

EU, a world leader in Nanotechnologies, Biomaterials and Micro-Nano-Electronics in Healthcare

An Industry-Driven Initiative

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Paradigm shifts in healthcare

- * from **acute** medical interventions towards **preventive** strategies
- * from the use of **blockbuster “one-size-fits-all”** towards the **personalised** approach
- * from **supportive** treatments aiming towards a **complete** cure

How do KETs contribute?

Biotechnology

Photonics

Advanced
manufacturing

Nanotechnology

(Bio)materials

**Micro-Nano
Electronics**

- Earlier & better diagnostics
- Targeted therapeutic strategies
- Functionalised materials & scaffolds for cell therapies
- Innovative Medical Devices
- Advanced Therapy Medicinal products

Current situation in EU

- * **700+** nanomed & biomaterials companies in EU
- * **But only 20 nanodrugs** approved in the EU (**40** in the US)
- * **650 Mio €** invested in FP7
 - * **180** nano- and biomaterial-related projects
 - * **400** industrial partners
- * **122** products in clinical development (57% in oncology / 14% in phases II/III et III)*



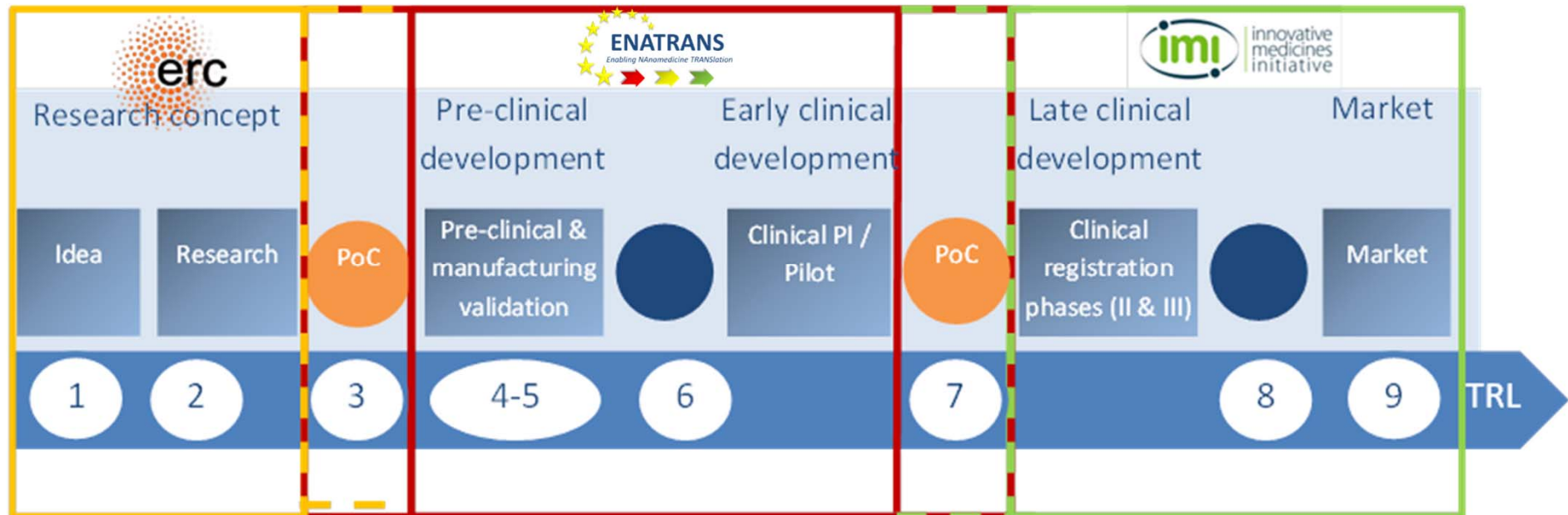
* Bionest study 2014

Current limitations for SMEs and Academia

- * Poor alignment of R&D projects with large industry
- * Lack of /access to European infrastructures
- * Limited experience on industrial product development
- * Limited knowledge about regulation and reimbursement
- * Difficult access to large companies and investors
- * Long and costly process

