



OPEN INNOVATION TEST BEDS

Towards an eco-system for upscaling Nanotech and Advanced Materials - Horizon 2020



Doris Schröcker, Head of Unit
DG RTD
Industrial Technologies
D.1 – Strategy

What are Key Enabling Technologies?



**Economic
Potential**

**Value adding
enabling Role**

**Technology-
Intensity**

**Capital
Intensity**

Defined 2009, Commission Communication 2012, two High-Level Groups with reports 2011 & 2015; currently reviewed: High-Level Strategy Group on Industrial Technologies.

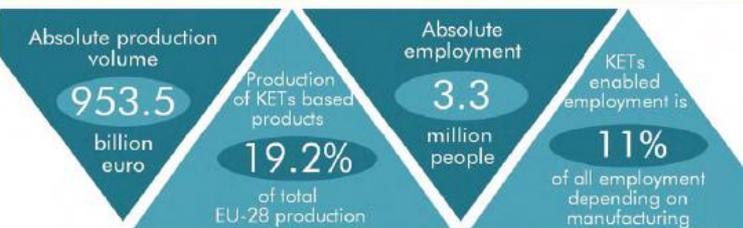


Key Enabling Technologies

- at the heart of European competitiveness.



Value created by the deployment of KETs in 2013



Critical: Challenge of Upscaling ("Valley of Death")



What is the issue?

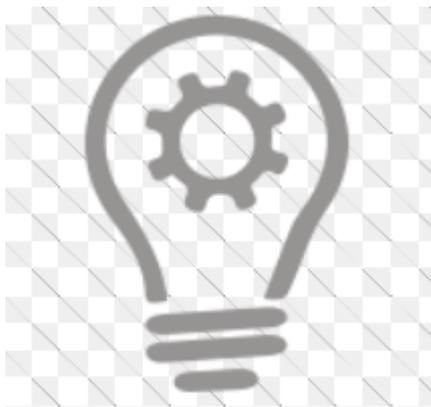
- Gap between the technology base and the manufacturing base;
- Risks;
- Need to demonstrate – validate: pilot lines to show viability for competitive manufacturing and product development;
- Costs;

=> **Bottlenecks in particular for SMEs to access pilot lines**

What is the strategy?

