



DEPARTMENT OF  
ECONOMY  
SCIENCE &  
INNOVATION

# Flanders, a health(y) ecosystem

## Cancer

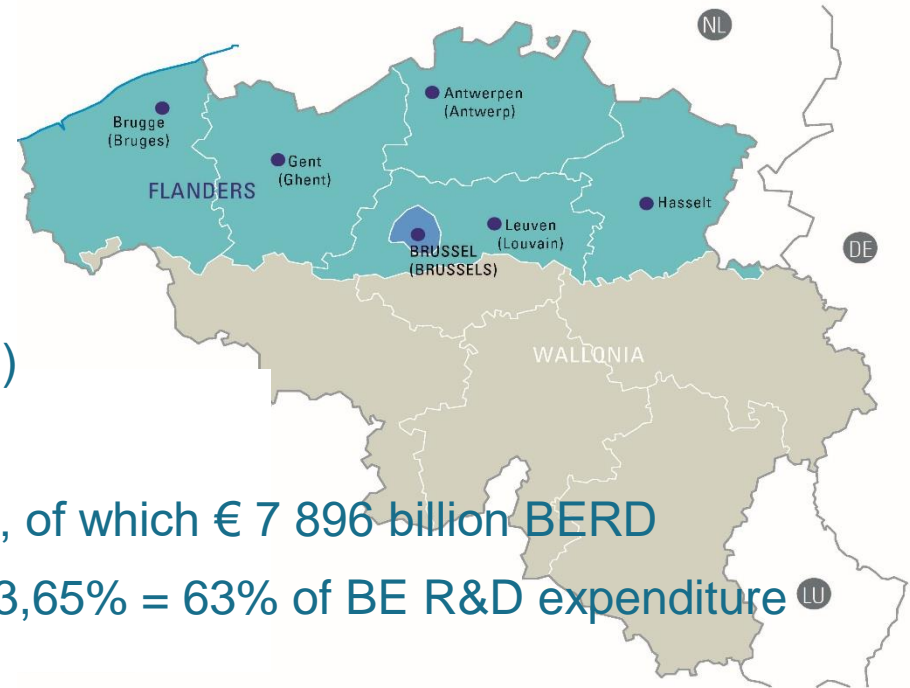
[Kathleen.dhondt@vlaanderen.be](mailto:Kathleen.dhondt@vlaanderen.be)

# FLANDERS: Key Figures report 2024

*a high-income region*

*with an open economy in the core of Europe*

- **Population:** 6,77 million (= 58% BEL)
- **Language:** Dutch (NL)
- **Surface:** 13 521 km<sup>2</sup> (= 44% BEL)
- **GDP:** € 296 billion (= 59%; BE € 502,3 bn)
- **Export :** € 300 billion (BE € 370 bn)
- **GERD:** € 10 816 billion (+/- 2/3 of BEL), of which € 7 896 billion BERD
- **Research intensity - % GERD/ GDP:** 3,65% = 63% of BE R&D expenditure
- **Total public budget STI policy:** € 3 246 million, of which € 2 149 million R&D



The region has constitutional competences on research, innovation and economic policy

## **Flanders = "innovation leader" in RIS 2023**

- 3RD BEST INNOVATIVE SYSTEM in the world (2020 ZEW innovationsindikator)
- 3RD IN EUROPE for innovative SMEs collaborating with others

# Health(y) ecosystem Flanders



## Access to funding







# KU Leuven/ UZ Leuven Leuven Kankerinstituut (LKI)

## Facts & figures 2021

- > Cancer institute of
- KU Leuven - the most innovative university in Europe
- UZ Leuven - the largest university hospital in Belgium
- > 57.491 oncological consultations (UZ Leuven)
- > 1.591 peer-reviewed oncological publications
  
- > 8 ongoing ERC grants

## Protontherapy - Particle

Next-gen fluorescence imaging for research and theranostics

Radiopharmaceutical Research: specific PET tracers, performing experiments with radiotracers or implementing GMP compliant production of novel tracers for clinical application.

