



The EU Framework Programme for Research and Innovation
HORIZON 2020

**Perspectives on Industrial Technologies in Horizon 2020
and Beyond**

**Presentation at Manufuture
2017**



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Strategic Context: Importance of EU Manufacturing

- **64% of Private R&D Investment**
- **2.1 Million Enterprises** (9% of Total)
- **30 Million Jobs** (22% of total – Non-Financial Economy) + Twice as Many Indirect Jobs via Related Services
- **Turnover:** €7.080 Trillion
- **Value Added:** €1.630 Trillion (26% of European Value Added)
- **Biggest purchaser and user of Key Enabling Technologies:** Major Potential for Innovation

Source: Eurostat: Key indicators, manufacturing (NACE Section C), EU-28

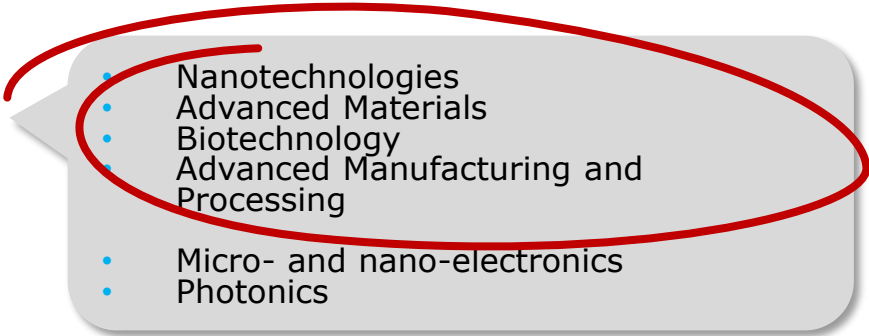
European Industrial Technologies: Challenges

- (Faster) growth is « elsewhere » - global markets
- Fast growing competitors
- Investments outside EU
- Still good in patenting, less good in turning R&D into innovation and business
- Taking care of the SME landscape, value chains, « eco-systems »
- Bottlenecks in access to financing
- Keeping and developing skills and competences

→ **How to make industry invest and create jobs in Europe, renew and extend global leadership and generate returns for Europe.**

Key Enabling Technologies

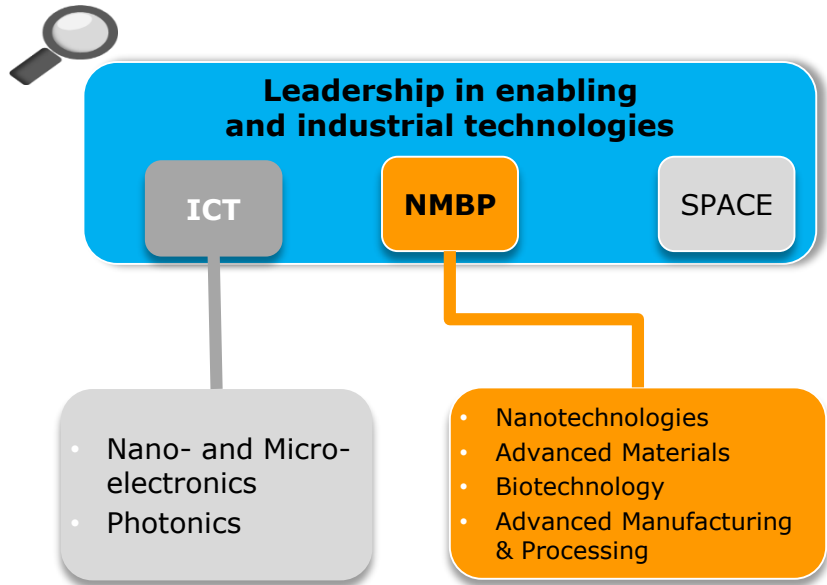
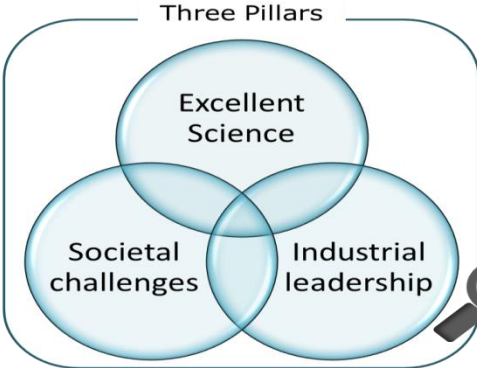
- Six strategic technologies
- Driving competitiveness and growth
- Contributing to solving societal challenges
- Knowledge- and Capital- intensive
- Cut across many sectors