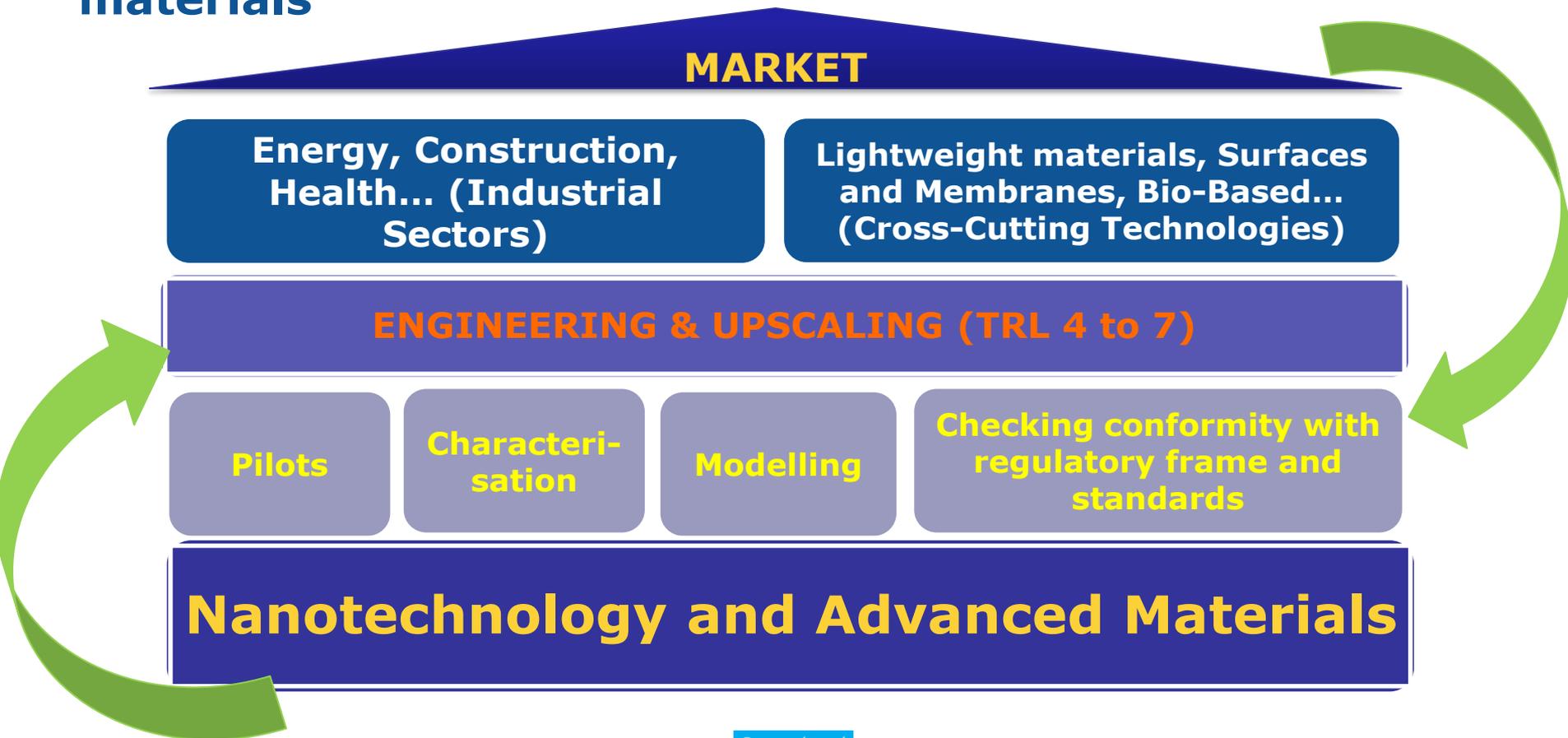
Open "innovation hubs" – Test Beds

=> Focussing on enabling, generic advanced materials and nano-technology and their use by SMEs!



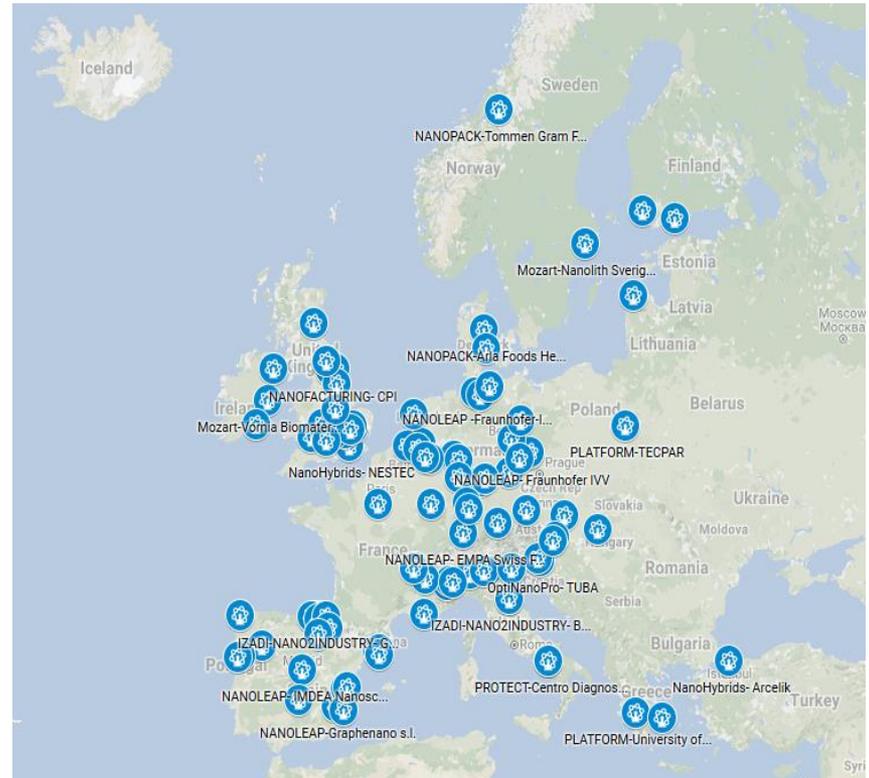
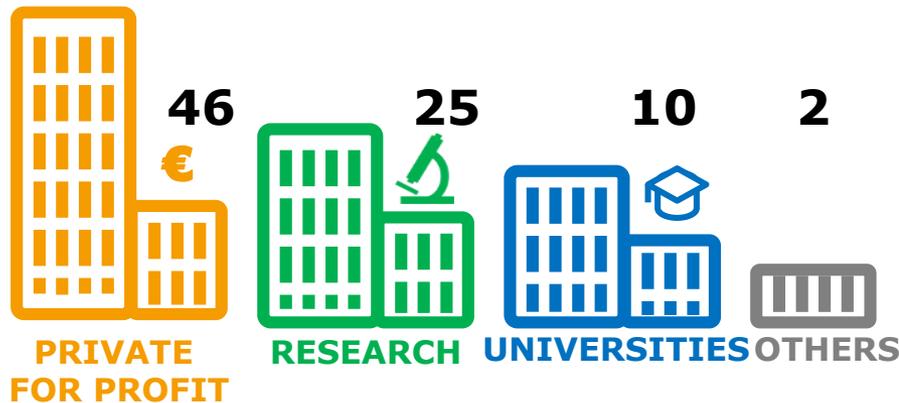
Overcoming the Challenge of Upscaling

Reduce technological risk & attract investments in new materials



So far: Pilot Lines for nanotechnology and advanced materials => Enablers for Innovation Ecosystems

*Industry Pilot Facilities: 83
Pilot Facilities and
Demonstrators in Horizon
2020, mostly with industry*



European Pilot Production Network

Clusters and coordinates open access pilot lines for nanotechnology and advanced materials - networking in a European approach for technology up-scaling and pilot production.

