Sustainable and Equitable Health Systems for Healthier EU Citizens

ESTHER Initiative
Annual operating budget of €650 million

600 priority patent applications per year

4,500 researchers

Our industrial partners

80% listed on the CAC 40

500 SMBs

145 international partners
Mega trends in healthcare

- Ageing
- Co-morbidity
- Chronic diseases
- Disease outbreaks
- Costs
- Inequality
- Shortage of professionnals
Objective

Accomplish the changes necessary to reduce health inequalities by making European healthcare systems sustainable and affordable for all European citizens regardless of their regional or social environment.
Innovative, advanced and integrated healthcare solutions

- Advance integrated global medical and hospital solutions to serve the full continuum of care
  
  Drive outcome for patients and value for health care providers to new dimensions contributing to more sustainable healthcare systems across Europe

- Develop the full potential of Digital Health
  
  Connecting devices, managing data from data gathering, to data analytics and data correlation, adapting artificial intelligence and new digital technologies. This includes the development of more individualized medicine, the hospital of the future, remote monitoring of patients, homecare vs hospital care and more.

- Leverage the fast development of Key Enabling Technologies
  
  Photonics, advanced materials, micro-nano electronics, cybersecurity ... permitting the continuous development of innovative new medical devices as well as and new in vitro diagnostic tests
Framework conditions

• Development of holistic **value-based assessment models** for medical technologies

• Induction of **reforms in health system management and medical practices** to enable healthcare systems to fully leverage the benefits of investments in innovative medical technologies;
Framework conditions

- Creation and adoption of innovative, collaborative, inclusive and outcome-based funding and reimbursement models to reward innovation and the value of medical technologies;
- Support translation of innovations from benches and labs all the way to citizens, patients, caregivers and healthcare systems.
New medical technologies associated to digitization are becoming a major game changer in healthcare.
The health products and technologies in the continuum of care

Pre-acute
- Prevention
  - Lifestyle management
  - Apps
  - Trackers
  - Health-based social platforms

Diagnostics
- Wearables
- Multiplexing devices

Post-acute
- Remote monitoring and surveillance
  - Wearables and medical devices
  - ICT tools

Acute
- Treatment
  - Mixed reality surgery (VR- and AR-supported)
  - Image-guided surgery
  - Regenerative medicine
  - Pharmaceutical therapy

Homecare
- Telehealth
  - ICT tools
  - Sensors
  - Assistive and supportive robots

Post-acute
- Education
  - ICT tools
  - Health-based social platforms
  - Patient portals

Lifestyle management
- Monitoring
  - Wearables and medical devices

Wellness
- Wellness
  - Clinical pathway coordination
    - AI
Disruptive technologies revolutionise healthcare

New biomarkers (genetic and physiological)
Reprogramming of stem cells
3D printing of biomaterials
Improved sensors (crossKETs)
Broadband IT networks
Big Data, machine learning and AI
Smart phones and apps
Assistive healthtech and augmented reality

Understanding of diseases
Regeneration of tissue
Artificial organs
Monitoring body functions/environment
Remote care and surgery
Assisted/better diagnosis
Patient engagement
Minimally invasive surgery
Cross-x approach

• Cross-sectoral
  • Pharma, biotech, medtech, digital

• Cross-stakeholders
  • Companies
  • Healthcare professionals
  • Patients advocacy groups
  • Academia
  • RTOs
  • regulators
  • healthcare authorities
Impact

At 5 years
• 10 pilot territories for equitable access to these solutions thanks to digital convergence, and added value generated at a local level.
• Value based and Outcome based funding models have become standards to reward Innovation

At 10 years,
• 300 new start-ups and SMEs in healthtech that commercialize products and services for sustainable healthcare and well-being, based on the above objectives.
• Added-value generated, both for healthcare systems and for the medtech sector.

At 15 years,
• 1000 new innovative solutions for better patient outcome, based on convergence of KETs and digital, addressing key acute and chronic diseases

At 20 years,
• Stable or decreasing ratio Healthcare expenditure/GDP in Europe, without significant difference between countries
Latest news

• iPPP Health in Horizon Europe is under informal discussion
  • 15 Oct: introduction by MOEDAS
  • 30 Nov: presentation to Council

Horizon Europe
EARTO WG medtech

• Members (22)

AIMEN
AIT
ATIGA
Bioneer
CEA
CETMA
CSEM
Digital Catapult
Eurecat
Fraunhofer
Helmholtz
IMEC
iMinds
INEGI
LEITAT
SINTEF
RISE
Tecnalia
TWI
Tyndall
VITO
VTT

• Objectives

• To maintain a sustainable research activity for healthtech in Europe
• To guarantee a strong attractivity of European hubs and centers for companies (European and non-European)
• To ensure a good visibility of RTOs on a topic that is NOT visible yet (as a political priority in the “health” challenge)

• Position Paper on the specificities of RTOs in R&D&I in healthtech (soon to be released)
Thank you for your attention

Patrick.boisseau@cea.fr