



# **Nano4Health**

**February 14<sup>th</sup> 2017**

**Lieve Apers Coordinator Nano4Health**

# Introduction

- Clusters and Entrepreneurship in Support of Emerging Industries – CIP call 2013
- 6 projects were selected:
  - Poly4EmI
  - LoToNo
  - INNO-SMART
  - Health2Care
  - C3-Saxony
  - Nano4Health



# Nano4Health



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# Goal

Support emerging industries in the domain of personalised healthcare at the crossroads of nanoelectronics and biotechnology

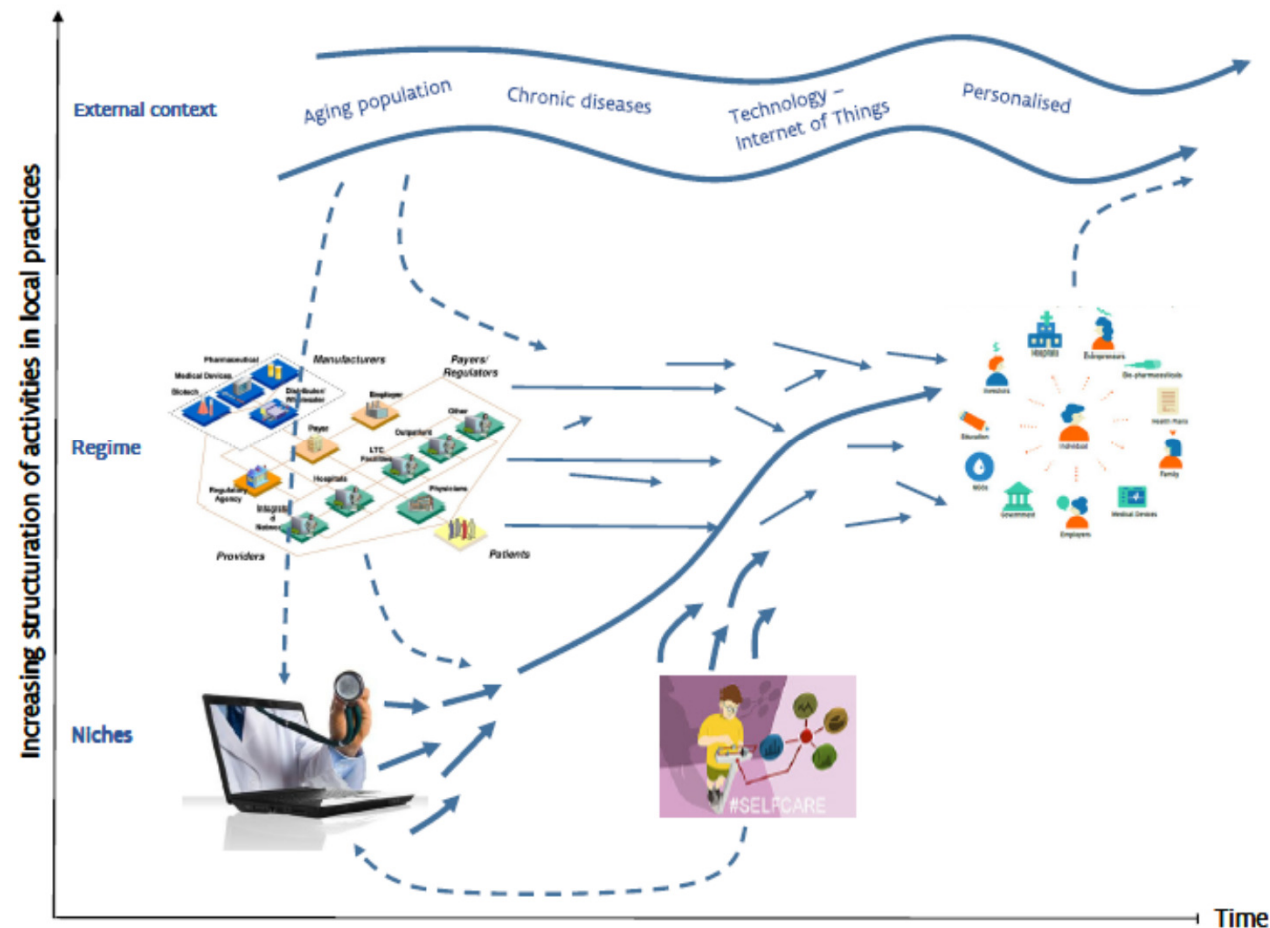


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# Embedded in societal changes



