



R&D

Software Imagination & Vision

S I M A V I

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SIMAVI Business Card

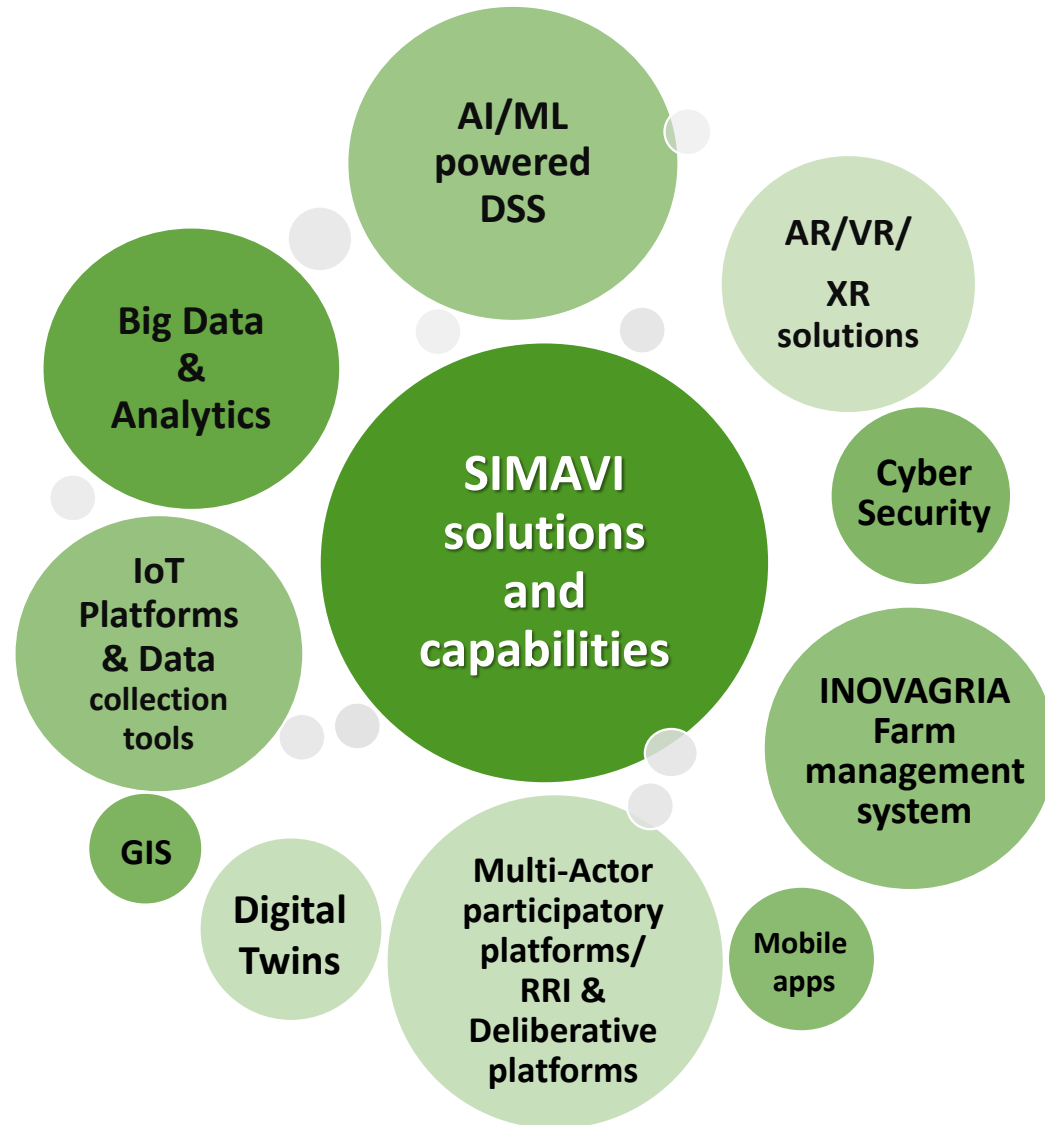
+ 70**R&D projects
awarded****Horizon EUROPE
Horizon 2020****DEP EDF
ERASMUS+****ISF
ERA-Net****EUREKA
Eurostars**

**SIMAVI develops solutions for
various industries**

10 Projects Coordinated

Security**Environmental monitoring****eHealth****eGovernment****eLearning****eAgriculture****eTraining****Research & Development Projects****Enterprise Application Suite****Green Deal****Circular economy****Mobility & Smart cities****Energy****Industry 4.0****eCustoms****Customized Applications**