**KU Leuven: 36,5 mio EUR** Annual average budget in cancer research over the last 5 years



**PARTICLE THERAPY INTERUNIVERSITY CENTER LEUVEN**  
COLLABORATION BETWEEN UZ LEUVEN • KU LEUVEN • CU SAINT-LUC • UCLOUVAIN  
UZ GENT • CHU UCL NAMUR • UZ BRUSSEL • UZA

Protontherapie Particle



# Cancer Research at Ughent / UZ Ghent

## CRIG

Covering fundamental, translational and clinical cancer research

From synthesis and delivery of anti-cancer drugs, over cancer cell profiling and imaging, in vitro and in vivo model systems, up to clinical cancer research.

Cancer research at CRIG covers the whole spectrum from bench to bedside.

**Multidisciplinary research: different cancer types across expertise domains**

**Valorising and partnering with industry**

## CRIG 2023 in numbers

600+  
researchers

3 partner  
institutions

young investigator  
proof-of-concept  
projects granted (>143K €)

10

>93K € donations and  
fundraisers received

research  
groups 80+

3 FTE in  
operational  
team

granted via UGent  
industrial research  
fund (IOF) projects  
to specific CRIG teams

1.5M €

>7.5M € external project  
funding acquired  
by CRIG researchers

PhD theses 49

>270  
AI publications

valorization  
project income  
for specific CRIG teams

10.8M €

25 bilateral  
contracts

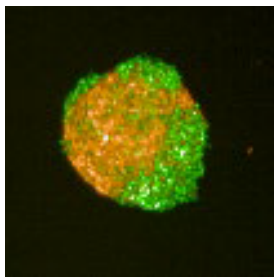
**27,3 mio EUR** Annual average budget in cancer research over the last 5 years

# Plasma medicine -Plasma oncology

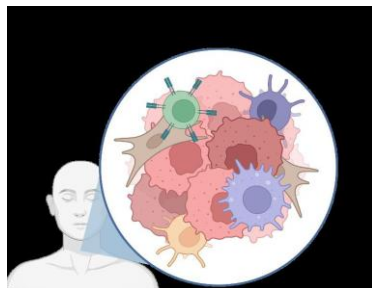
## Using gas plasma for onco-immunotherapy