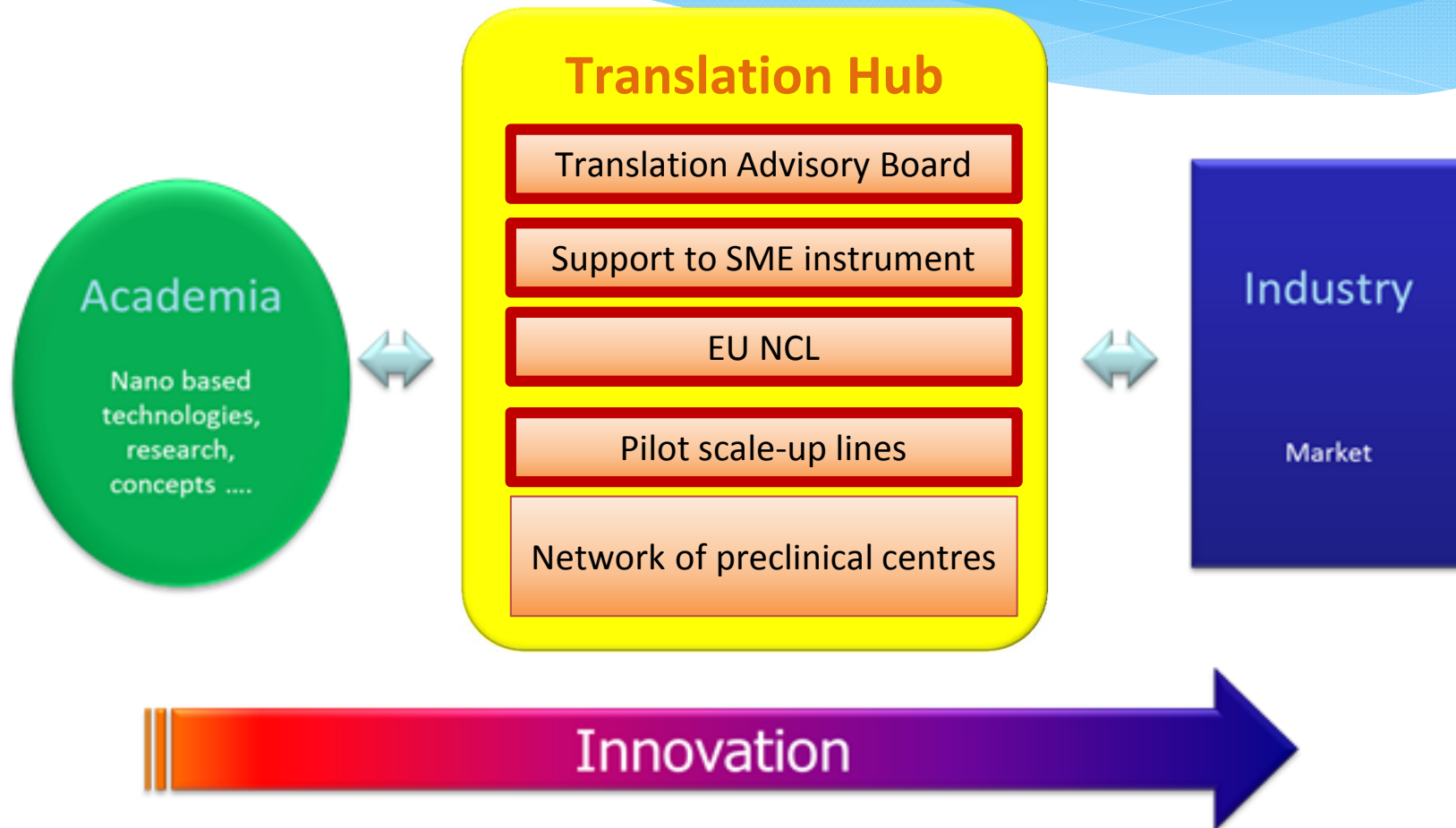


Need to improve the translation





Translation Hub



an **I**ndustry-**D**riven **I**nitiative

Drive translation by

- * managing the communication between all stakeholders of the **healthcare value chain**
- * identifying and prioritizing **industry relevant R&D topics**
- * setting-up and managing new **SME based supply chains for healthcare industries**



Specific objectives

Support translational research

- * identifying and supporting the most promising projects
- * improving trans-disciplinary and sectorial collaboration
- * Providing access to infrastructures, services, regulations, manufacturin