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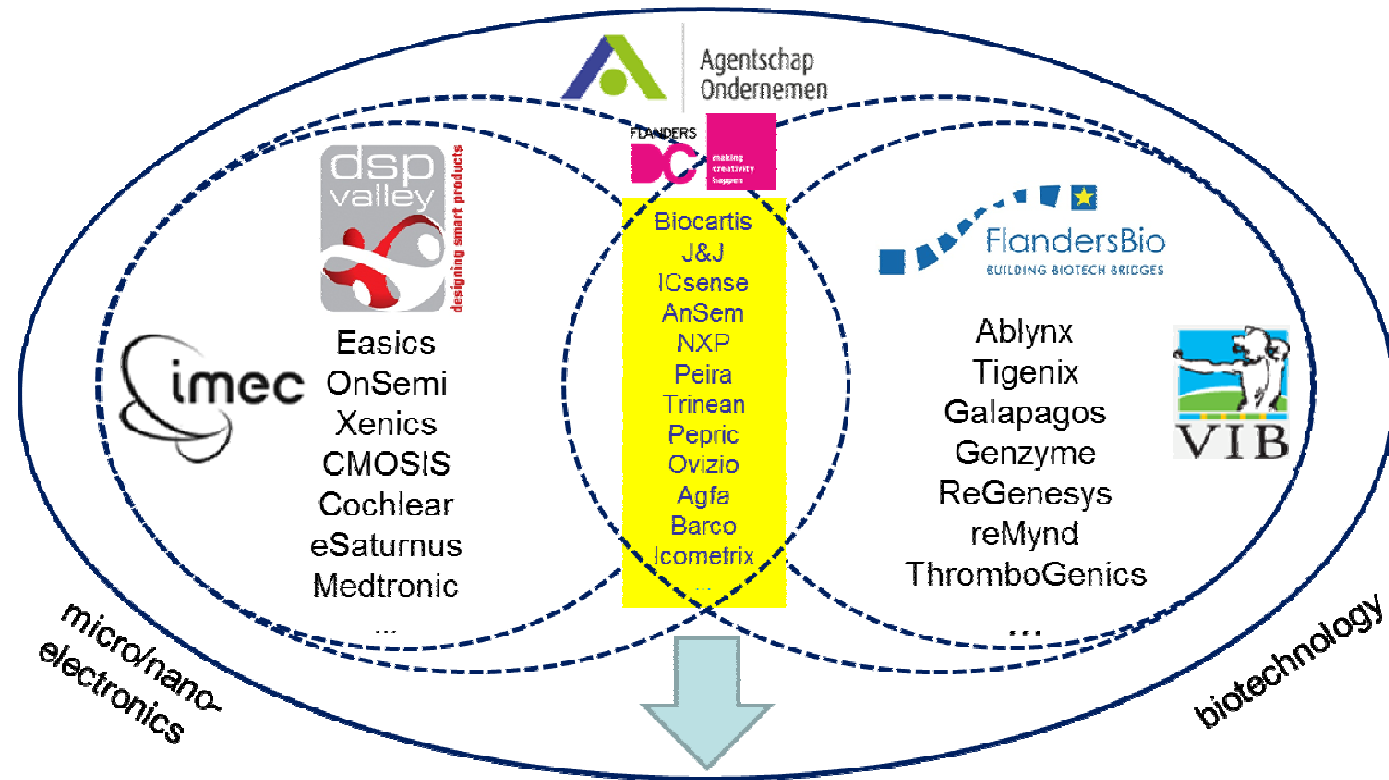
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# Ecosystem Nano4Health

**Emerging Industries based on 2 KETs**

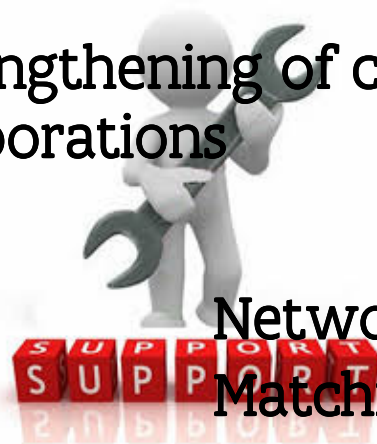


# Objectives

- Support SMEs in emerging industries

- Strengthening of clusters and collaborations

- Dev



Network events  
Matchmaking

B2B, A2B,,,



Nano4Health Innotrack  
Large scale  
demonstrator



(inter)national cluster  
exchange



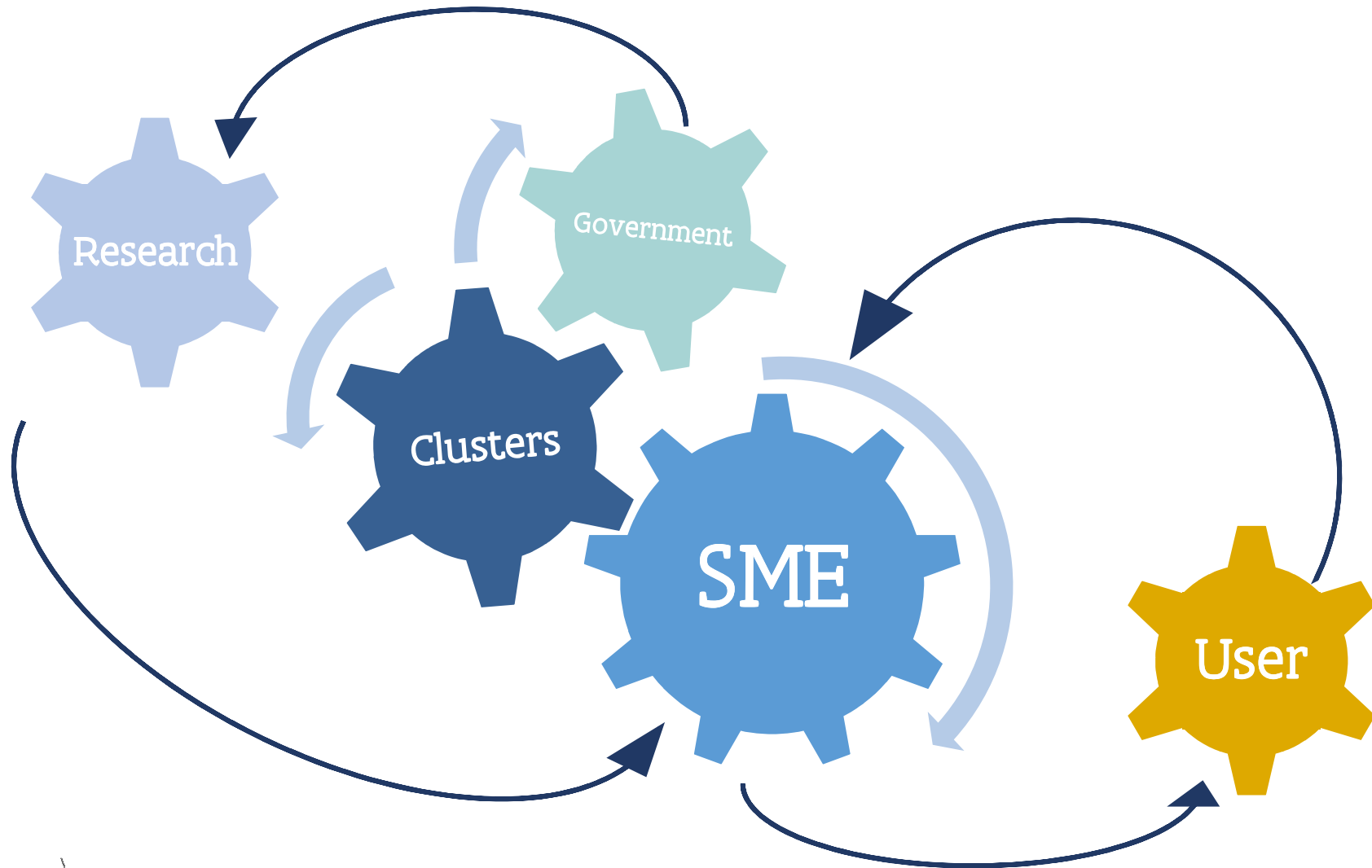
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# Our collaboration model