- 
- Nanotechnologies
 - Advanced Materials
 - Biotechnology
 - Advanced Manufacturing and Processing
 - Micro- and nano-electronics
 - Photonics

European KET Strategy:

- KETs review by High Level Strategy Group (starting autumn 2017)
- KET High-level Group: final report 'KETs: Time to Act', June 2015
- EC Communications (2009)512 & (2012)341

NMBP in Horizon 2020



Indicative budget:
75 billion € *

Indicative Budget:
16.5 billion € *

Out of it for NMBP:
3.8 billion € *

* July 2015 – includes EIT, JRC, "Science with and for Society", "Spreading Excellence / Widening Participation", in addition to three priorities above

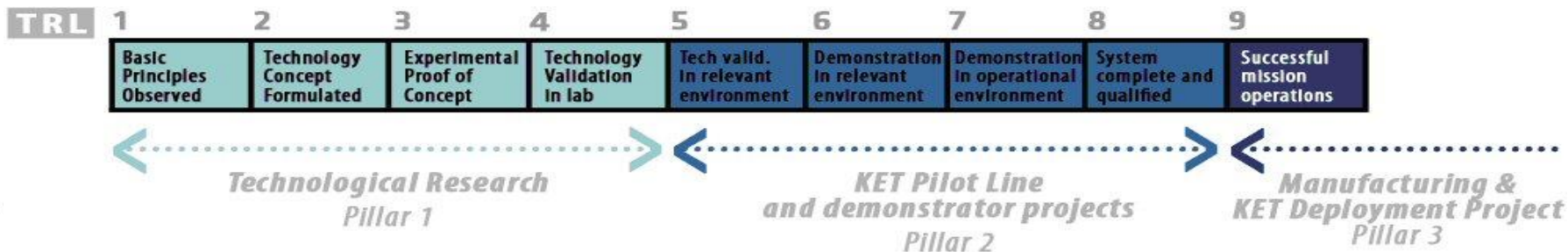
NMBP in Horizon 2020

Emphasis on:

- R&D and innovation with a strong industrial dimension and in partnership with industry;
 - *Activities primarily developed through relevant industrial roadmaps (ETPs, PPPs)*
 - *Requirements for business cases and exploitation strategies for industrialisation*
- Strengthening industrial capacities including SMEs, including through synergies with other funds (private – public);
 - *Pilot lines and demonstrators, addressing societal challenges*
- Outcome and impact orientation, developing key technology building blocks and bringing them closer to the market:
 - *Technology Readiness Level (TRLs) from 3-4 to 6-7 with emphasis on expected impact;*
- Total budget under Horizon 2020: **3.8 billion €**