**Various cancers:** Melanoma, pancreatic cancer, glioblastoma, head & neck cancer,...

**In-vitro experiments:** 3D cancer models (more realistic)



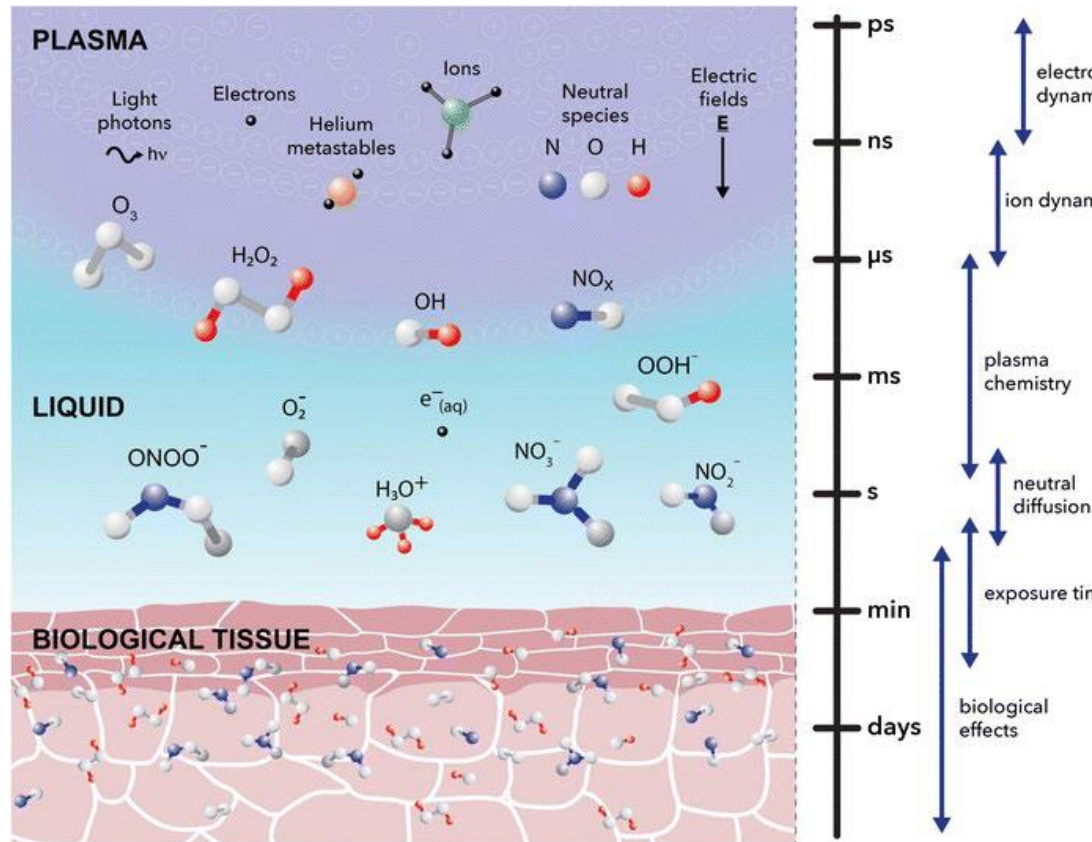
**Spheroids**



**Organoids**  
patient-derived model

### Modeling for better understanding

- Various plasma sources (+interaction liquid)
- Interaction RONS+biomolecules



**University of Antwerp**  
CORE | Center for  
Oncological Research



# VUB UZ Brussels ONCOLOGY RESEARCH CENTER (ORC)



Cell analysis



Genomics



Extended RNA Analysis (ERA) platform



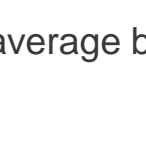
Imaging technologies



New radiation techniques



Virus production technologies



Tumorbank



Proteomics

**7,7 mio EUR** Annual average budget in cancer research over the last 5 years

<https://orc.vub.be/>

# Vanguard Initiative and the smart health pilot

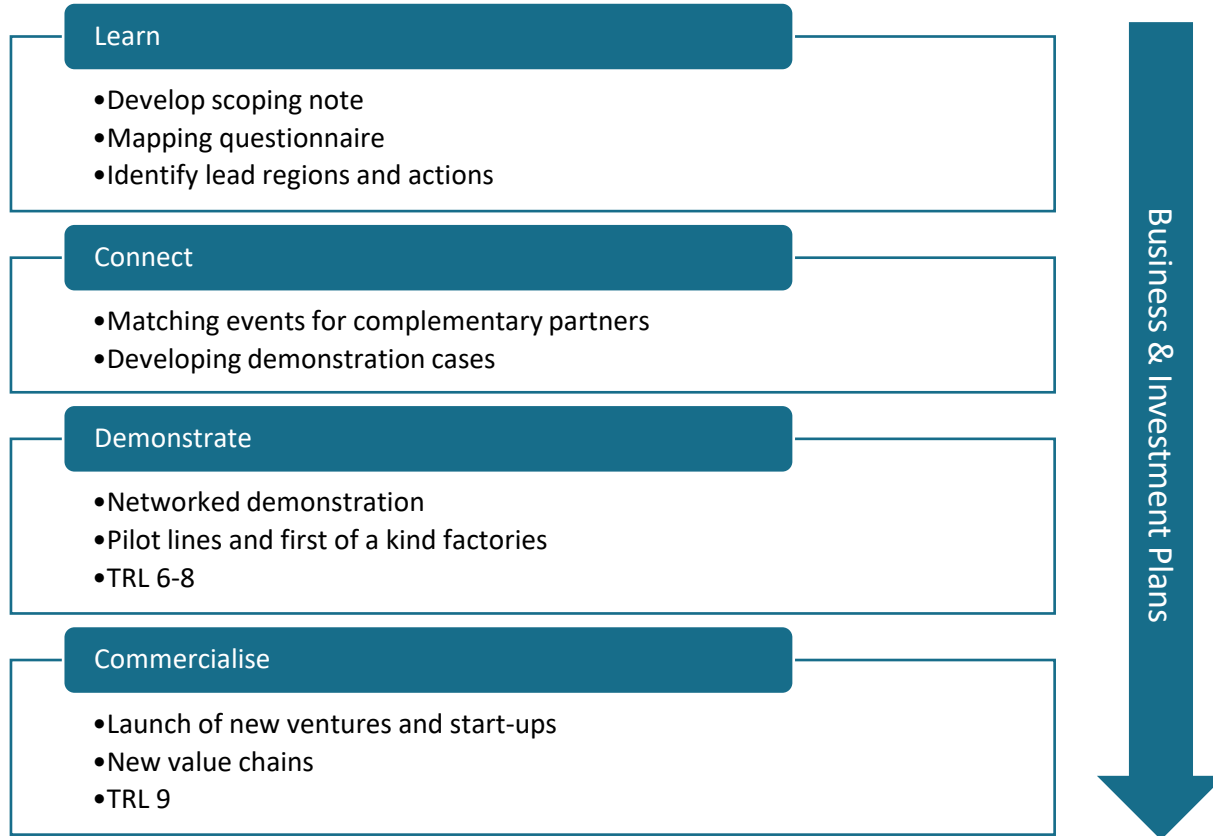
Jolien Roovers - Co-coordinator of Vanguard Initiative Smart Health Pilot

