INTERNATIONAL DATA SPACES ASSOCIATION

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We are happy to collaborate!

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https://internationaldataspaces.org/
https://datapact.eu/
https://veleshub.eu/

VELES Regional Smart Health Data Space

INTERNATIONAL DATA SPACES ASSOCIATION

VELES

Funded by the European Union

Project Overview

DOI
10.3030/101087483

Start date
1 June 2023

End date
31 May 2027

Funded under
Widening participation and spreading excellence

Total cost
€ 4 750 000,00

EU contribution
€ 4 750 000,00

Coordinated by
SOFIA UNIVERSITY ST KLIMENT OHRIDSKI

- **HORIZON-WIDERA-2022-ACCESS-04 - 101087483**
- **Start Date:** 1st June 2023
- **Duration:** 4 years – 48 Months
- **Funding:** 4 750 000.00
- **Consortium:** 15 Partners from 7 from EU countries

IoT | Big Data | Smart Health | Data Spaces

Personalized medicine | Health care Services

Excellence Hub | Innovation Eco System

VELES Excellence Hub - Strengthening the South-East Europe Smart Health Regional Excellence and Boosting the Innovation Potential | VELES | Project | Fact sheet | HORIZON | CORDIS | European Commission (europa.eu)

VELES OVERVIEW

HORIZON-WIDERA-2022-ACCESS-04

Call: Excellence Hubs

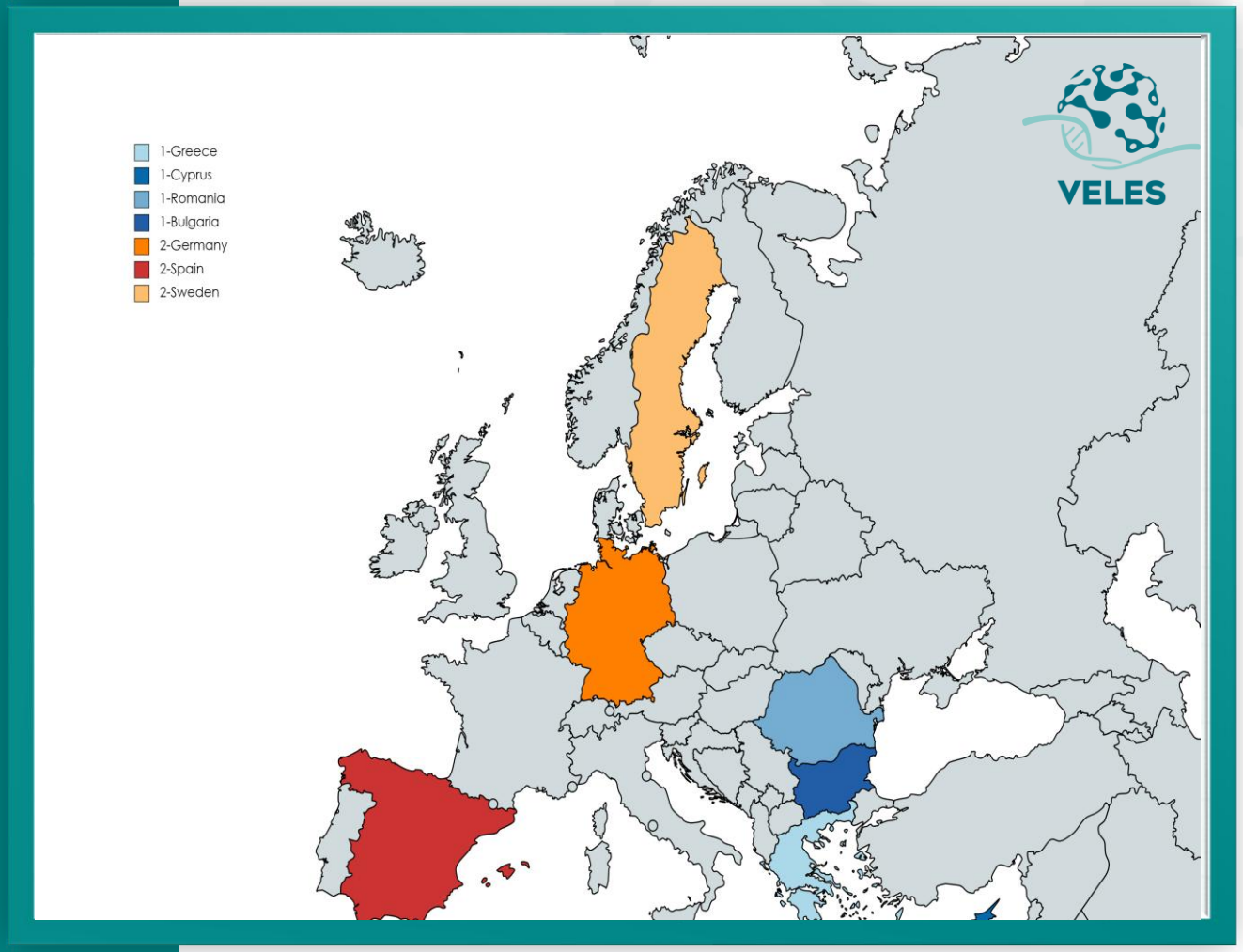
Start Date: 1st June 2023

Duration: 4 years

Consortium: 15 Partners

from 7 from EU countries

Coordinator: GATE



VELES CONSORTIUM

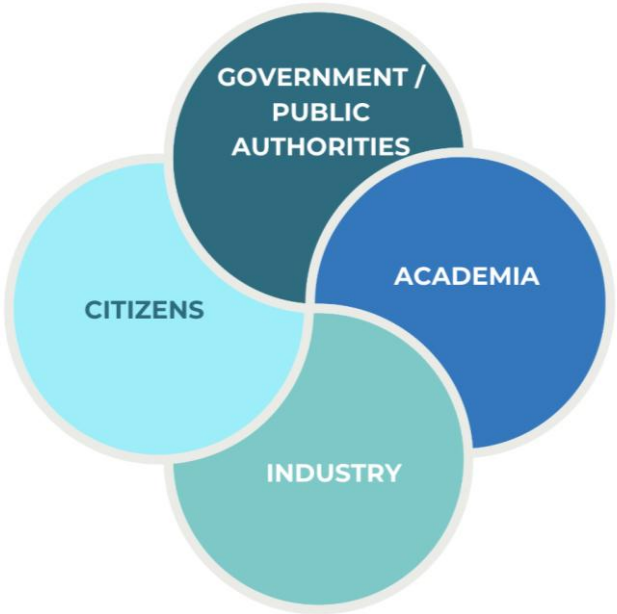
15 partners from 7 Member States forming the Quadruple-Helix

Policymakers

MEG, NEHA, UEFISCDI

Academia

GATE, CYENS



Industry and practitioners

IDSA, CIT, InEurope, 3AEHealth, TBS, AMEN, JOIST

Citizens

HDHC, BIOBG, IMAGO-MOL

Pilots

The Regional Smart Health Data Space is demonstrated through 4 interrelated pilots

Bulgaria (BIOBG/ GATE Inst.**)**
Alzheimer

Cyprus (CYENS**)**
Dementia

Greece (HDHC**)**
Cancer treatment

Romania (IMAGO-MOL**)**
Cerebral tumors (in the North-East Region of Romania)

