIRBUS Atlantic (FR), TRONICO and Tame-Component (FR), Continental Automotive (RO).***

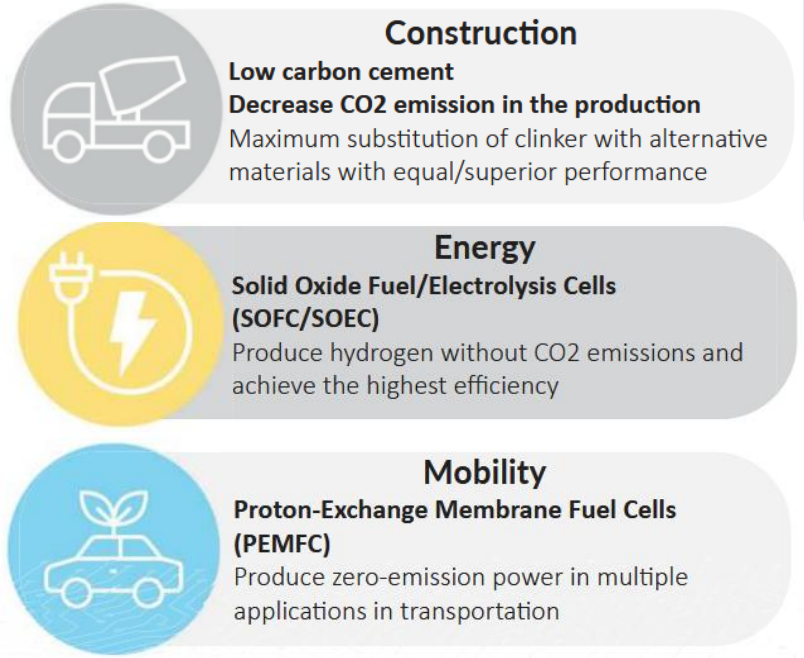
This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N°101138269

Industry 4.0 projects [2/3]

MATCHMAKER – 'Open data and industry driven environment for multiphase and multiscale Materials Characterization and Modelling combining physics and data-based approaches'

- **SIMAVI Role:** MatCHMaker Framework Architecture and requirements, AI-based mechanisms for Materials Characterization, MatCHMaker Open Repository for knowledge and data sharing

USE CASES:



The **MatCHMaker** project will enable the **integration and interoperability of complex characterisation and modelling (C&M) workflows** matching the needs of the EU manufacturing industry.

Requirements on **multiphase and multiscale materials stemming from the construction, energy and mobility sectors** will be translated into specific innovation challenges. An integrated approach will be used for establishing the **microscopic and macroscopic properties of advanced materials** that will reduce development costs, time and risks while improving sustainability.

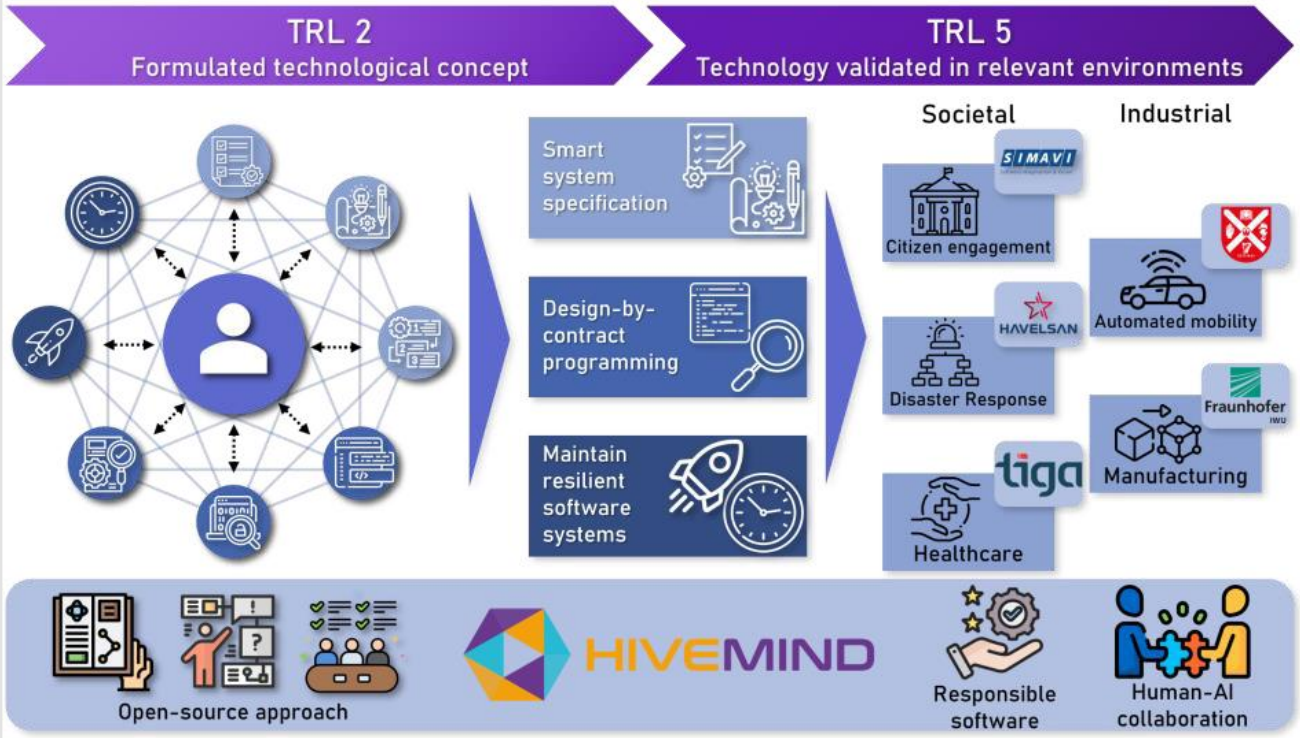
- ***Partnership with ASRO - Asociatia de standardizare din Romania.***