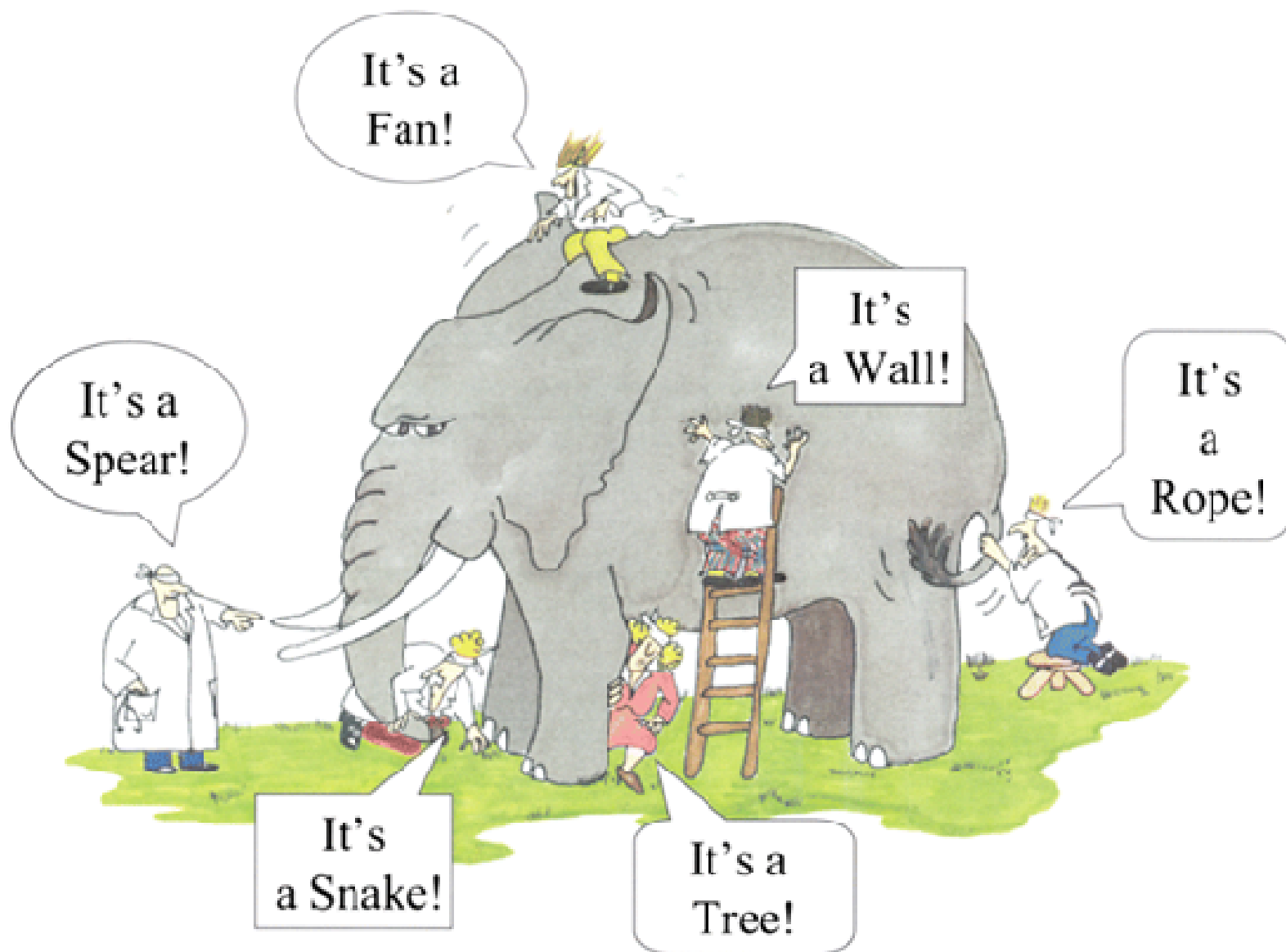
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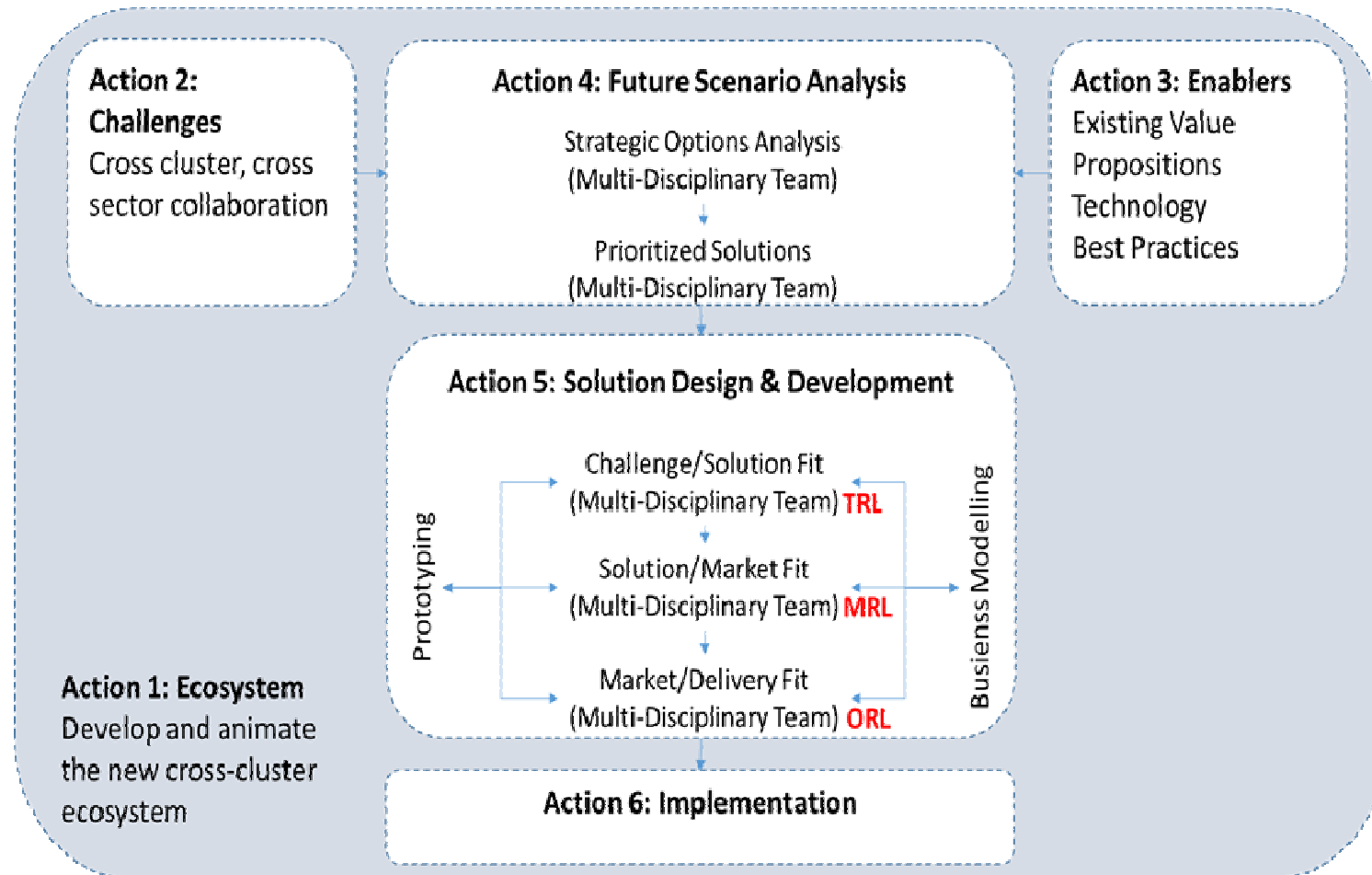
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# Our approach