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



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



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:



ODYSSEUS
[Coordinator SIMAVI]



[Coordinator SIMAVI]



REDALERT

[Coordinator SIMAVI]



[Coordinator SIMAVI]



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:



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.**

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**
- ✓ **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:



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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

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

Urban Safety and Management

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

REFERENCES:



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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:



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DEM₄PED



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:



SOLUTIONS & EXPERIENCE

- ✓ **INOVAGRIA farm management system** created for managing the activity of agricultural, vegetable or animal farm
- ✓ **AI-based Decision Support Systems (DSS)** on crop management, pest control, and irrigation
- ✓ **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



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:

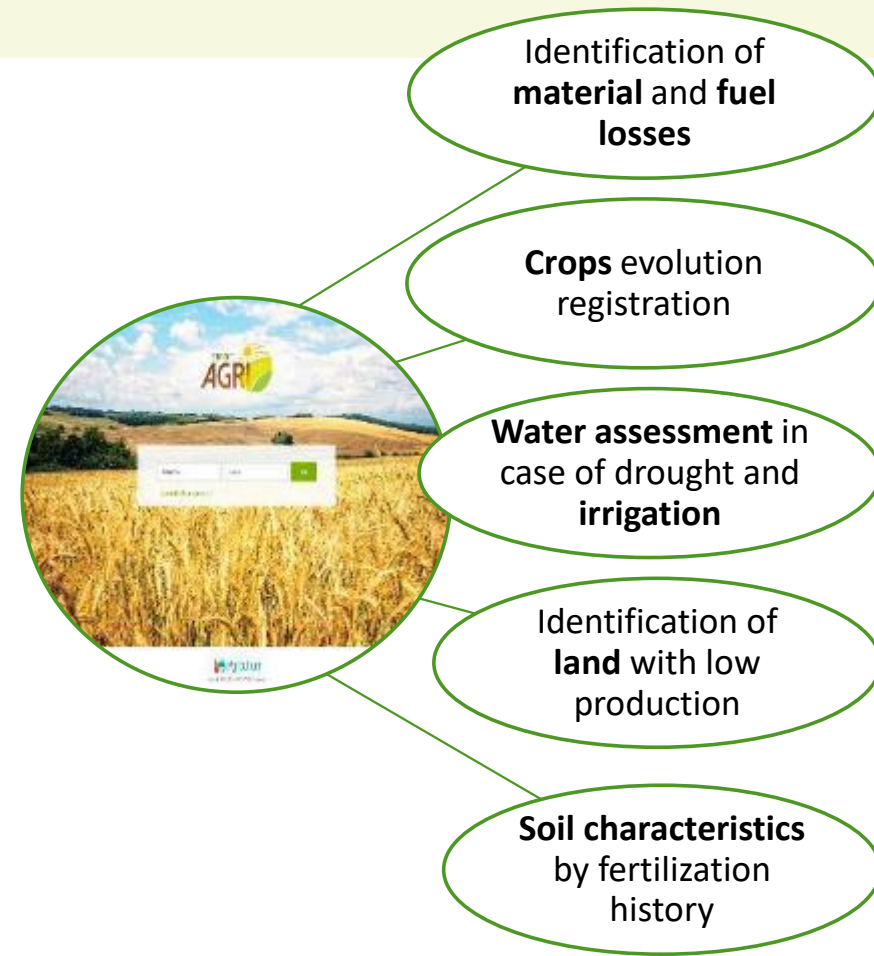
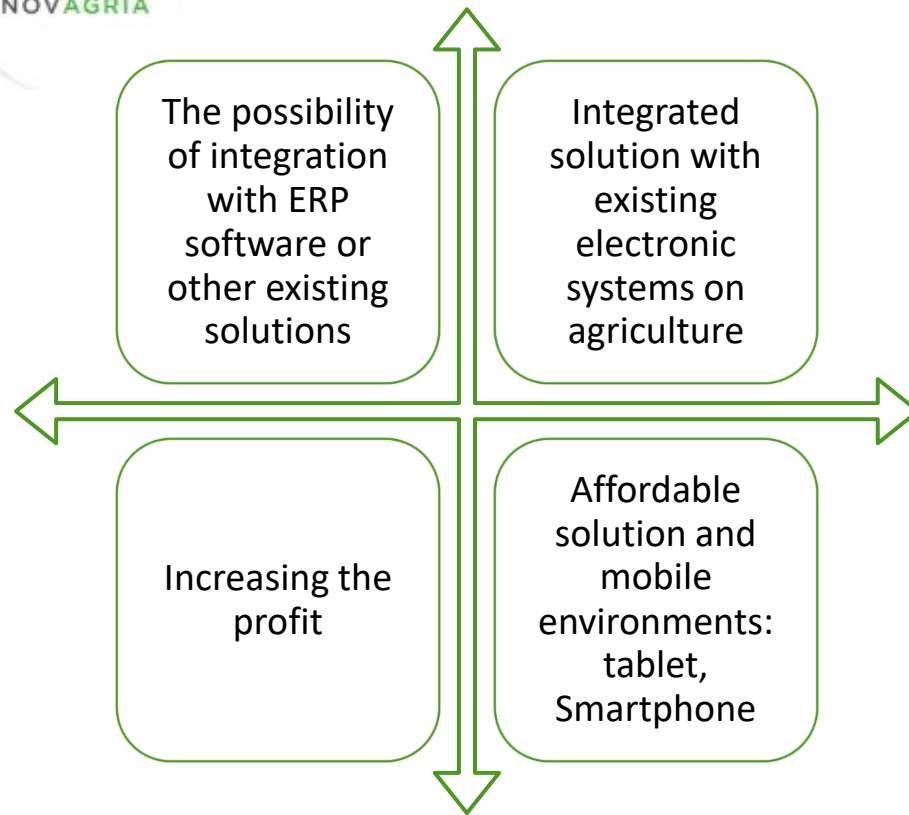
- **944 076** unique applications submitted for a yearly campaign
- **34,55** million agricultural physical blocks, for all schemes required
- **1,45** million farmers in the database
- **Over 13,4** billion EUR paid
- **Over 83** million operations performed in the APIA's information system