Pilots' objectives

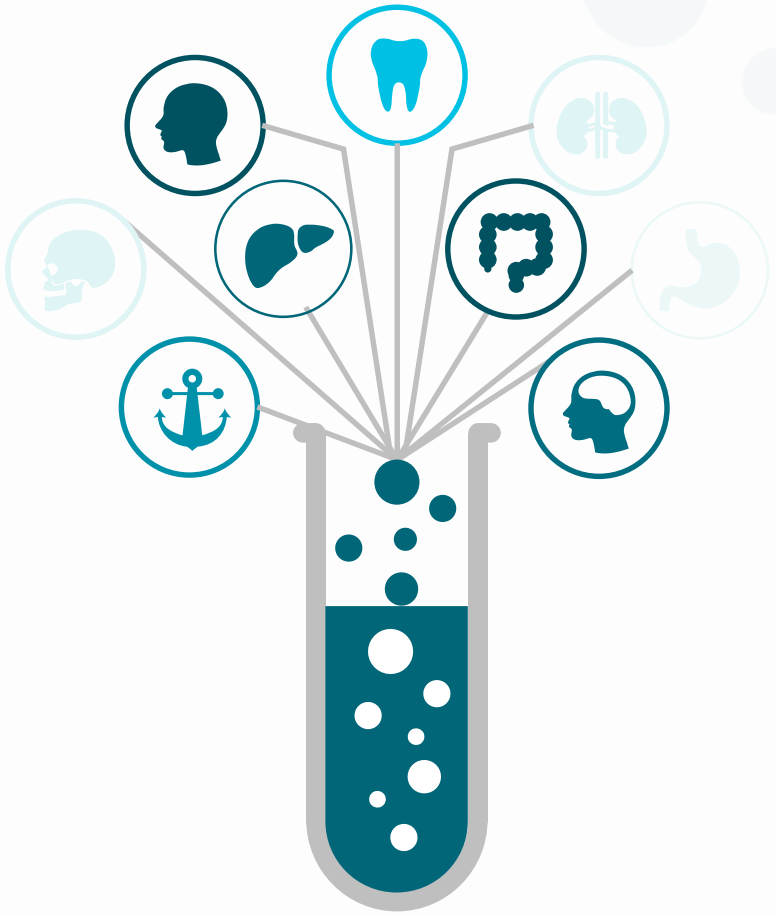
- To specify the pilot projects architecture and technologies following the Data Space framework.
- To define legal, ethical, security and business requirements of the pilot projects related to data sharing.
- To plan the development and implementation of demonstrator R&I projects.
- To assess the feasibility of multi-ecosystem demonstrations of the pilots.
- To provide interoperability for all stakeholders involved in the ecosystem.

Pilots’ goals

To provide interoperability for all stakeholders involved in the ecosystem

Demonstration planning – combination of various data:

- Smart objectives
- Market placed data from various stakeholders
- Cloud platforms
- Individuals
- Open data sources – public authorities & policy makers

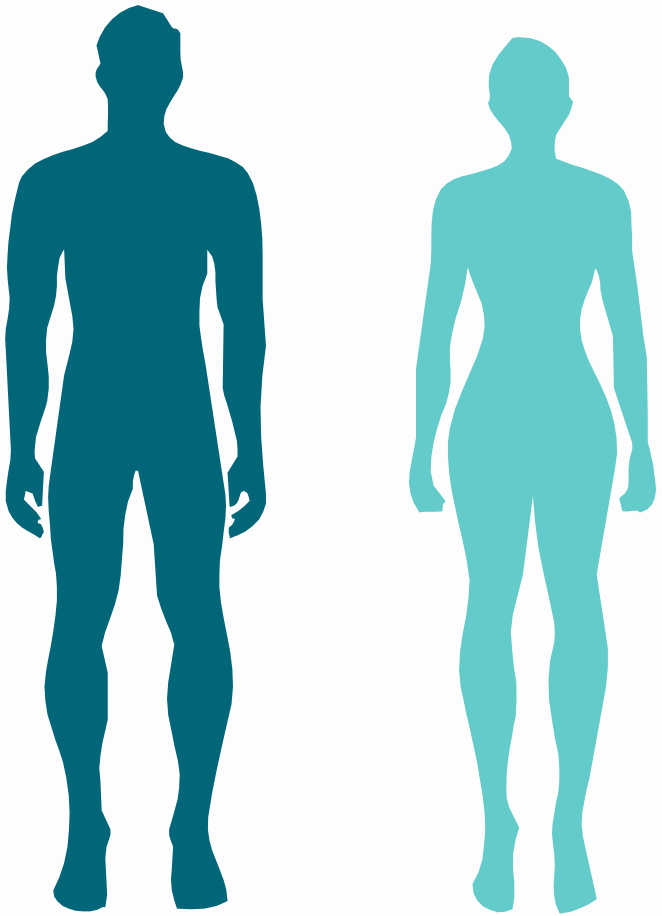


Who are stakeholders?

Patients

Public hospitals

Private clinics



Policymakers at national level

Private sector

Professional/Branch organisations and associations

Academia

Researchers / Scientific community

Media (including local press)

CHALLENGES

Bulgaria, Cyprus, Greece and Romania are lagging behind in healthcare digitalization and innovation

- Current regulations provide for setting up centralized healthcare databases, but offer **no specific guidance on interoperability**
- Growing innovation potential in the healthcare domain, but **not adequate policies and instruments for supporting it**
- Many innovative start ups and companies **needing guidance** in their path to data driven healthcare innovation.
- Available funding mechanisms **do not encompass the whole field of Digital Health and Innovation**