# Vanguard Initiative

39 of the most advanced industrial regions in Europe leading by example in delivering growth and jobs through industry-led interregional cooperation, co-creation, and co-investment



# Vanguard Initiative methodology



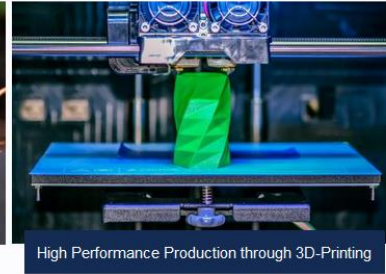
# Vanguard Initiative pilots



Bio-Economy



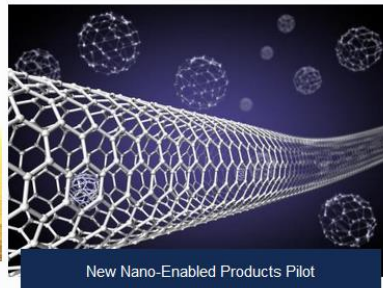
Efficient and Sustainable Manufacturing (ESM)



High Performance Production through 3D-Printing



Advanced Manufacturing for Energy Related Applications in Harsh Environments



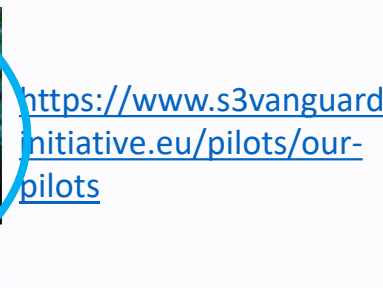
New Nano-Enabled Products Pilot



Artificial Intelligence



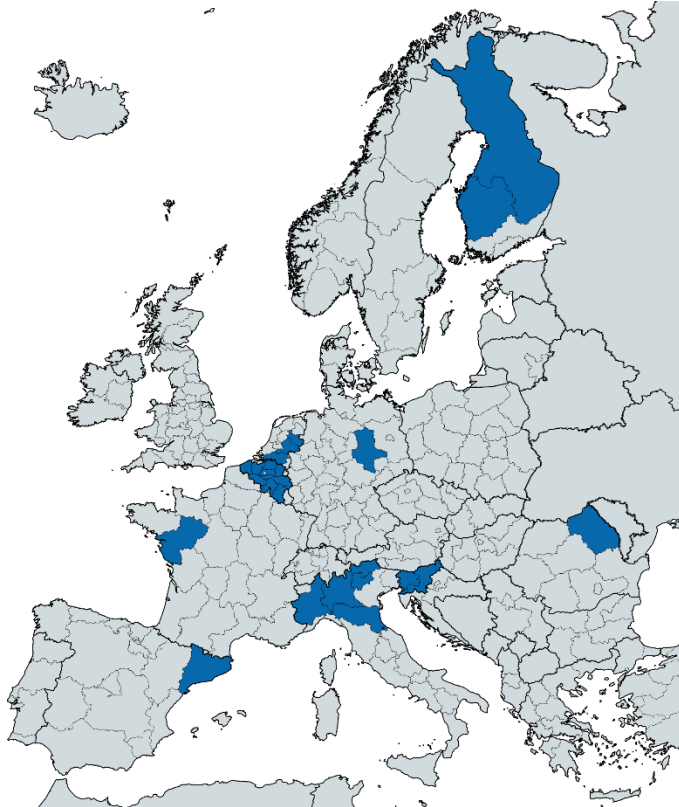
Smart Health/ Personalised Medicine



Hydrogen (H2)