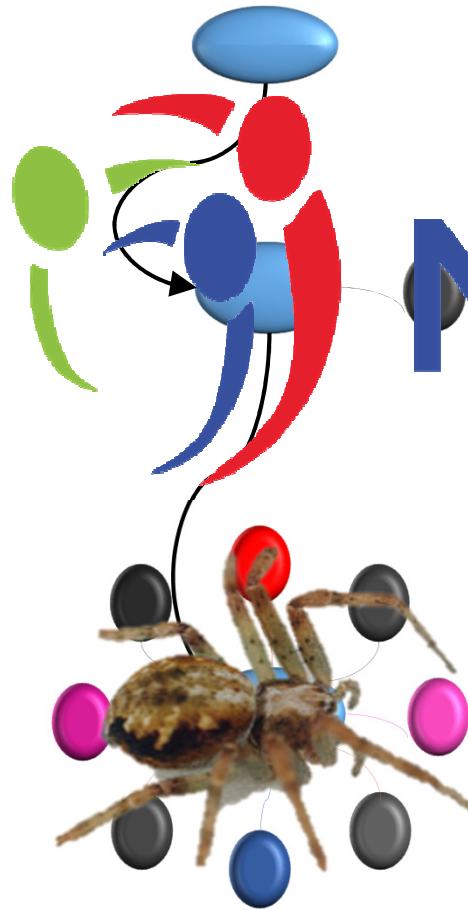
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# Multidisciplinary approach



# Nano4Health



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# The Spider approach

## Fast Track to Innovation

- ▶ **3 phases**
  - Challenge – call for projects
  - Competence – requests for competences
  - Solution
    - Get acquainted workshop
    - Business model workshop (mixed groups)
    - Story Telling
- ▶ **Individual coaches of the cluster organisations**
- ▶ **Combination of vouchers, KMO wallet and ...**