Organizational structure:

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



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



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:



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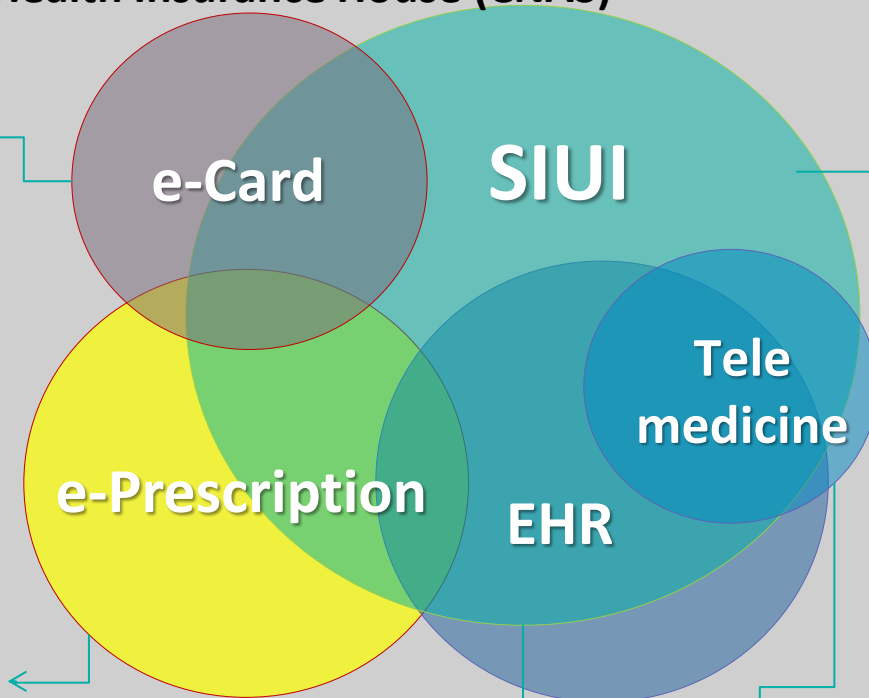
Integrated Health Information System in Romania – SIUI

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

SOLUTIONS & EXPERIENCE

- 1. AI-powered Virtual Tutor & Assistant** - Personalized guidance and continuous real-time support for learners.
- 2. AI-Powered Authoring Tool** - Automates the creation of digital lessons using AI.
- 3. Serious Games & Gamified Learning** - Interactive learning through immersive, game-based scenarios.
- 4. Mobile Learning Applications** - On-the-go, bite-sized learning for quick knowledge delivery.
- 5. XR/AR/VR Simulations** - Augmented and Virtual Reality environments blending digital information with real-world scenarios for practical learning.
- 6. eTraining courses development** - including microlearning, MOOCs, video learning to address diverse learning needs.
- 7. Learning Experience Platform (LXP)** - promotes engagement with interactive and personalized educational content.