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N°101091687

Industry 4.0 projects [3/3]

HIVEMIND – 'Human-centred collaboratIVE MultI-ageNt framework for accelerating software Development and maintenance'

- **SIMAVI Role:** Framework integration and validation



The key objective of **HIVEMIND** project is to improve software development by supporting software development teams through **AI, data** and **language technologies**. To this end, **LLM-based AI agents** will provide specialised support in all steps of the software development lifecycle, assisting in requirements engineering, code development, verification and testing as well as in software maintenance. The resultant **multi-agent framework** will be open-source and applicable to various sectors.

This project has received funding from the European Union's Horizon Europe programme under Grant Agreement N°101189745

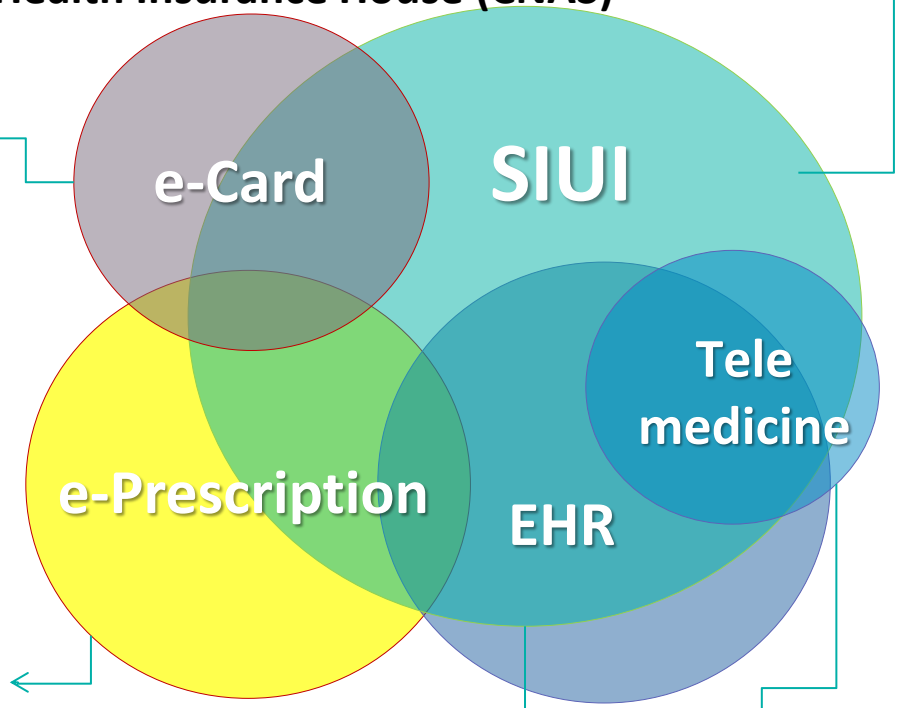
eHealth

Integrated Health Information System in Romania – SIUI

Beneficiary: **National Health Insurance House (CNAS)**

15,5 millions persons registered with cards





- 150+ millions prescriptions registered in 3 years;
- 16,000 prescriptions daily.