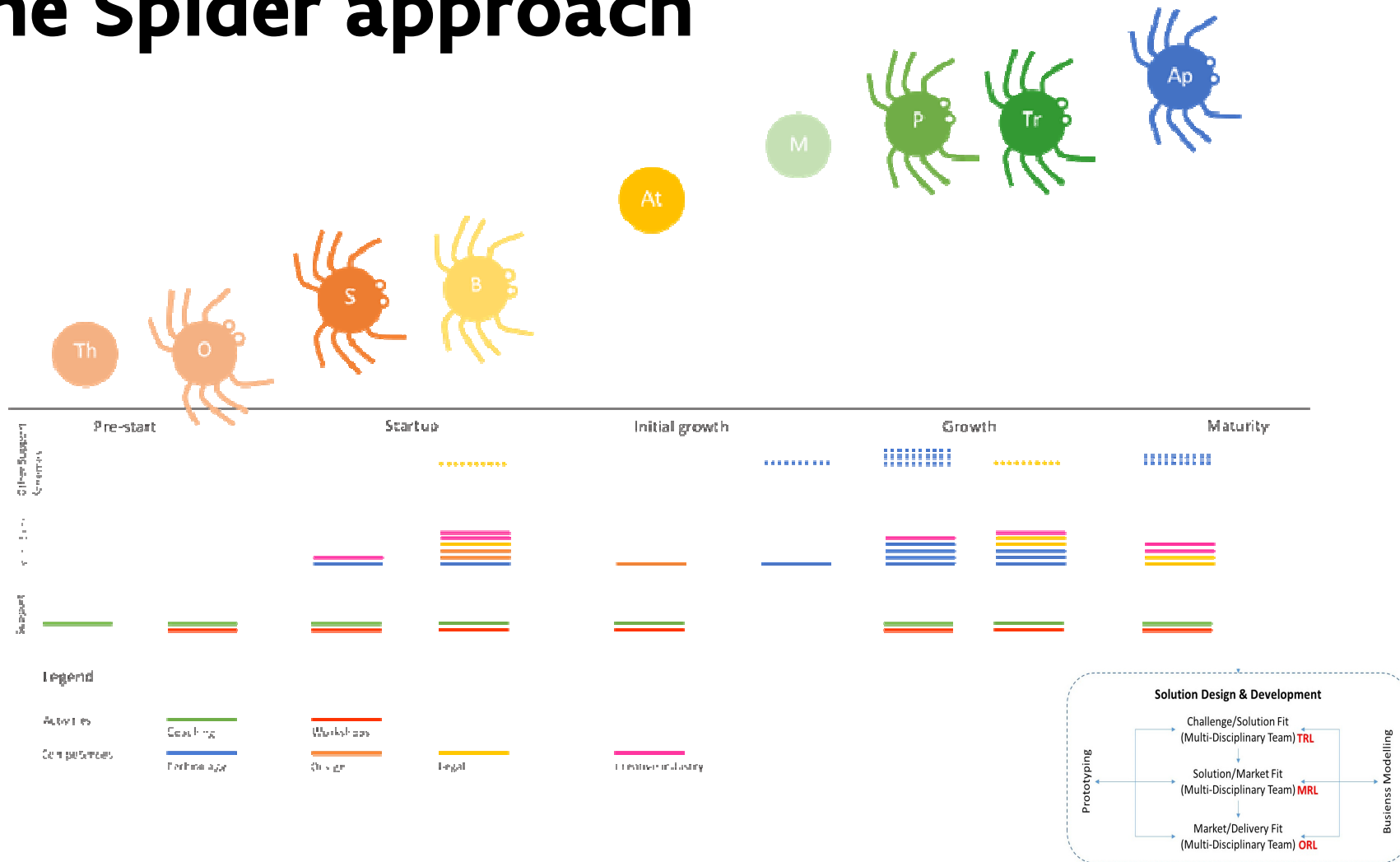
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# The Spider approach





# Case Phoreon

**a brand of Pharma Diagnostics NV (SME)**

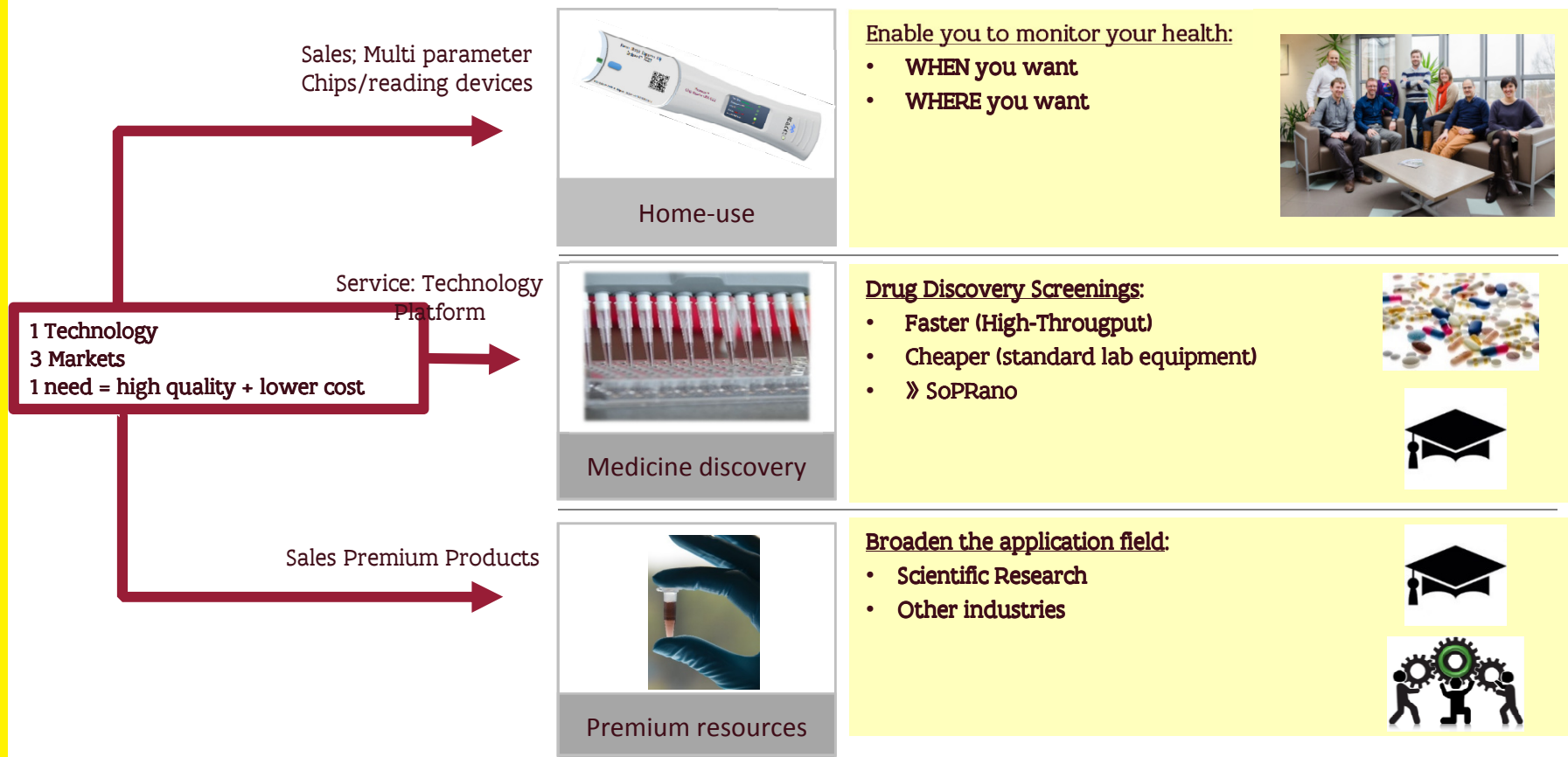


Gold has many faces. Once it is reduced to extreme small sizes (nanoscale) and presented in specific structures extraordinary characteristics of this noble metal start to emerge. Unique features appear then that open avenues for cancer therapies. This application is under full investigation in research labs worldwide and slowly finds its way to the clinic. A key aspect for those applications is the quality of the gold nanostructure.