REFERENCES:



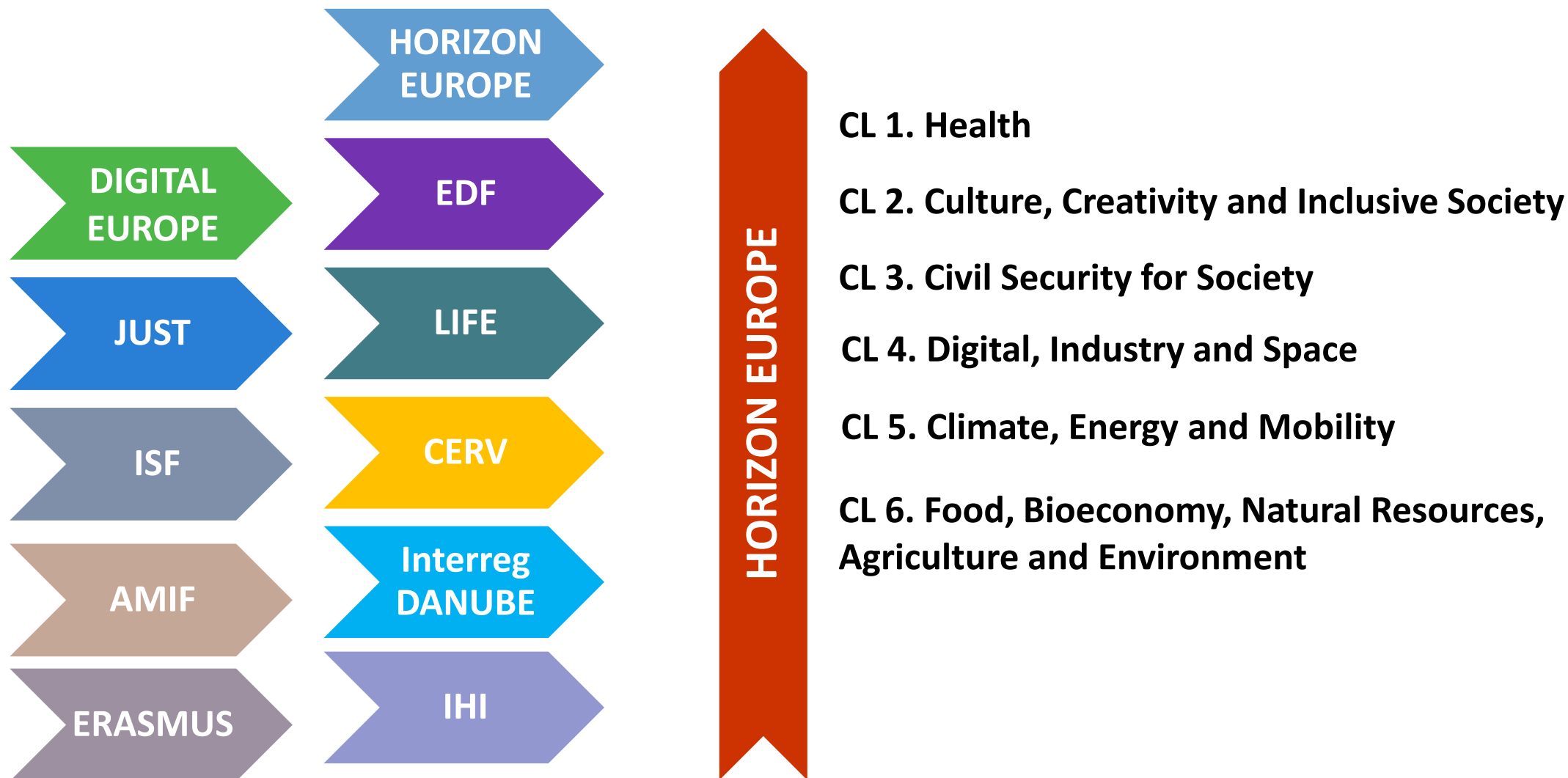
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Projects



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EU R&D Programs of interest



European Affiliations



CyberEPES CLuster



Thank you!

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