OPPORTUNITIES

Smart Health - defined as one of the Strategic Value Chains by EC- to enable the “future ready EU industry” and having significant importance for growth, jobs and competitiveness;

OECD Recommendation on Health Data Governance -encourages **greater availability of timely health data within countries and across borders**;

EC sets the creation of a European Health Data Space as one of its main priorities till 2025, to promote better exchange and access to different types of health data;

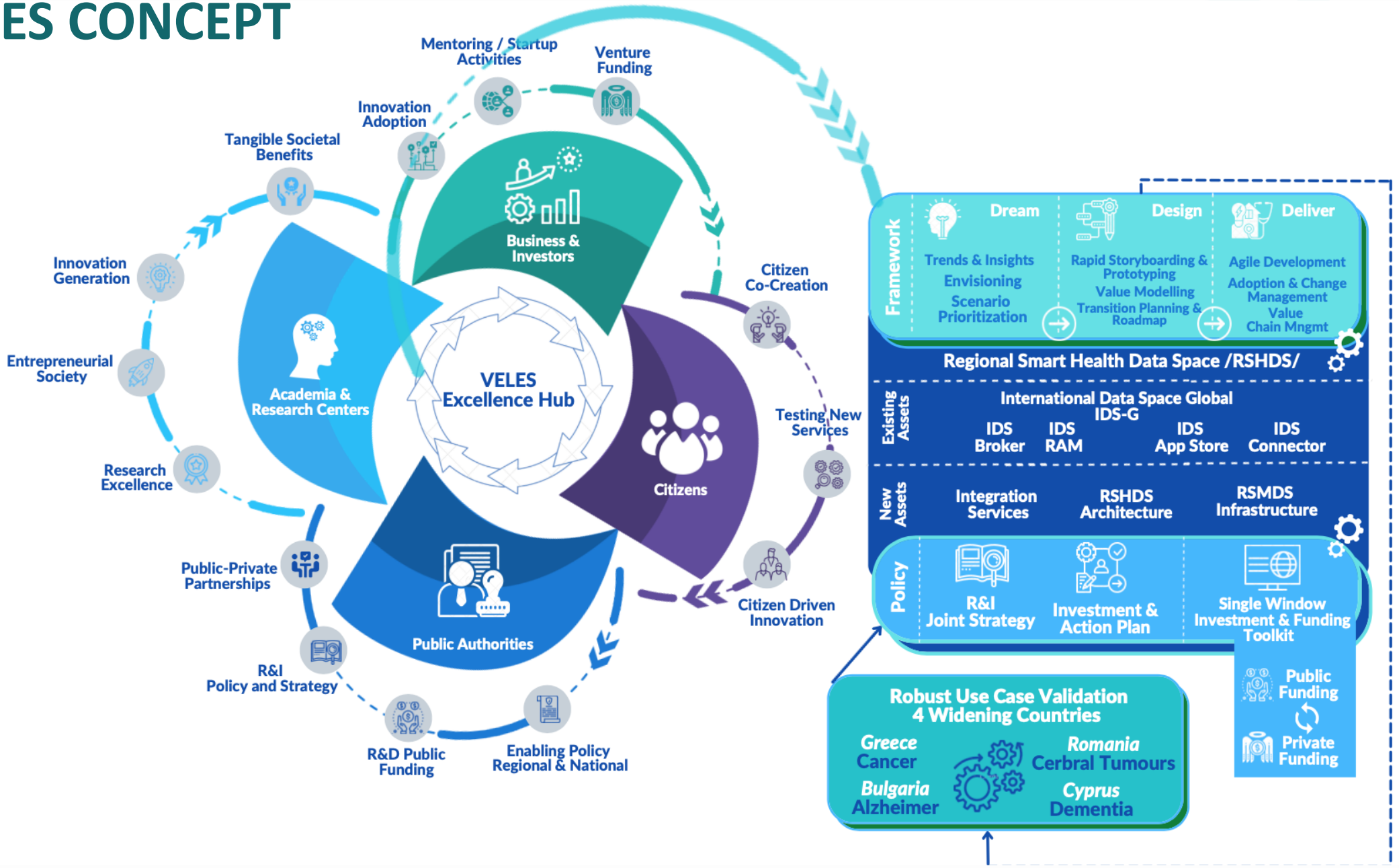
On a regional level, the new RIS3 strategies emphasize the need for advancement and digitalization of the healthcare sector and **improvement of the essential services provided by public and private stakeholders**.