Completed in Dec. 2015

- over 6,000 Family Doctors
- over 1,000 hospital users
- 8.6 millions personal files

Covers all population of Romania

- all Health Insurance County Houses
- **62,968** doctors
- **14,812** family doctors
- **111,783** nurses
- **5,799** clinical services providers
- **2,672** laboratory services providers
- **893** home care providers
- **1,126** providers of ambulatory recovery services
- **802** hospital services providers
- **179** ambulance services providers
- **302** suppliers of medical devices
- **5,398** providers of pharmaceutical services
- **6,799** dental care providers

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eHealth

SOLUTIONS & EXPERIENCE

Healthcare and Patient Support

- ✓ Tele-monitoring & Tele-rehabilitation applications
- ✓ Integrated and interactive Patient Care Ecosystem that supports quality of life for elderly people
- ✓ Monitoring solution for patients with neurodegenerative diseases
- ✓ Serious Games for brain training
- ✓ AR/VR for rehabilitation support

Advanced Technology Solutions

- ✓ Decision Support Tool for monitoring and controlling of air quality
- ✓ AI based DSS to foster evidence-based pain relief methods for cancer patients
- ✓ Multi-source real-world clinical information access and integration framework
- ✓ ML Anomaly Detection Component and NLP services
- ✓ Virtual Assistant and Application for Patient' Treatment Journey dedicated for healthcare professionals and carers use
- ✓ Diagnostic Support Tool to assist healthcare professionals

REFERENCES:

Click on Projects

CVDLINK

[Coordinator SIMAVI]

enact

CARING NATURE
Sustainable solutions for healthcare

iBeChange

MES-CoBraD

PAINLESS
Pain Relief in Cancer

InteropEHRate
EHR in people's hands across Europe

vCARE

STRATIFAI

SPHINX

DEEPHEALTH

LETIT FLOW

PROCare4Life

Follow.Me

BRAIN@home

Cybersecurity & Security

SOLUTIONS & EXPERIENCE

Security Infrastructures and Frameworks

- ✓ Real-time Early Detection and Alerting Framework for Operation Control Systems
- ✓ Operational Cybersecurity Risk Management Platform
- ✓ Big Data Integration Platform with real-time alerts
- ✓ Physical threat response Optimization (PTRO) tool
- ✓ Data Fusion Tool for multi-source comprehensive data view
- ✓ Analytics for real-time border event alerts

Data Acquisition, Analysis, and Visualization

- ✓ Social Media Data Acquisition Engine
- ✓ Multimedia Analysis for Crime prevention and Investigation
- ✓ Mobile apps monitoring or for on Field Guidance
- ✓ AI/ML-powered Prediction & Visual Intelligence
- ✓ Stream data collector
- ✓ Biometric data integration & analysis

Training and Skill Development

- ✓ XR Training dedicated to LEAs, First Responders and Cybersecurity experts

REFERENCES:

Click on Projects

MARCONNECT [Coordinator SIMAVI]

ODYSSEUS [Coordinator SIMAVI]

BORDER UAS [Coordinator SIMAVI]

TeamaWare [Coordinator SIMAVI]

REDALERT [Coordinator SIMAVI]

VIGIMARE, CUSTOM|AI, SPIRIT, SECUR EU, CONNECTOR, PANTHEON, CC-DRIVER, SECANT, ECH, CONNEXIONS, SPEECH XRays, CREST, IMPETUS, PREVISION, SIMARGL, S&R, SMILE, ISOLA, ENSURESEC, MAGNETO, METICOS

SIMAVI
Software Imagination & Vision

DEFENCE (European Defence Fund)

SOLUTIONS & EXPERIENCE

- ✓ **Adapting technologies from civil applications or addressing hybrid warfare**
- ✓ **Measurement and monitoring of physiological and cognitive state of soldiers**
- ✓ **AR/VR/XR**
- ✓ Collection and sharing of **sensor data**
- ✓ **User interfaces** to help users and in particular pilots to understand and anticipate the **system behaviour**
- ✓ **Common simulation framework for wargames/combat simulations** with the potential to facilitate reinforcement learning for mission planning and execution support
- ✓ **Computer-based decision support system that leverages AI, machine learning, wargames/combat simulations and digital twins of the battlespace**

REFERENCES:

Click on Projects

FEDERATES - FEDeratedEcosystem of euRopean simulation Assets for Training and decision Support