<https://www.s3vanguardinitiative.eu/pilots/our-pilots>

# Vanguard Initiative Smart Health



- Flanders, South NL, East NL
- Emilia-Romagna, North-Est Romania, East & North Finland, Piedmont, Slovenia, Trento, Wallonia, Lombardy, Pays de la Loire, Saxony-Anhalt, Catalonia, (Wales)
- EIT Health
- **Open for new regions**

Bring regional ecosystems together

Boost implementation of personalised medicine and smart health across Europe

Investable interregional co-creation projects

More info on:

<https://www.s3vanguardinitiative.eu/pilots/smart-health>

# Objectives

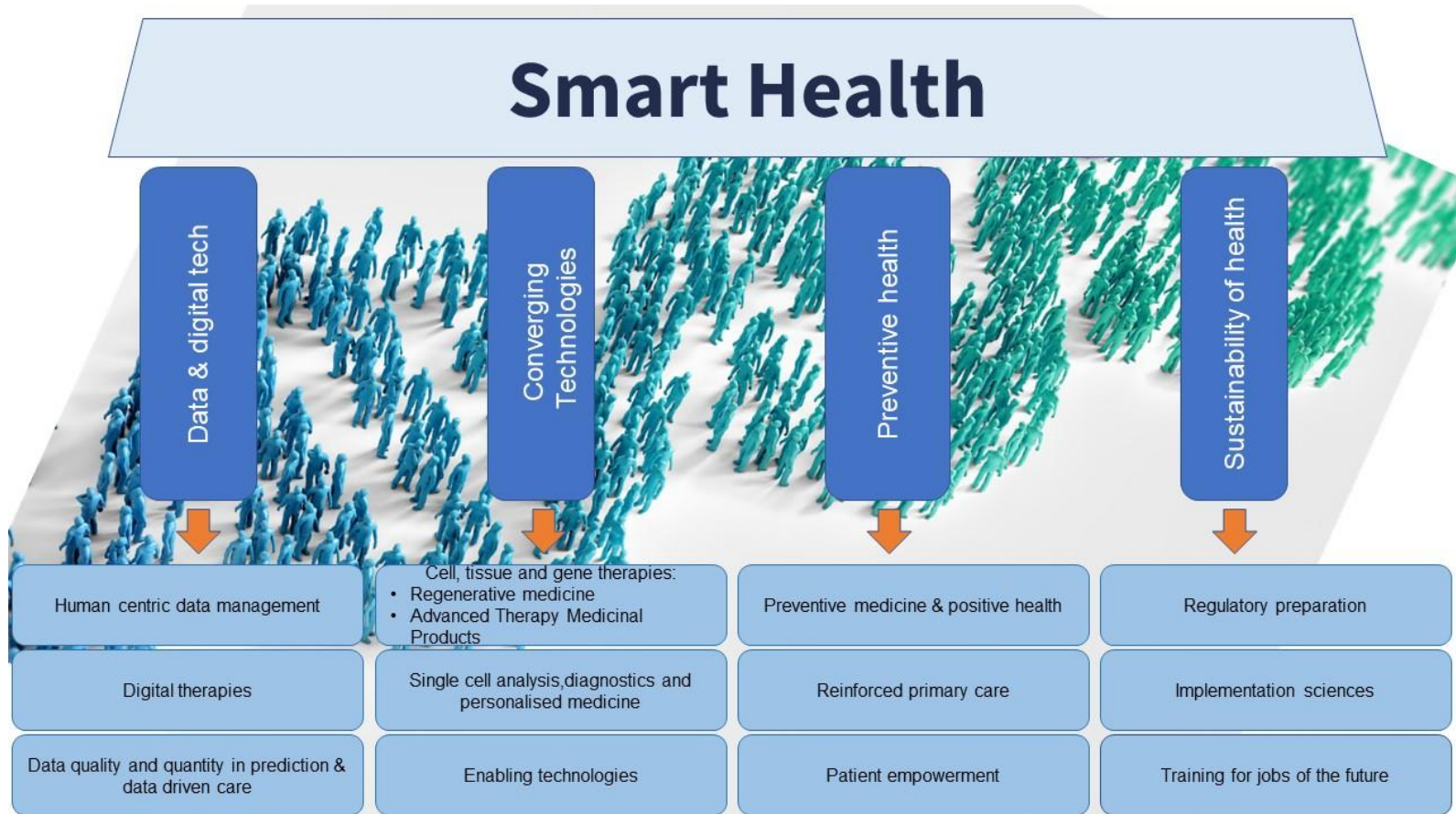
Transform the connected European value chains on ***Personalised Medicine (PM)*** and smart health, by combining biomedical, technological and data-driven expertise.

