Policy Mix for NMBP – policy aspects for proposals and projects

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Horizon 2020: Key elements

- A single programme with three pillars:
  - *Excellent Science*
  - *Industrial Leadership*
  - *Societal Challenges*

- **Less prescriptive topics** – strong emphasis on expected impact

- More emphasis on *innovation and involvement of industry* e.g. industrial deployment of key enabling technologies, Public-Private Partnerships

- **Strategic approach, two-year work programmes**
- **Focus areas** bring together different technologies
- **Simplification** – in access and in participation rules
### NMBP in Horizon 2020

**Priority 1: Excellent Science**

**Priority 2: Industrial Leadership**

<table>
<thead>
<tr>
<th>Leadership in enabling and industrial technologies (LEIT)</th>
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<tbody>
<tr>
<td>(i) ICT including micro- and nano-electronics and photonics</td>
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<td>(ii) Nanotechnologies</td>
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<td>(iii) Advanced Materials</td>
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<td>(iv) Biotechnology</td>
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<td>(v) Advanced Manufacturing &amp; Processing</td>
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<td>(vi) Space</td>
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**Access to risk finance**

Leveraging private finance and venture capital for R&I

**Innovation in SMEs**

Fostering all forms of innovation in all types of SMEs

**Priority 3: Societal Challenges**
Mastery and deployment of Key Enabling Technologies (KETs)

What are KETs?

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

European KET Strategy:

• EC Communications (2009)512 & (2012)341
• KET High-level Group: final report 'KETs: Time to Act', June 2015
**Strategic context:**
**Importance of EU Manufacturing**

- **66% of private R&D investment**
- **2.1 million enterprises** (10% of total)
- **33 million jobs** (20% of total) + twice as many indirect jobs via related services
- **Turnover:** €7.1 trillion
- **Value added:** €1.7 trillion (27% of European value added)
- **Biggest purchaser and user of KETs**
  Huge potential for innovation

*Source: Eurostat ES 2011"Structure of the business economy" EU-27, 2008, NACE Section D*
EU Manufacturing in a global context

**Figure 1.3a:** EU, Chinese and US shares of world manufacturing production value, 2004–2012

**Figure 1.3b:** EU, Chinese and US shares of world manufacturing value added, 2004–2011

*Source: Own calculations based on UN National Accounts Main Aggregates Database*

*Source: Helping firms grow. European Competitiveness Report 2014*
EU Policy Context

**Five of the President's priorities:**

- To boost jobs, growth and investment;
- To realise a connected digital single market;
- To implement a resilient Energy Union with a forward looking climate change policy;
- To develop a deeper and fairer internal market with a strengthened industrial base;
- To make Europe a stronger global actor

**Strategic priorities of Commissioner Moedas:**

- Open innovation, Open science, Open to the world
Policy context: interplay of Horizon 2020 with EU agenda

• **Sustainable jobs and growth:**
  Boost jobs, growth and investment
  Deeper and fairer internal market with a strengthened industrial base

• **Re-industrialisation of EU:**
  towards a strong industrial base

• **Digital Single Market:**
  Factories of the Future, '4th industrial revolution'

• **EU Energy Union:**
  Energy-efficient Buildings, Materials for Energy, etc.

• **Circular economy:**
  boosting growth and renewing industrial capacities in a world of finite resources
  ➔ new focus area on 'Industry 2020 in the Circular Economy'
LEIT - NMBP part of Horizon 2020

- **Guiding principles:**
  - Partnership with industry, to stimulate private investment
  - Targeting value chains
  - Demonstration and piloting

- **Support for 4 of the 6 Key Enabling Technologies (KETs)**
  - Nanotechnologies
  - Advanced Materials
  - Biotechnology
  - Advanced Manufacturing / Processing
  - Technology Readiness Levels: Bridging TRLs from 3 to 6-7, with emphasis on expected impact (business cases)
  - Total budget under Horizon 2020: **3.8 billion €**

- **Focus on EU Manufacturing**
  *in the context of '4th industrial revolution'*

- **Enhanced synergies with Societal Challenges / FETs**
Public-Private Partnerships in Horizon 2020

<table>
<thead>
<tr>
<th>Institutional PPPs</th>
<th>Contractual PPPs</th>
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<tr>
<td>• Innovative Medicines (IMI)</td>
<td>• Factory of the Future (FoF)</td>
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<tr>
<td>• Clean Sky</td>
<td>• Energy-efficient Buildings (EeB)</td>
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<tr>
<td>• Single European Sky ATM Research (SESAR)</td>
<td>• Sustainable Process Industry (SPIRE)</td>
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<tr>
<td>• Fuel Cells and Hydrogen (FCH)</td>
<td>• Green Vehicles (EGVI)</td>
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<tr>
<td>• Electronic Components and Systems (ECSEL)</td>
<td>• Future internet (5G)</td>
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<tr>
<td>• Bio-based Industries (BBI)</td>
<td>• Robotics</td>
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<td>• Shift2Rail</td>
<td>• Photonics</td>
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<td>• High Performance Computing</td>
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<td>• Big Data</td>
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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*
Leveraging further investment

**Public** – through:
- Synergies with ESIF (European Structural and Investment Funds)
- EMPIR (European Metrology Programme for Innovation and Research)
  300M€

**Private** – through contractual PPPs and JTIs:
- Factories of the Future 1,150M€, leverage 5-10
- Sustainable Process Industries (SPIRE) 900M€, leverage 5-10
- Energy-efficient Buildings (EeB) 600M€, leverage at least 4
- Bio-based Industries JTI (BBI), 150M€ contribution from NMBP

European Investment Bank instruments: Loan / Equity, InnovFin

**EFSI**: European Fund for Strategic Investments, to mobilise 315 billion € in support of innovation, infrastructure and SMEs

Prepare ground for IPCEIs (important projects of common European interest)
How is NMBP developed?