FEDERATES project has the objective of building the first prototype of a **European MSaaS (Modelling & Simulation as a Service) Ecosystem, to support decision making and training of European Armed Forces.** The project, led by Rheinmetall Electronics, is a multinational activity funded by the EU Commission, with the support of **15 European Nations.**

eLearning & eTraining

SOLUTIONS & EXPERIENCE

- ✓ Augmented cultural heritage inclusion and accessibility
- ✓ **One-stop-shop** and open marketplace for **XR applications** as support for learning, training and education
- ✓ Context-Aware **AR content** for combining digital information with the physical world
- ✓ **Authoring Tools** to create, design, and produce digital content
- ✓ Interactive & **Educational games** development
- ✓ Complex **Virtual Laboratories** with 3D immersive
- ✓ eLearning platform dedicated to Training & Awareness
- ✓ Single API interface to interact with **different VR devices**
- ✓ Deployment across **multiple mobile and wearable AR/VR devices**

REFERENCES:

Click on Projects

[Coordinator SIMAVI]

eLearning & eTraining

Complete portfolio of digital solutions for learning and development, providing our clients with a wide spectrum of solutions, from traditional to cutting edge:

eLearning Courses

We create online courses, 30 to 90 minutes long, that can deliver the required knowledge and skills on any topic

Microlearning

Designed for on-demand learning, microlearning videos are designed to provide employees with support at the point of need

Video Learning

Designed to engage any learner, video courses are the most efficient way to deliver knowledge to the target audience

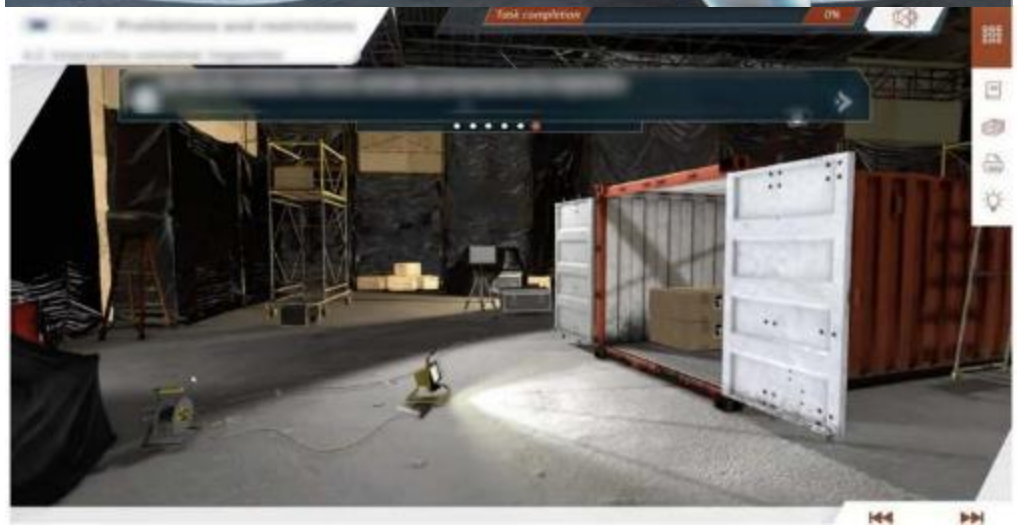
LMS

We provide installations and customizations of open-source Learning Management Systems, such as Moodle or Totara

Consultancy

We provide extended consultancy on learning and development, from L&D strategy, analysis, impact or creating competency frameworks