Leverage public & private investments

- * Mobilizing and ensuring synergies between different public funding sources
- * Inviting industry and private investors
- * Building partnership on corporate Responsible Research and Innovation

Enable socio-economic benefits

- * Educating and training workforce in research and SMEs
- * Involving clinicians & patients
- * Coordinating communication on benefits and risks
- * Outreach to communities



Impacts

Industry

- * Streamlined industrial healthcare value chain
 - * Proper ecosystem for SMEs and spin-offs
 - * Industry compatible SMEs and R&D projects
 - * Optimized financing
- * Accelerated translation and market introduction

Competitiveness

- * Sustainable growth and jobs
- * Attract large companies back to Europe
- * Counteract competitive pressure from Asia and the USA

Healthcare

- * Improved healthcare and the quality of life of patients

What happens if there is **no IDI** ?

- * Good projects will be **insufficiently** supported and **funded** to reach clinical trials
 - * Still too many demonstrators would remain on the shelves
 - * SMEs wouldn't bear the clinical development costs and would stop business
- * **Interest** of large companies and investors will **decrease**
 - * Large industry relocates to more industry affine regions in the world
 - * Europe loses job, brains, innovation
 - * Healthcare systems would depend on non European industries



Next steps

- * Receive your opinions and inputs based on the present plans
- * Continue discussions with DG RTD on the basis of the present plans
- * ETPN consultation of SMEs and industry about their interest
- * Consultation with Member States and Regions
- * Finish a full proposal by end March or April 2015



Thank you for your
attention

Acknowledgement to contributors:

- Heico FRIMA
- Fergal DONNELLY
- Maj-Inger NILSSON
- Klaus-Michael WELTRING
- Nicolas GOUZE

IDI "KETs (Nanotechnologies, Biomaterials and Micro-Nanoelectronics) for Healthcare"

WP 2016 – 2020

- * DG RTD Dir D is preparing a new 'IDI', in cooperation with the European Technology Platform for Nanomedicine.
- * Potential stakeholders are being / will be involved.
- * The concept started from the 8 cPPPs that have already been established.
- * The plans evolved into a framework for flexible coordination between the public and private stakeholders ('IDI').
- * Initial 'Factsheet' (~ 11 pages) by ETP-N / DG RTD Directorate D is available.
- * A proposal is to be ready by end-March / mid-April 2015
- * Positive feedback from a first EC Interservice Meeting on 9 January 2015

Potential stakeholders

- * European Commission
 - * DG RTD : Directorates “KETs”, “Health” and “INFRA”
 - * DG CNECT
 - * DG ENTREPRISE
 - * DG REGIO
- * Eur. Medicine Agency
- * ETP Nanomedicine
- * EFPIA
- * National funding agencies
- * CLINAM
- * Nanomed-Europe



Impact assessment

Use of **industry relevant** Key Performance Indicator (KPIs) systems to track and benchmark performances and outputs:

- * number of new product entering clinical trials,
- * number of new patent applications in the relevant fields,
- * number of new start-ups and new SMEs,
- * number of agreements made between SMEs and large companies,
- * number and amount of successful investment rounds in SMEs,
- * number of Clinical Trial Applications arising from funded projects,
- * number of scientific papers published in the relevant fields,
- * percentage of EU growth and market share in the relevant fields



US big deals in nanomed in 2012-13

> 1 Billion US\$

BIND
THERAPEUTICS

180M
US\$

AMGEN[®]

BIND
THERAPEUTICS

200M
US\$

AstraZeneca 

BIND
THERAPEUTICS

210M
US\$


Pfizer

LIQUIDIA
TECHNOLOGIES

>100M
US\$

gsk
GlaxoSmithKline

CYTIMMUNE
SCIENCES INC

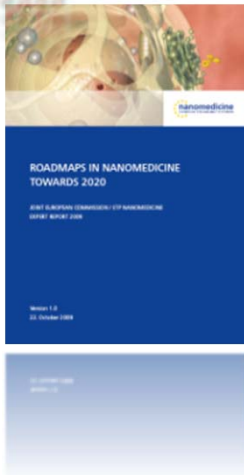
AstraZeneca 

History



2005 - Vision Paper

2006 - SRA



2009 - Roadmaps



2015-2017

2013 - White Paper

2016 IDI