

G A T E K E E P E R

Smart solutions
for early risk
detection and
intervention
in elderly
population



WHY GATEKEEPER?

Over the past decades, **mortality rates and birth rates have fallen significantly in Europe** and around the world, leading to considerable changes in the age distribution of societies. The increase in life expectancy, however, is **dominated by rapid declines in physical and mental capacity for ageing populations without appropriated support.**

As a result, the European Healthcare Systems are struggling to tackle the significant cost burden of chronic diseases related to the ageing population. In this respect, society needs to re-establish the link between **what the healthcare system is caring and curing and what the citizens really need.** We need to offer innovations that will bring support to health professionals and people to achieve better diagnosis, treatment and self-management across the continuum of care and prevention.

The **GATEKEEPER project has the primary objective of connecting healthcare providers, businesses, entrepreneurs, elderly citizens** and the communities they live in. It aims **to create an open, trust-based arena for matching ideas, technologies, user needs and processes,** aimed at ensuring healthier independent lives for the ageing population in Europe.

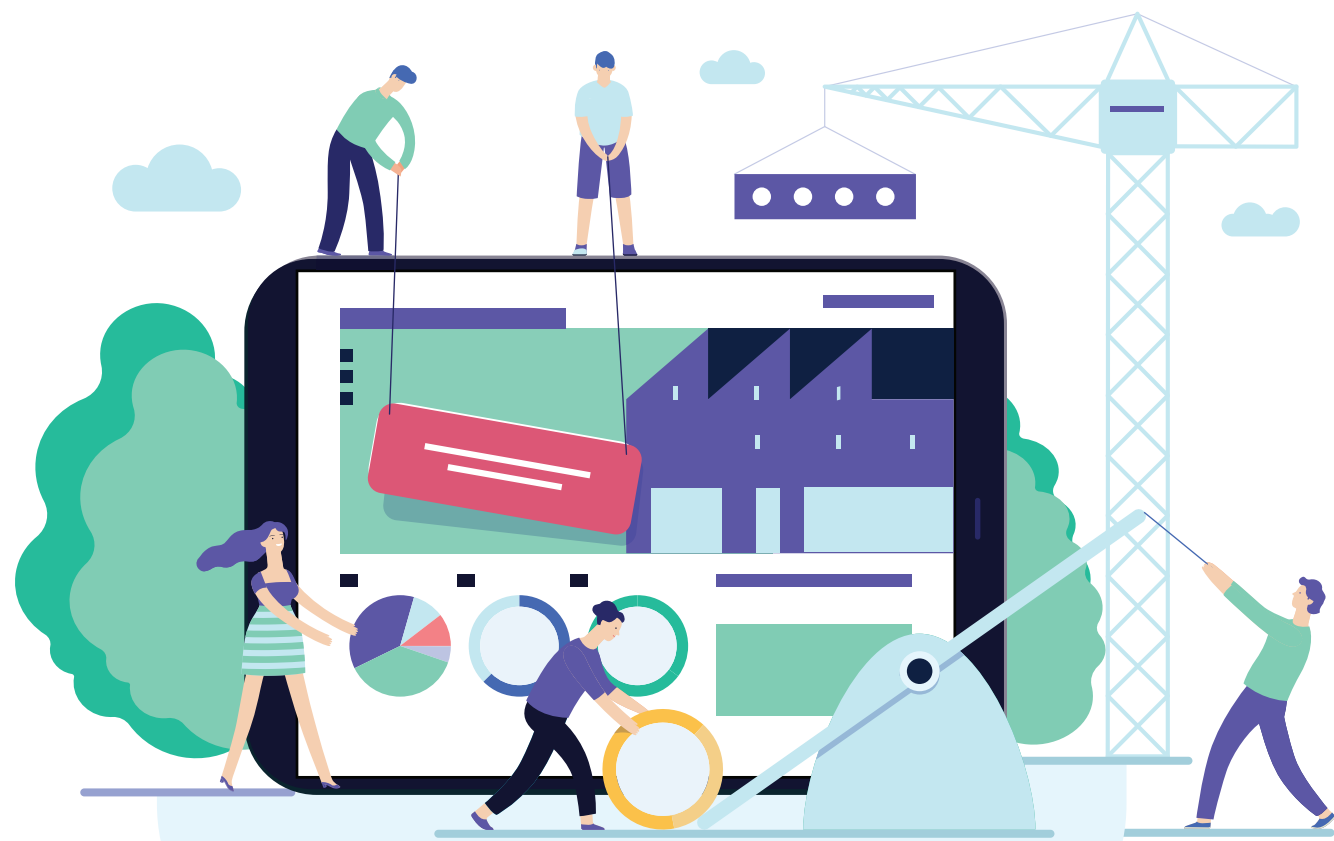


THE PROJECT AIM

GATEKEEPER is building a European- led decentralised digital ecosystem, aiming to enable **collaboration and provide mutually beneficial results to a multi-stakeholder ecosystem in Europe.**

The platform will provide **evidence in real life** (Pilot Sites), generate a set of first adopters (Open Calls) and develop a **sustainability activities** to maintain the project (Foundation). Altogether, the project will empower **the ageing citizens to keep themselves healthy** with respect to optimal functional ability over time.