Phoreon is a Belgium based, Flemish SME, with research labs and headquarters in the bio-incubator of Leuven. The R&D team consists amongst others of chemists, biochemists and physicists with expertises in Nanomaterial Sciences. They have a proprietary production process that delivers high quality gold nanostructures. Moreover, they have strong links with Life Technology disciplines like biotechnology and cell biology. Altogether, this puts them in a unique position to achieve the high quality standards researchers require for this application.

[www.phoreon.com](http://www.phoreon.com)

# 1. Company



## 2. The Nano4Health challenges

### Competition analysis for nanomaterial offerings

- Globally 10 direct competitors (nanomaterial experts)
- Produce + sell - poor links with Life Tech industry (except 1)
- Many link to publications on their website - poor in Testimonials

### Fact

- Phoreon's nanomaterial quality exceeds competition
- Current website is outdated
- **We need scientific content to create awareness & pull strategy on our website**

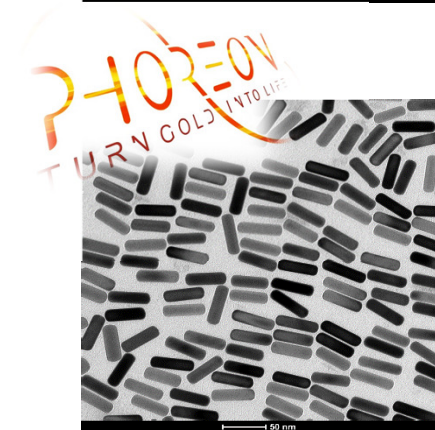
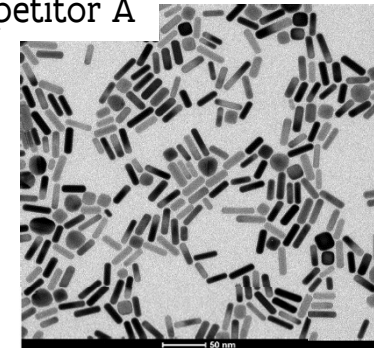
### Problem

- Knowledge of Life Tech techniques is on board
- No hands-on expertise, no equipment

### Solution

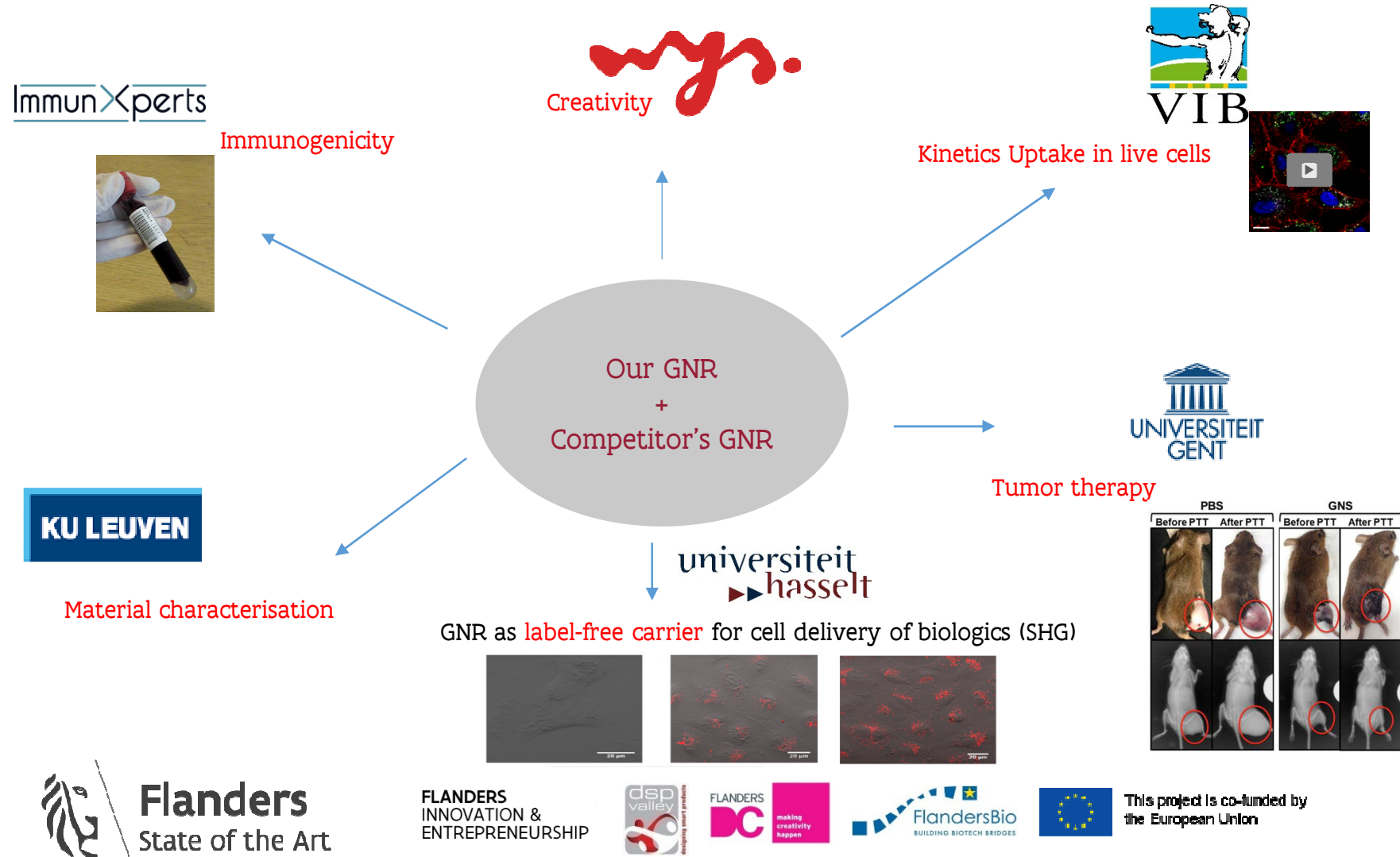
- Partnering with Centres of competence at the Nanotech/Life Science interface