eLearning & eTraining

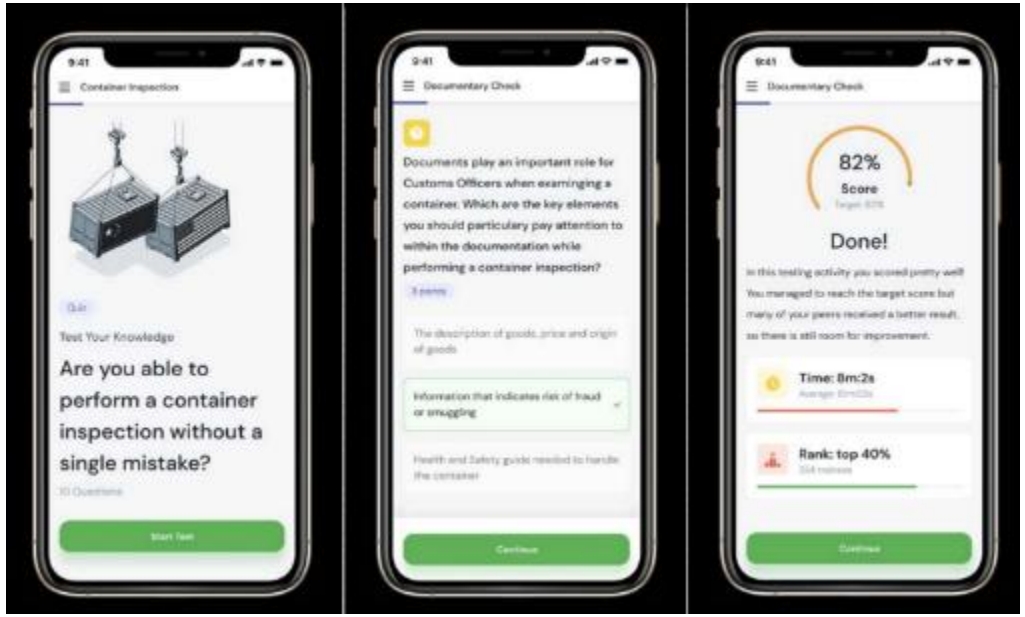


Mobile Learning

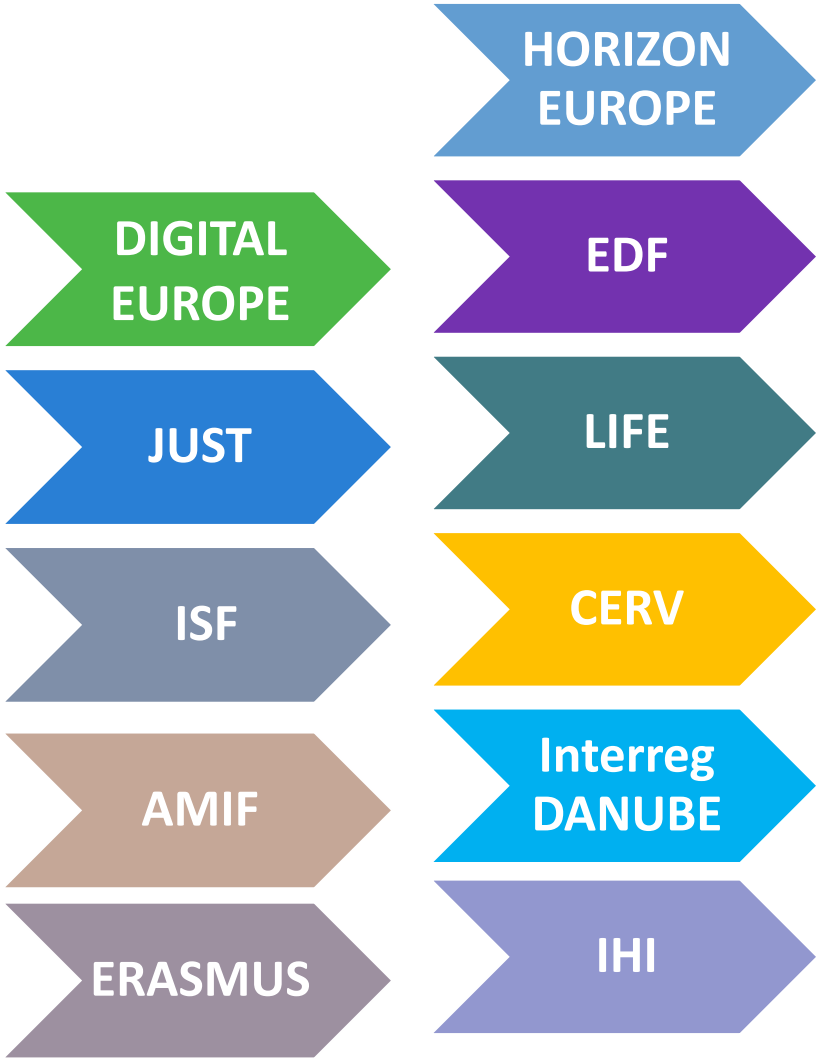
We create mobile learning applications designed to support learners with knowledge support at the point of need

AR/VR

We create customized Augmented Reality/ Virtual Reality applications that can emulate any technical environment for training



EU R&D Programs of interest



HORIZON EUROPE

- CL 1. Health
- CL 2. Culture, Creativity and Inclusive Society
- CL 3. Civil Security for Society
- CL 4. Digital, Industry and Space
- CL 5. Climate, Energy and Mobility
- CL 6. Food, Bioeconomy, Natural Resources, Agriculture and Environment

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European Affiliations

AIOTI
Alliance for Internet of Things Innovation

bridge HORIZON 2020

BDV BIG DATA VALUE ASSOCIATION

DUC

MSP MAGURELE SCIENCE PARK

CyberEPES Cluster

HL7 Europe

PATROMIL

Romanian Employers' Association of Military Equipment Manufacturers

Romanian Cluster PROECO - CBRNE

Thank you!

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https://simavi.ro/en/rd-projects

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