GATEKEEPER will directly **contribute to the United Nations Sustainable Development Goal** which aims to “ensure healthy lives and promote well-being for all at all ages”.



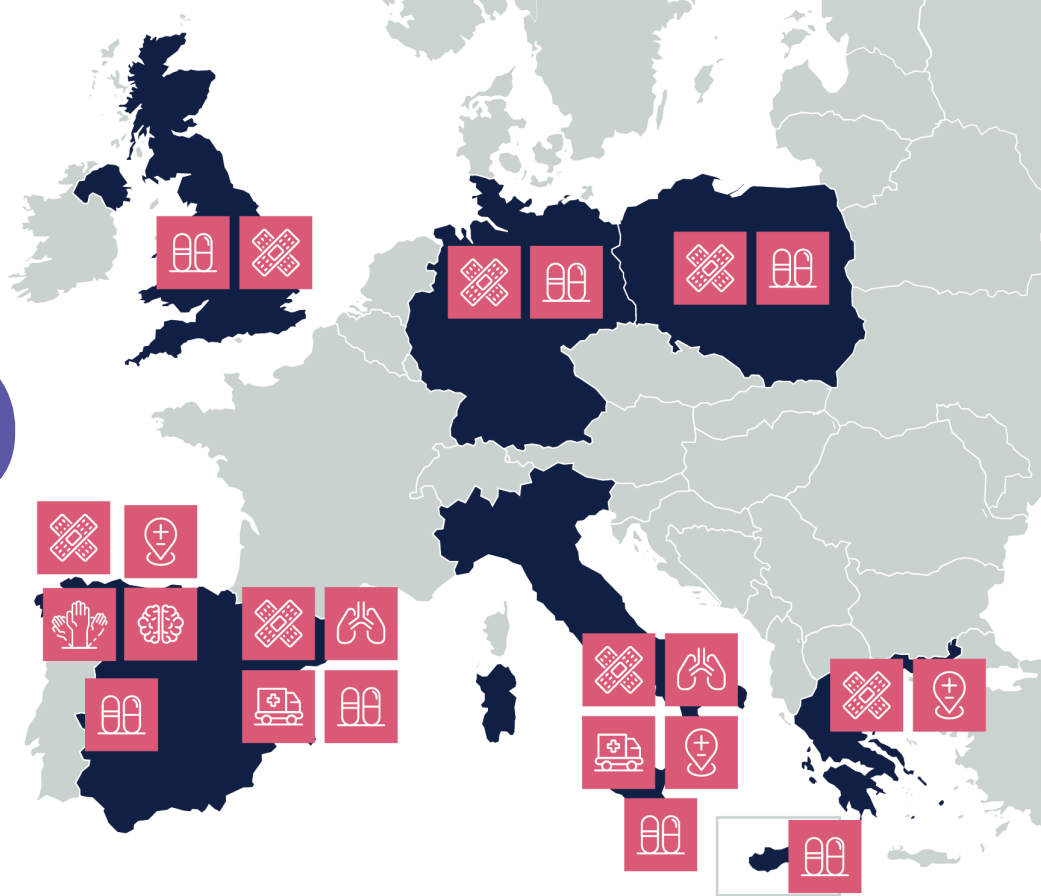
MEDICAL USES CASES & PILOT SITES

GATEKEEPER will demonstrate its value by scaling up **innovative solutions that will involve 40,000 elderly citizens** in 8 regional communities, from **7 EU member states.** GATEKEEPER Large Scale Pilots (SLP) are running in the Basque Country and Aragon (**Spain**), Saxony (**Germany**), Puglia (**Italy**), Milton Keynes (**United Kingdom**), Lodz (**Poland**), **Cyprus** and **Greece.**

The Use Cases that will be implemented in the different Pilot Sites will cover:

- **Lifestyle-related early detection and interventions:** Big Data Analytics techniques will be exploited to address risk stratification and early detection, based on lifestyles analysis in ageing population.
- **COPD exacerbations management:** Machine learning techniques will be used to implement apps that predict exacerbations and avoid hospitalisations.
- **Diabetes Predictive modelling of glycaemic status:** GATEKEEPER will provide a solution based on data federation in order to identify the different modes of the underlying glucose metabolism.
- **Parkinson's disease treatment DSS:** sensors, digital applications, such as Smart TVs, will be deployed to detect non-motor symptoms. The model will alert clinicians that the patient's current medication plan is not optimal anymore and will derive suggestions on how to improve it.
- **Predicting readmissions and decompensations in Heart Failure (HF):** Telemonitoring services and machine learning will be harnessed to implement an advanced model for predicting acute Heart Failure decompensations.
- **Primary and secondary stroke prevention:** Image recognition algorithms will be used to detect stroke signs from images recorded at home. These algorithms, coupled with smart-home/smart-hospital interactions will activate early warning alarms, particularly for subjects affected by recurrent strokes.
- **Multi-chronic elderly patient management including polymedication:** Different technologies will be considered in order to adjust individual care plans and integrate digital coaching systems to assist polymedicated patients.