VELES HUB VISION

VELES **accelerates the smart health innovation excellence** in Bulgaria, Greece, Romania and Cyprus.

VELES creates a **sustainable place-based innovation ecosystem**, enabled by **Regional Smart Health Data Space**, including a novel transformational framework, R&I and investment strategy and action plan for development and adoption of innovative and secure digital solutions to underpin the delivery of sustainable healthcare services.

VELES CONCEPT



PATHWAYS TOWARDS HEALTH DATA SPACES

Technical Infrastructure: Develop **robust and interoperable** technical infrastructure capable of **securely storing, managing, and exchanging** health data.

Data Readiness: Ensure that health data is **high-quality, comprehensive and accessible** for analysis and innovation.

Governance: Establish **clear governance structures and policies** to guide the use and sharing of health data.

Human Resources: Build a **skilled workforce** capable of leveraging health data for innovation and research.

Skills and Training: Enhance the **skills of healthcare professionals and researchers** to effectively utilise health data.

Legal and Regulatory: Navigate complex legal and regulatory landscapes to **ensure compliance and foster trust** in the health data ecosystem.

BUT ULTIMATELY…

Successful national, regional and EU Health Data Spaces are possible only through active stakeholders engagement and intensive collaboration

OUTCOMES

- Regional Smart Health Data Space Ecosystem (Deliverable 3.1)
- State of Play and Strategy for Innovation Ecosystem Transition Path (Deliverable 2.1)

INTERNATIONAL DATA SPACES ASSOCIATION

DATAPACT

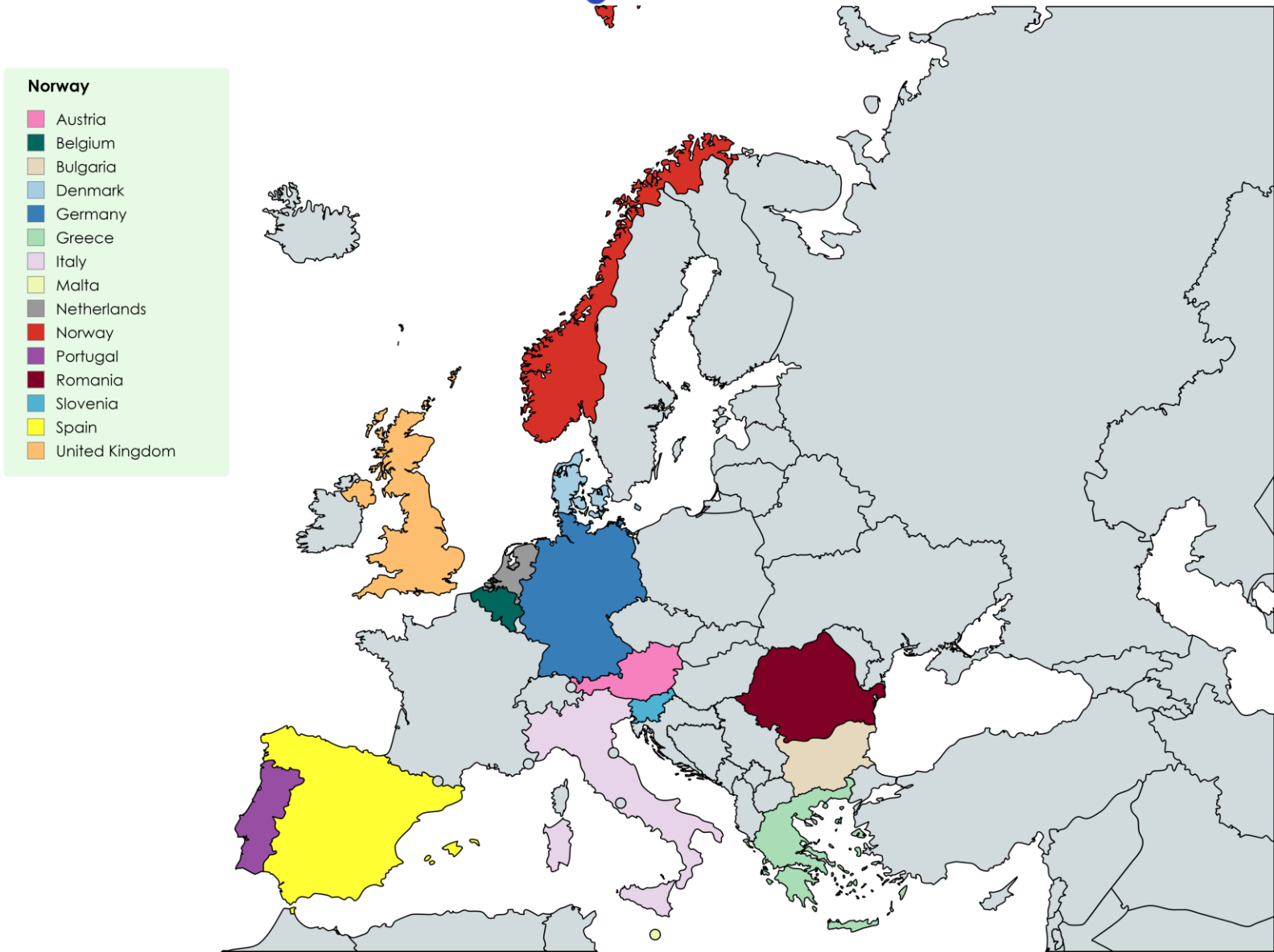
Revolutionizing Healthcare with Compliant AI Pipelines