- **Promotes** infrastructure and advisory services of the network to SMEs and start-ups in Europe; aims at facilitating access;
- **Supports** business planning of pilot lines ("business case");
- **Helps all parties** to know and access R&I programmes and finance opportunities;

<http://eppn.eu/eppn/info>

Next step: Open Innovation Test Beds

Why?

To extend the concept of pilot lines for advanced materials and nanotechnology.

EU Investment – Horizon 2020 Work Programme 2018-20

€260m for Open Innovation Test Beds for Nanotechnology and Advanced Materials

What are they?

Physical facilities offering technology access and services to advance from validation in a laboratory (TRL 4) to prototypes in industrial environments (TRL 7)

How many test beds will be funded?

20 for materials development and upscaling in 6 technology domains

4 for materials characterisation

4 for modelling

Complementing the already established NanoSafety platform

Open Innovation Test Beds - Scope

Open access to facilities and services for design, development (prototyping), testing, and upscaling materials and nanotechnologies for new products

Demonstration in the relevant industrial environments

Show-casing technologies with user industry in cross border applications

Facilitate access of European SMEs along product value chains

Identification and assessment of potential regulatory, economic and technical barriers

Engagement of stakeholders across the EU and the Associated Countries

Open Innovation Test Beds – Expected Impact

- Open and upgraded facilities at the EU level
- Reduced services access costs for companies using the test beds
- Improved industrial productivity
- Accelerated innovation in the specific domain
- Increased access to finance (for SMEs in particular) for investing in these materials or in applications using them
- 20% increase in SMEs access to test beds' services and increased access to finance for investing in these materials or in applications using them

Horizon 2020 Work Programme 2018-20

Test Beds

- **Lightweight materials**
- **Med Tech Health**
- **Characterisation**

2018

- **Bio-based materials**
- **Building envelopes**
- **Nano-pharmaceuticals**
- **Modelling**

2020

2019

- **Surfaces and membranes**

- EMMC-CSA - European Materials Modelling Council
- EPPN-CSA - European Pilot Production Network
- Nanosafety Cluster

Links with Member States and regions

- Shared facilities help innovators bridge the Valley of Death by reducing the risks and costs associated with pilot production.
- Test Beds will enrich and upgrade existing facilities. However, many of the same would not be efficient.
- Some regions have facilities but not many local customers, some have no facilities.
- Support schemes for SMEs play a role.
- Goal: Open Innovation Test Beds for easy access to pilot facilities everywhere in Europe, including modelling, characterization, safety and business liaison activities.

Conclusion

What next?

Do we need a EU strategy for Industrial Research and Innovation infrastructure?

Why?

So many different types of infrastructure: Structure and streamline the offer – simplify for those who need.

Costly: Coordination and sharing to reduce costs, for higher efficiency and impact.

Eco-system approach for European SMEs/industry to stay competitive and generate business.

→ Coordinated efforts across EU, national and regional strategies are needed!

NMBP Calls 2018-2019

WP pre-published on the participant portal:

https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/h2020-leit-nmbp-2018-2020_pre-publ.pdf

LEIT introduction

LEIT NMBP – 3 calls

- FOUNDATIONS FOR TOMORROW'S INDUSTRY – **269 M€**
- TRANSFORMING EUROPEAN INDUSTRY – **340 M€**
- INDUSTRIAL SUSTAINABILITY – **447 M€**

Publication 31 October 2017

2018 Deadlines

- Two-stage topics: **23/1/18 and 28/6/18**
- Single-stage: **22/2/18**
- Lump sum funding pilot scheme topic: **DT-NMBP-20-2018: 8/3/18**
- EU-China flagship initiative on Biotechnology topic: **CE-BIOTEC-04-2018 : 25/4/18**

Further information

Horizon 2020: http://ec.europa.eu/research/horizon2020/index_en.cfm

Key Enabling Technologies, R&I website :

http://ec.europa.eu/research/industrial_technologies/index_en.cfm

Workshop Nanotechnologies and Advanced Materials for Regional Growth – The Challenge of upscaling, 7 Feb. 2017, Brussels

<http://ec.europa.eu/research/index.cfm?pg=events&eventcode=561FD004-C1CC-1B6B-20F005541185BC34>

Participant Portal - Funding Opportunities and support services :

<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

National Contact Points in your country (NMP)

http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html#c,contact=country/sbg//1/1/0&+person.last_name/desc

National Contact Points website - webinars, presentations, guidance :

<http://www.nmpteam.eu/>

Research Enquiry Service: <http://ec.europa.eu/research/index.cfm?pg=enquiries>

CORDIS database with EU funded research projects :

http://cordis.europa.eu/projects/home_en.html