PILOT SITES MAPPING



Lifestyle-related early detection and interventions



Predicting readmissions and decompensations in Heart Failure



COPD exacerbations management



Primary and secondary stroke prevention



Diabetes: predictive modelling of glycemic status



Multi-chronic elderly patient management including polimedication



Parkinson's disease treatment Decision Support System

GATEKEEPER IMPACT

GATEKEEPER will be embodied in an open source, accessible, standard-based, interoperable and secure framework available to all developers, for **creating combined digital solutions for personalized early detection and interventions** that will:

- **Harness the next generation of healthcare** and wellness innovations.
- **Cover the whole care continuum for elderly citizens**, including primary, secondary and tertiary prevention, chronic diseases and co-morbidities.
- Straightforwardly fit "by design" with **European regulations, on data protection, consumer protection and patient protection.**
- Support value generation through the deployment of advanced **business models based on the Value Based HealthCare paradigm.**

CONSORTIUM

The initial European partnering ecosystem starts with the GATEKEEPER consortium which includes:

- European Union large enterprises
- Information & Communication Technology SMEs working in health domain
- Research and academic organizations
- Seven EU Reference Sites
- Standardisation bodies and facilitators
- Active and Healthy Ageing networks
- Legal support
- Socio-economic analysis players

RESEARCH INSTITUTIONS & ACADEMY

UNIVERSIDAD POLITÉCNICA DE MADRID
UNIVERSITY OF WARWICK
UNIVERSITY OF UTRECHT
THE OPEN UNIVERSITY
TECHNISCHE UNIVERSITÄT DRESDEN
HAROKOPIO UNIVERSITY
CENTRO INVESTIGACIÓN BIOMÉDICO EN RED
CERTH
FUNDACIÓN TECNALIA R&I
UNIVERSITY OF IOANNINA
FONDAZIONE POLITECNICO
UNIVERSITY OF PATRAS

ECOSYSTEM ENLARGEMENT, STANDARDIZATION & IMPACT

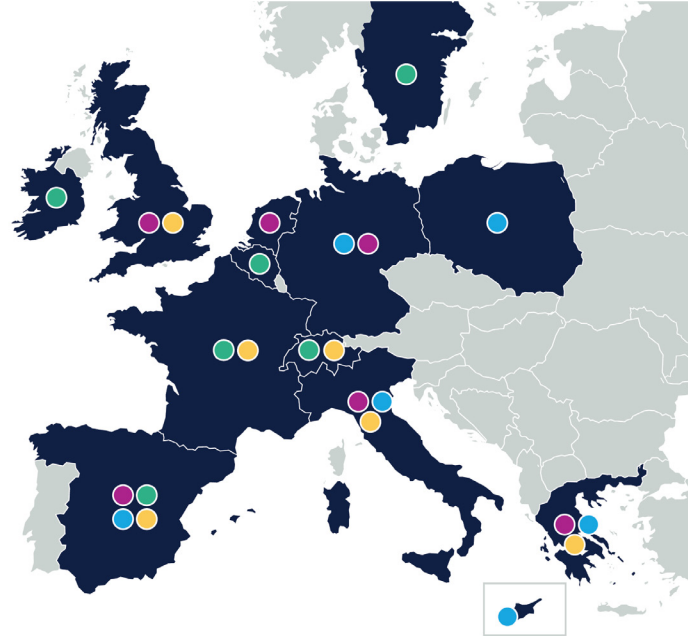
EIP ON AHA REFERENCE SITE
COLLABORATIVE NETWORK (RSCN)
ECHALLIANCE
MANDAT INTERNATIONAL
W3C
HL7 FOUNDATION
ARCHIMADE SOLUTIONS SARL
FUNKA NU AB
OPEN EVIDENCE

HEALTHCARE PROVIDERS (PILOTS)

ARCHANGELOS M. ELDERLY NURSING HOME
INTERMUNICIPAL DEVELOPMENT COMPANY
DIGITAL CITIES OF CENTRAL GREECE SA.
OSAKIDETZA-SERVICIO VASCO DE SALUD
REGIONIA PUGLIA
SERVICIO ARAGONÉS DE LA SALUD
CYPRUS ASSOCIATION CANCER PATIENTS & FRIENDS
ASOCIACION CENTRO DE EXCELENCIA INTERNACIONAL EN INVESTIGACIÓN SOBRE CRONICIDAD
CARUS CONSILIUM SACHSEN GMBH
MEDICAL UNIVERSITY OF LODZ

LARGE AND SMALL INDUSTRIES (SUPPLIERS)

ENGINEERING INGEGNERIA INFORMATICA SPA
HEWLETT PACKARD ITALIANA SRL
MEDTRONIC IBERICA SA
SAMSUNG ELECTRONICS (UK) LIMITED
STM
MYSPHERA SL
SENSE4CARE SL
Medisanté Group AG (Medisanté)
IBERMÁTICA
MULTIMED ENGINEERS SRLS
BIOBEAT
BIOASSIST
ORTHOKEY



Join the GATEKEEPER community!

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