Competitor A





# 3. Service providers

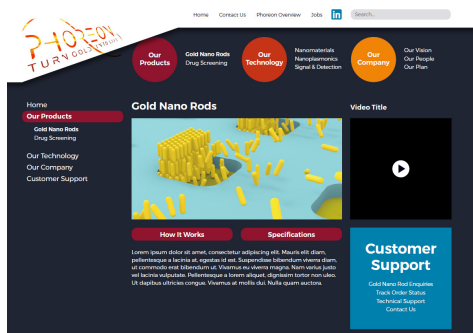
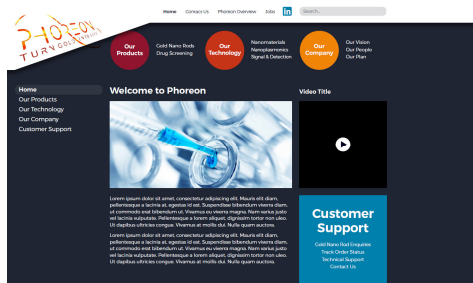


# 4. Outcome and impact

## Level 5

### Internal

1. Awareness of other parameters
2. Impact on our production process
3. Internal organisation



## Level 4

### Contracts/grants



1. Contract
2. Letter of Intent



## Level 3

### Networking

Company 1

Company 2



## Level 2

### N4H-perimeter



## Level 1



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# 5. Learnings

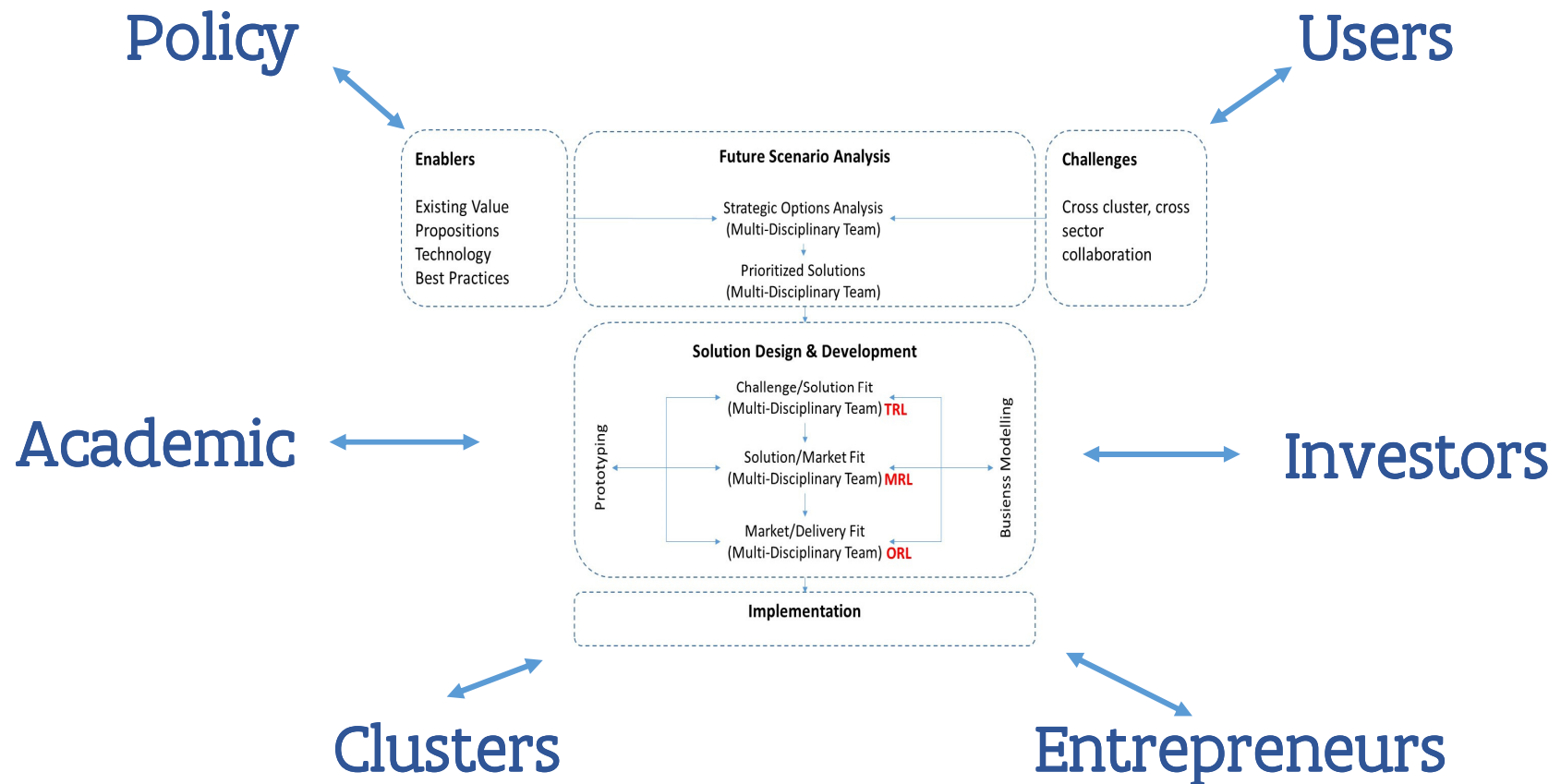
We have missed the legal framework



Thanks for the 6,500€/service provider, but it is a bit tight (for Life Tech laboratory testing)