101189771 — DataPACT — HORIZON-CL4-2024-DATA-01

Introduction to DataPACT

A diverse consortium of **19 partners** from **15 countries**, including: Research institutions, public organizations, SMEs, and large companies.

Covers a wide range of commercial and public sectors: Healthcare, Media and entertainment, Customer Relationship, Manufacturing, Smart Cities, Law Enforcement and Security, Public Data ensuring solutions are broadly applicable and impactful.



Introduction to DataPACT

Mission

Embedding compliance, ethics, and sustainability into data/AI pipelines.

Tools

DataPACT Compliance Toolbox

Offers innovative technical solutions for assessing and ensuring compliance with regulations, privacy, and ethical guidelines.

DataPACT Compliance Framework

A methodology supported by tools to integrate compliance into data/AI pipelines from the design phase.

Compliance-aware Data/AI Pipeline Toolbox

Enables design, deployment, and execution of compliant, privacy-preserving, and sustainable data/AI pipelines.

Healthcare Use Case Overview

DATAPACT

Use Case Owner

Healthcare - CAREPATH

Goal

Enable secure and compliant health data processing while improving patient outcomes.

Objectives

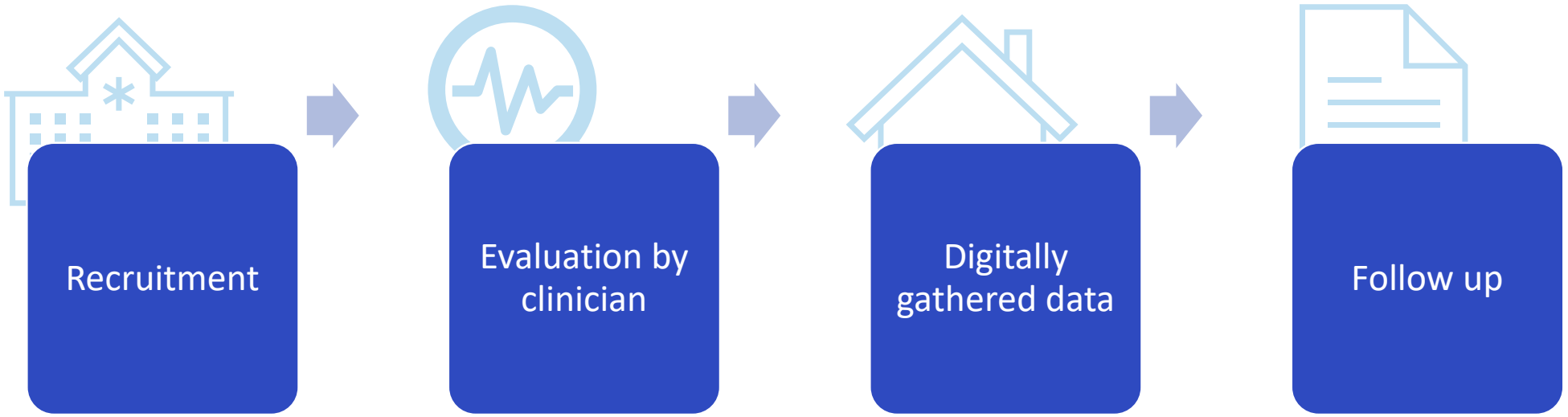
To predict high-risk **negative health outcomes** of patients after hospitalization and the **optimal day of discharge**, providing healthcare providers essential information on patients' functional status when transitioning from hospital to home care.