Figure 2: Vanguard Initiative methodology



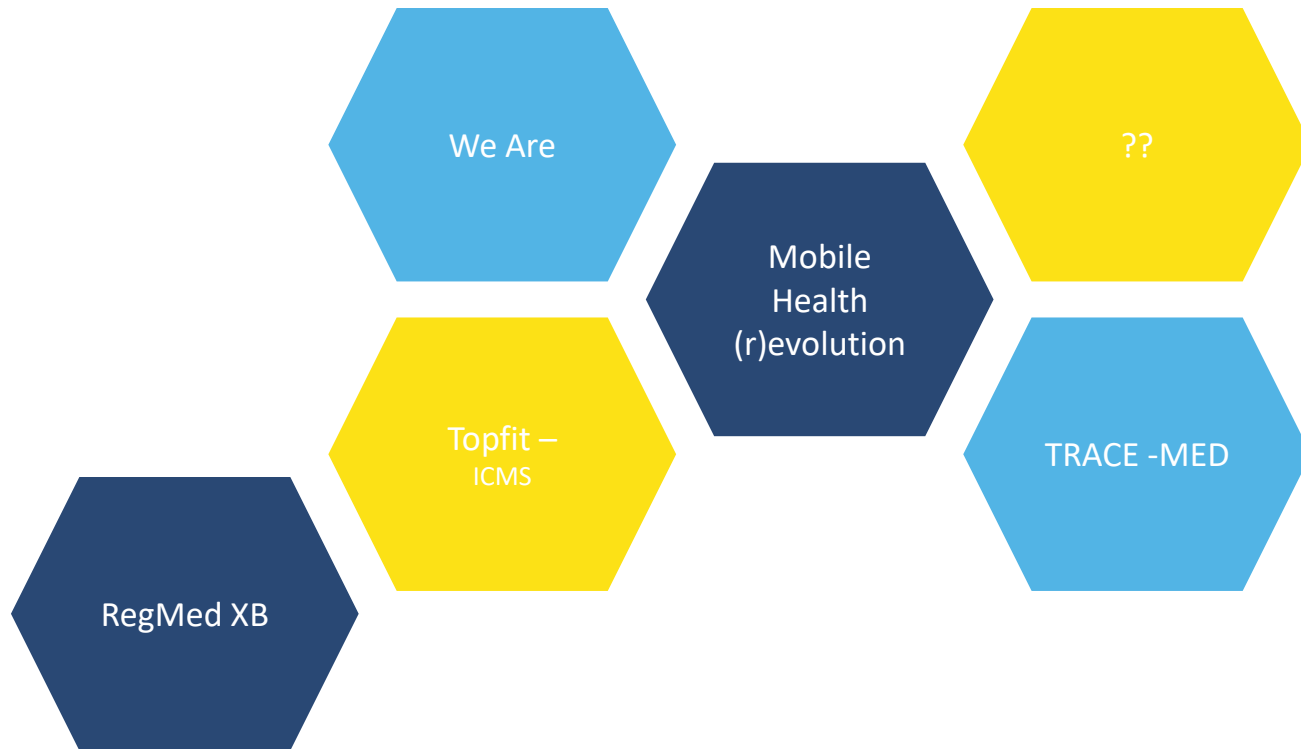
Source: Vanguard website

# VI Smart Health Scope





# Demo cases