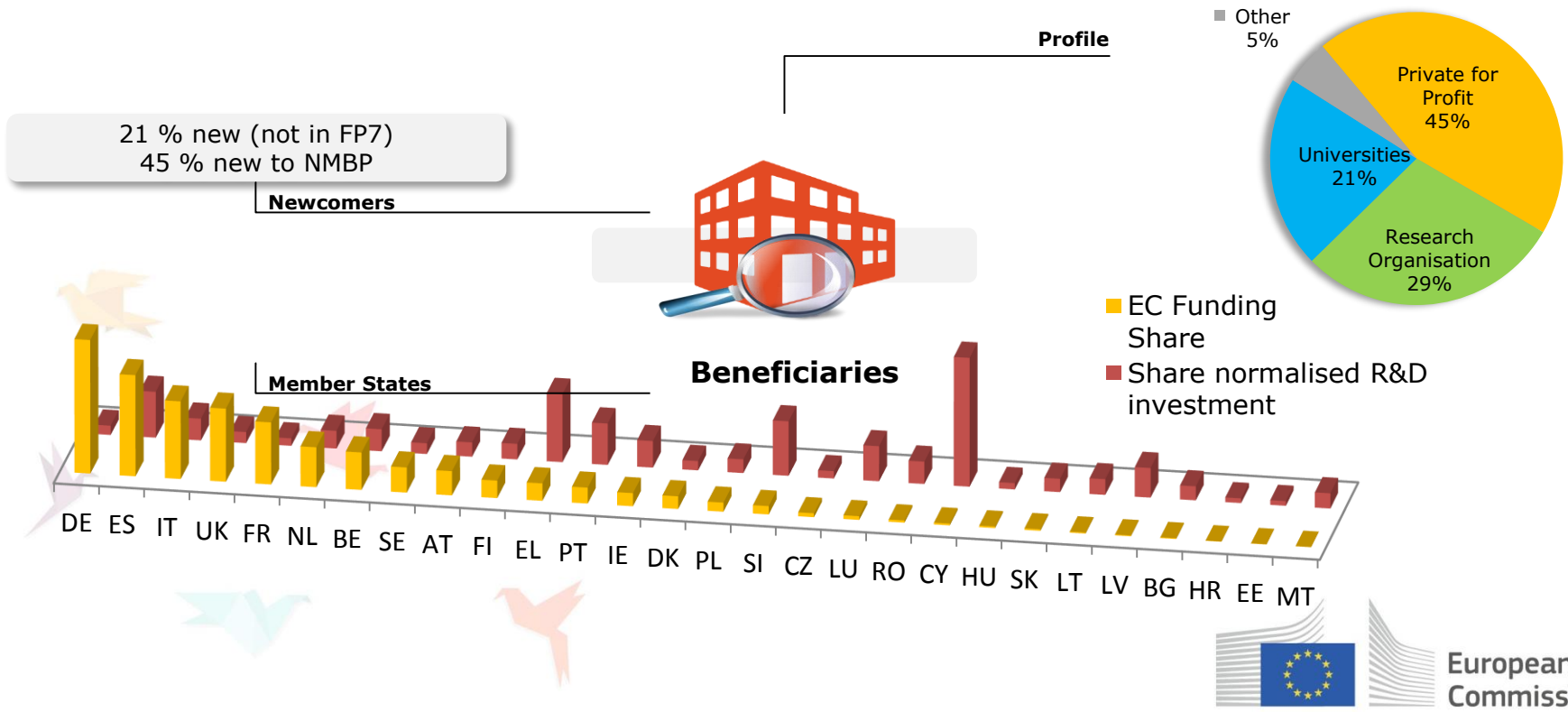
Technology Readiness Levels (TRLs)

- The LEIT part of Horizon 2020 targets TRLs from 3-4 up to 7 with a centre of gravity on 5-6
- Highest TRLs for cases with a strong industrial commitment



- Beyond TRL 7: *explore paths to commercial exploitation, to deploy technologies funded under Horizon 2020*

NMBP Participation Overview – Collaborative R&I



Expected Impact

- Technological ambitions, including goals for environmental sustainability, cost reduction, human aspects etc. (see topic descriptions)
- Take-up of results for industrialisation/commercialisation, including upscaling, investments, addressing different markets (preparation through business cases and exploitation strategies for industrialisation)
- Building new test/experimentation/validation infrastructure and services (for SMEs)
- Reach out to new stakeholders (e.g. SMEs) and civil society, citizens; dissemination goals

→ *Proposal evaluation =>*

*Excellence & Impact criteria equally important
Higher weighting for impact for Innovation Actions!*

Interim Evaluation: Lessons Learned

Programme in good position to achieve impact:

- Strong industry participation and relevance
- TRLs up to 7
- Industry relevant demonstrators
- Most projects intending to take results to markets (80% with explicit business case development)
- Contributions to sustainable development (70%) and climate action (35%)

Main concerns:

- Oversubscription
- Apparent discontinuity at TRL 1-3
- The funding rates for different types of beneficiaries

2018-2020: Continuity and Novel Approaches

- Continued support for **demonstrators** and **pilot lines**
- Support to R&D and **industrial investments** in key enabling technologies.
- More weight for '**fourth industrial revolution**'.
- Oversubscription / underfunding => **fewer topics, more funding per topic.**
- **Lower funding rate (50%) for some topics** for higher industry leverage and larger projects.
- **Greater outreach** : cooperation with other projects, enhanced user involvement, open access.
- Dedicated call for **industrial sustainability** to respond to Climate action and sustainable development targets.

Looking Beyond 2020

- On 03/07/17 the EC published the **Strategic recommendations** to maximise the impact of future EU R&I programmes, starting 2021
- **Political drivers:**
 - **EU budget:** return on investment, impact on the ground, output-based funding, flexibility....
 - Challenging **political climate:** EU added value, Brexit, EP elections
 - Strong steer from **Juncker priorities** and objectives of Commissioner Moedas (**30s, EIC**), simplification...

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

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

Thank you!

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