Compliance with health data regulations (e.g., GDPR).

Ethical use of AI to ensure fairness and mitigate bias.

Sustainable data processing practices.

Healthcare Use Case Overview



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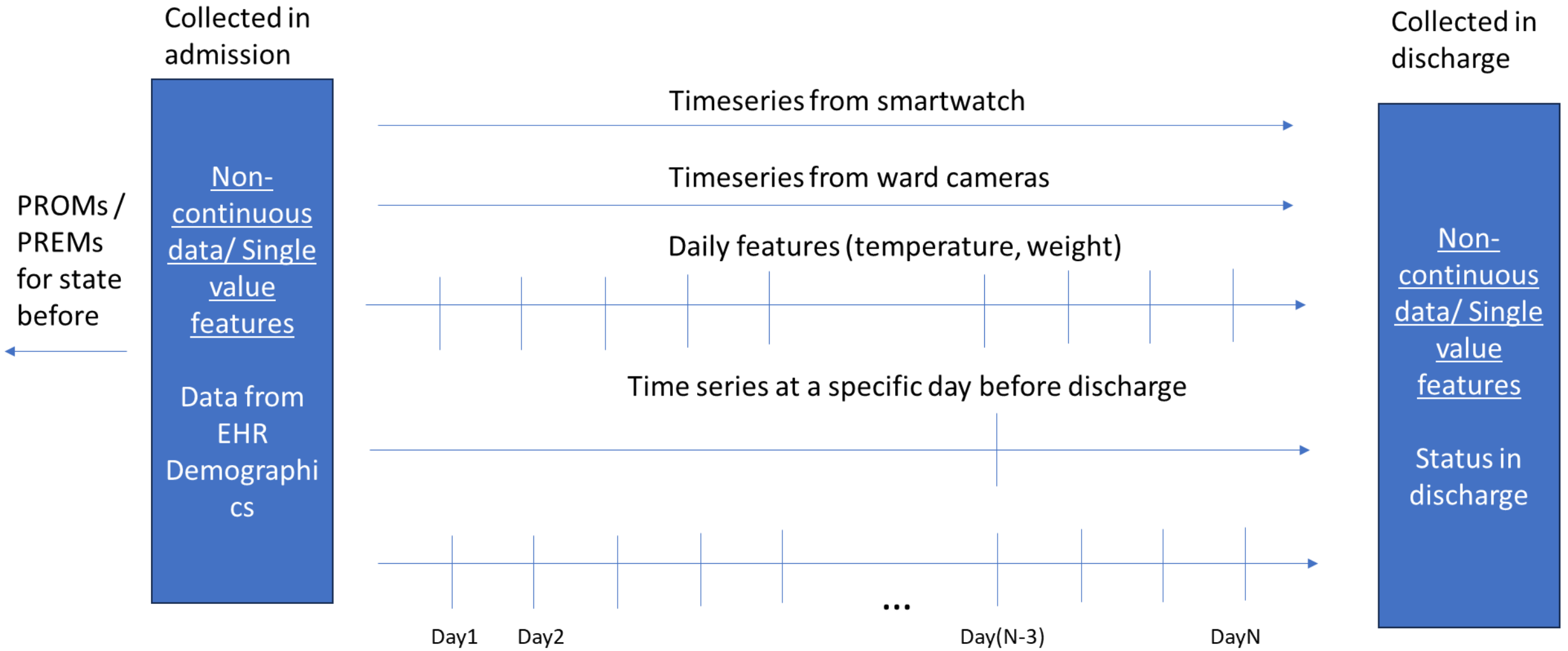
Infrastructure

Living Lab in Ippokrateion General Hospital, Thessaloniki

Dataset Description



Healthcare Challenges Addressed

1 Regulatory Compliance:

- **GDPR:** personal data of patients and sensitive data.
- **Data Governance Act:** public sector protected data.
- **AI Act:** high-risk as the AI-decision will influence the care plan.
- **Medical device regulation:** software that provides information for diagnostic or therapeutic purposes.
- **Data Act:** IoT devices – portability across providers.
- **Data security** in sensitive medical contexts.