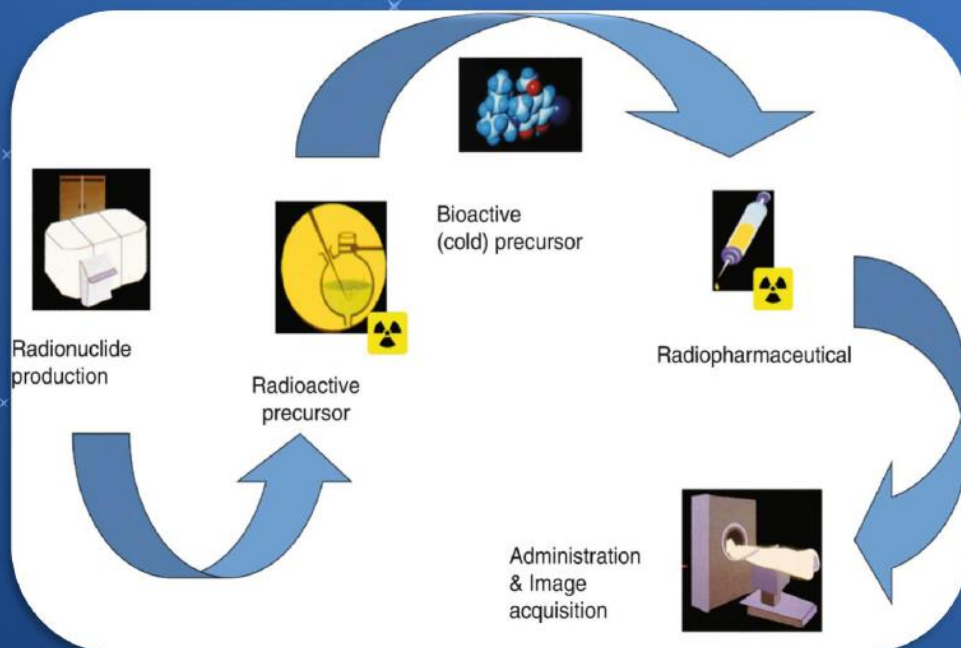
## TRACE-MED DEMO CASE



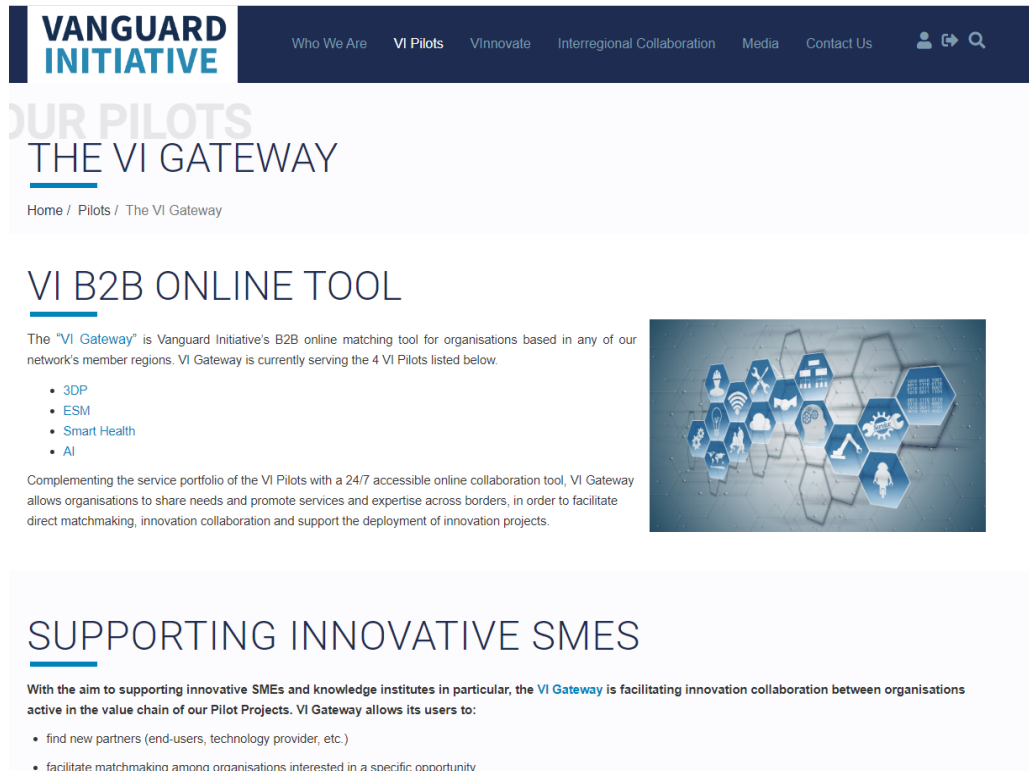
**VANGUARD INITIATIVE**  
New growth through smart specialisation