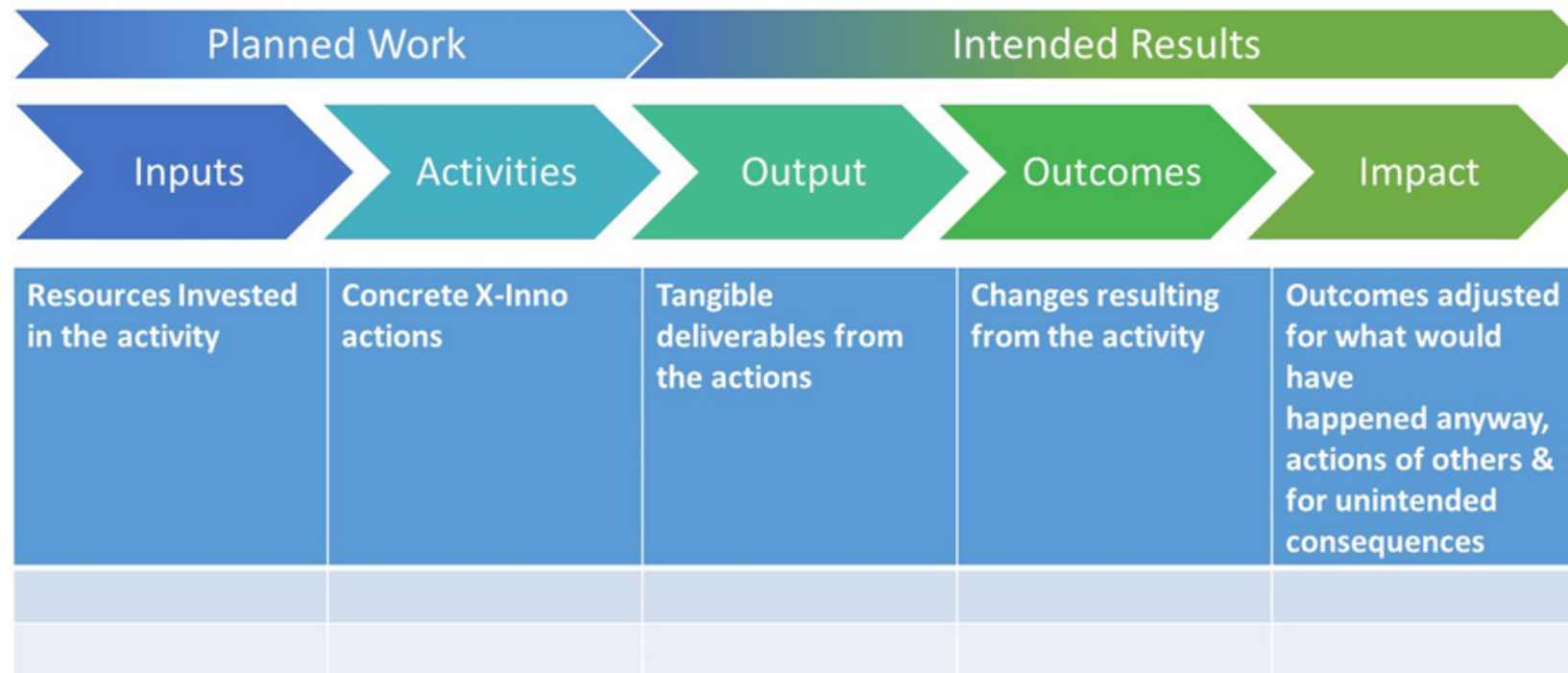
# Our cross sectoral ecosystem



# The solution?



# Evaluation and Impact



# Validation



**KU LEUVEN**

- ▶ ecosystem
- ▶ evidence and success indicators for sustainable policies
- ▶ fit insights into the N4Hmodel
- ▶ optimization on a international level



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# Lessons Learned





# Learnings and outcomes

- ▶ Multidisciplinary learning is key
  - In business model development
  - Towards future training trajectories
  - In application of creative industries
- ▶ Cross fertilisation with creative industries could/should start earlier to enhance ambition
- ▶ Every multidisciplinary approach should aim to integrate technology, business innovation and creative concepts
  - What is the innovation
  - How can we make money out of it
  - How can we get commitment from the user

# Learnings and outcomes

- ▶ It does not stop here
  - XKet4Health, Health Cluster
  - Expansion over other technology platforms (ICT, 3D printing)
- ▶ Life Sciences and micro-electronics will only come together in completely new business models where both business platforms dare to walk away from the existing business dogma's.
  - Awareness with technology/business developers
  - Awareness with competence providers/financiers



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# Learnings and outcomes

- ▶ Flanders is a global technology leader in multidisciplinary technology platform based business development
  - IMEC/Iminds, VIB
  - FlandersBio, DSP Valley
- ▶ We represent one of the largest combined innovative business hubs in ICT/Microelectronics/life sciences domain applications
- ▶ We are developing a vision towards a world leading hub on health applications



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# Learnings

## (Flanders Innovation and Entrepreneurship)

- ▶ It is important to build up a structured process and governance to accommodate multi-stakeholders, multi-discipline and multi-sector collaboration for tackling systemic challenges.
- ▶ A lean and iterative approach allowing for learning by doing and pivoting would be inevitable in designing and establishing a collaborative model across different sectors.
- ▶ Special consideration should be given to creative techniques to encourage participants to co-inspire and co-innovate to find solutions and break out of traditional technological driven thinking.



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# Learnings

## (Flanders Innovation and Entrepreneurship)

- ▶ A sound business case rooted in a concrete market opportunity is a key to drive the collaboration between stakeholders across multi-sectors.
- ▶ It is necessary to establish and apply a structured impact measurement & evaluation process on all the levels of the model.
- ▶ To tackle societal challenge and drive the systemic change forward the establishment of an inclusive value chain focused on solutions with all the relevant stakeholders is apparent to make it sustainable.



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# MOU

## Cluster Directors:

**FlandersBio- Henk Joos**  
**FlandersDC – Pascal Cools**  
**DSPValley – Peter Simkens**





# Awards

**Highest potential for:**

- 1. Internationalisation**
- 2. Economical added value**
- 3. Societal added value**
- 4. Create New Value**
- 5. Shape a new ecosystem approach**





## Internationalisation - Applied Maths



## Create or Shape New Value

### BiosenSource



## Economical added value

### Trinean



## Shape a new ecosystem approach

### Phoreon

## Societal added value