2 Ethics in AI:

- Reducing biases in diagnosis/treatment algorithms.
- Transparent decision-making processes.

3 Sustainability:

- Optimizing resource-intensive health data processing systems.

Solutions and Benefits

DATAPACT

DataPACT Healthcare Solutions:

Compliance-aware AI pipeline tools: **PipelinR, AssessR, TrustR, PolicyR**.

Real-time data auditing frameworks.

Benefits:

1. **Faster compliance with evolving regulations.**
2. **Enhanced trust in AI-driven healthcare solutions.**
3. **Environmentally sustainable operations.**

Solutions and Benefits

DataPACT pipeline tools:

- **PipelinR:** compliance related metadata into data/AI operations.
- **AssessR**: ethical and responsibility assessment of data, social impact assessment of data/AI.
- **TrustR**: explainability of data/AI operations.
- **PolicyR**: Consent management tool.

Stakeholder Impact

Hospitals & Clinics:

- Improved data security and compliance.
- Cost-effective implementation of AI solutions.
- 25%-time reduction in identifying legal compliance issues and management of consent, compared to the current practices
- 3 major clinics or hospitals adopting CAREPATH.

Patients:

- Fair and unbiased access to care.
- Greater data privacy and transparency.
- 5 additional risk factors were identified (and mitigated through DataPACT) for transitional care decision-making support compared to the currently used ones.

Researchers:

- Accelerated development of ethical AI models.
- 85% agreement of our algorithm with the actual discharge day (as decided by the healthcare professional).

Future Directions

1

Extending beyond compliance: Driving innovation in ethical AI applications in healthcare.

2

Collaboration opportunities within the DataPACT consortium.

Closing and Acknowledgements

Key Message: DataPACT transforms healthcare by embedding compliance, ethics, and sustainability.

Acknowledgements: DataPACT consortium members and the European Commission.

How dataPACT HealthCare Use Case relates to the VELES?

1. The **DataPACT project is pioneering a transformative framework** that **integrates compliance, ethics, and environmental sustainability into AI-powered health data pipelines**. By embedding these principles at the core of data and AI operations, **DataPACT ensures that health data management aligns with legal, ethical standards**. This approach not only fosters trust and transparency but also **promotes responsible innovation in healthcare**.

2. A practical application of DataPACT's framework is exemplified in the CAREPATH project, which focuses on doping AI-driven solutions for **personalized healthcare**. By adhering to DataPACT's compliance-aware methodologies, CAREPATH ensures that **patient data is handled ethically and sustainably throughout the AI pipeline, from data collection to analysis and application**.

3. This approach is particularly relevant to initiatives like the VELES Excellence Hub, which **aims to establish the first Regional Smart Health Data Space across Bulgaria, Greece, Romania, and Cyprus**. VELES **focuses on enhancing health data sharing strategies to improve clinical practices, safeguard patient privacy, and empower citizens with access to innovative, secure, and data-driven digital health services**.

4. By incorporating DataPACT's framework, VELES can ensure that its health data space operates within a governance structure that prioritizes compliance, ethical considerations, and sustainability. This alignment is crucial for navigating the complex regulatory landscapes of the involved countries and for building a robust infrastructure that supports data readiness and interoperability.

What is a role of IDSA in DataPACT and VELES projects?

The International Data Spaces Association (IDSA) plays a pivotal role in both the DataPACT and VELES projects by contributing its expertise in secure and sovereign data sharing.

In the DataPACT Project:

- As a consortium partner, IDSA guides the development of federated data spaces that prioritize data sovereignty and ethical considerations.
- Their involvement ensures that the data sharing frameworks within DataPACT adhere to high standards of security and trust, facilitating compliance-aware data and AI pipelines.

In the VELES Project:

- IDSA contributes to the development of sustainable Smart Health innovation ecosystems in Southeast Europe. By accelerating knowledge exchange and promoting best practices for healthcare data sharing, IDSA supports the establishment of a Regional Smart Health Data Space.
- This initiative aims to enhance clinical practices and empower citizens with secure, data-driven digital health services.

In both projects, IDSA's contributions are instrumental in ensuring that data sharing is conducted in a secure, ethical, and sovereign manner, aligning with European standards and promoting innovation across sectors.