# TRACE MED – European interregional platform for new radiopharmaceuticals development in personalized medicine

- ❖ To create an eco-system covering the entire value chain of the RP industry from research & development to production by breaking down existing silos and fostering coordination.
- ❖ To improve the management of the supply chain in RP by creating a network of complementary excellence service providers across Europe, ranging from research to industry.
- ❖ To reduce the development process time by providing better connections between process phases.
- ❖ To facilitate the distribution/sale process of the ready-to-market molecule through the already established extensive distribution/sale networks of the partners.



# Gateway tool – online matchmaking platform



The screenshot shows the Vanguard Initiative website. The header includes the logo and navigation links: Who We Are, VI Pilots, Innovate, Interregional Collaboration, Media, Contact Us, and icons for user, share, and search. The main content area features the heading 'OUR PILOTS THE VI GATEWAY' and a breadcrumb trail 'Home / Pilots / The VI Gateway'. Below this is the section 'VI B2B ONLINE TOOL' with a sub-heading 'VI B2B ONLINE TOOL'. The text describes the tool as a 24/7 accessible online collaboration tool for organizations in the network's member regions. A list of supported areas includes 3DP, ESM, Smart Health, and AI. A paragraph explains that the tool complements the service portfolio of the VI Pilots and facilitates direct matchmaking, innovation collaboration, and support for innovation projects. An image of a hexagonal grid with various icons is shown. Below this is the section 'SUPPORTING INNOVATIVE SMES' with a sub-heading 'SUPPORTING INNOVATIVE SMES'. The text states the aim is to support innovative SMEs and knowledge institutes, and that the VI Gateway facilitates innovation collaboration between organizations active in the value chain of their Pilot Projects. A list of user benefits includes finding new partners and facilitating matchmaking among organizations interested in a specific opportunity.

**VANGUARD INITIATIVE**

Who We Are VI Pilots Innovate Interregional Collaboration Media Contact Us

OUR PILOTS  
**THE VI GATEWAY**


Home / Pilots / The VI Gateway

## VI B2B ONLINE TOOL

The "VI Gateway" is Vanguard Initiative's B2B online matching tool for organisations based in any of our network's member regions. VI Gateway is currently serving the 4 VI Pilots listed below.

- 3DP
- ESM
- Smart Health
- AI

Complementing the service portfolio of the VI Pilots with a 24/7 accessible online collaboration tool, VI Gateway allows organisations to share needs and promote services and expertise across borders, in order to facilitate direct matchmaking, innovation collaboration and support the deployment of innovation projects.



## SUPPORTING INNOVATIVE SMES

With the aim to supporting innovative SMEs and knowledge institutes in particular, the VI Gateway is facilitating innovation collaboration between organisations active in the value chain of our Pilot Projects. VI Gateway allows its users to:

- find new partners (end-users, technology provider, etc.)
- facilitate matchmaking among organisations interested in a specific opportunity

Via the **Vanguard Initiative** [website](#)

➤ VI Pilots > The VI Gateway

**Direct link:**

<https://gateway.s3vanguardinitiative.eu/>

# VInnovate – interregional funding opportunity (TRL 6-8)



## Funding & activities

- Grant. Funding rate to be checked at regional level
- Supporting TRLs 6-8 activities



## Scope

- Solutions for twin transition or more autonomous industry
- Thematically linked to at least one VI Pilot



## Consortia

- At least 2 organisations, from at least 2 VInnovate 2024 regions and 2 countries/states (i.e. international cooperation)
- At least 1 SME, in cooperation with other companies or research centres/universities



## Range

- Total project costs: min. 100.000€
- Total project duration: max. 36M

# Thank you!



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<https://www.s3vanguardinitiative.eu/pilots/smart-health-personalised-medicine>  
[LinkedIn](#)





**Thank you**



**Vlaanderen**  
is economie,  
wetenschap & innovatie

<https://www.ewi-vlaanderen.be/en/sti-in-flanders>