• **NMBP Advisory Group:**
  - 30 members - [Members and recommendations](#)

• **Relevant European Technology Platforms (ETPs)**

• **Public-Private Partnership Boards:**
  - [EFFRA](#) for Factories of the Future
  - [A.SPIRE](#) for SPIRE
  - [E2B](#) for Energy-Efficient Buildings

• **Industry-driven initiatives**
  - Emerging and Strategic Technologies for Healthcare (ESTHER)
  - Energy Materials for Europe – Research & Industry innovating Together (EMERIT)

• **NMBP Programme Committee (Member States)**
Policy and impact orientation in the Work Programme and topics

- Policy context and requirements set out in the LEIT Introduction to the Work Programme
- Focus Area: “Industry 2020 in the Circular Economy”
- 'Expected impact’ in the topic descriptions
- Plan for dissemination and exploitation of the project's results: admissibility condition
- Communication
Policy context and requirements in the H2020 LEIT Introduction

• Strengthen industrial capacities including SMEs, including through synergies with other funds

• Bring innovative technologies closer to the market
  ➔ Technology Readiness Level, value chains - partnership, demonstration – transfer – piloting, standardisation, business development & market understanding, activities to address acceptance and “convince” users, non-technical & regulatory issues, health – safety – environmental issues, social sciences & humanities

• Cross-cutting KETs, including pilot lines

• Addressing societal challenges

• Business cases and exploitation strategies for industrialisation
Focus Area: Industry 2020 in the Circular Economy

- “Systemic approaches to sustainably boost economic growth and renew Europe's industrial capacities in a world of finite resources”

- Contributions from NMBP, ICT and Societal Challenges

- Encompasses:
  - Pilot lines in Nanotechnology and Materials
  - Factories of the Future PPP
  - Factories of the Future – ICT Part
  - Sustainable Process Industry – SPIRE PPP
  - Circular Economy
“Expected Impact” in NMBP Work Programme 2016-2017

• Expected impacts as described in topic descriptions
• For most topics, impact to be underpinned by Business cases and exploitation strategies for industrialisation (outlined in LEIT Introduction)
• Should be realistic and credible
• Exploitation strategies are to be developed further during projects
• In NMBP calls, the impact criterion is always the first criterion used to resolve proposals with equal overall scores
• For IAs, the impact criterion is weighed by 1.5
European R&I Policy and H2020: Cross-cutting issues in the work programme (WP)

- Social Sciences and Humanities (SSH)
- Gender dimension in the content of R&I - question on the relevance of sex/gender analysis
- International cooperation: general opening of the WP and targeted activities
- Other cross-cutting issues may also be included in the WP:
  - Responsible Research and Innovation (RRI) including science education,
  - open access to scientific publications, ethics...;
  - standardisation;
- Commitments: climate change and sustainable development
- ...

Communication

- Obligatory to address and implement in proposals/projects (work package or part of package)
- Evaluated under "Impact" – section 2.2
- Applicants should demonstrate how they will promote the action and its results, by providing targeted information to multiple audiences (including the media and the public)
- Communication activities need to address the "public policy perspective"
- Type of communication activities may be freely chosen
NMBP Calls 2016-2017


- LEIT Introduction, including section on *Business cases and exploitation strategies for industrialisation*
  - **LEIT-NMBP part**, including EeB call and main NMBP call
  - **Cross-Cutting part**, including PILOTS, Factories of the Future (FoF), and Sustainable Process Industries (SPIRE) in the Focus Area 'Industry 2020 in the Circular Economy'


- Deadlines of 2017 calls:
  - NMBP two-stage: 27 Oct 2016 / 4 May 2017
  - PILOTS (two-stage): 27 Oct 2016 / 4 May 2017
  - EeB, FoF, SPIRE: 19 Jan 2017
  - NMBP CSAs: 19 Jan 2017
NMBP Calls 2016-2017

• Budgets of 2017 calls:
  » NMBP: 254,39 M€ (incl. BIOTEC, CSAs)
  » EeB: 54 M€
  » PILOTS: 48 M€
  » FoF: 85 M€ (+ 33 M€ for ICT topics)
  » SPIRE: 80 M€
  » SME Instrument (NMP + Biotech): 42,82 M€

• Types of action
  - RIA: Research and innovation actions (100% funding)
  - IA: Innovation actions (70% funding for profit-making partners)
  - CSA: Coordination and support actions
  - ERA-NET Co-fund: to support public-public partnerships
**SME Instrument & Fast Track to Innovation (FTI)**

- **SME Instrument** - support to SMEs for innovation projects, to help them grow in Europe and beyond
  - 7% of budget of LEIT and Societal Challenges (~3B€)
  - Bottom-up topics in each area
  - Phase 1 for feasibility studies (50 000€ lump sums)
  - Phase 2 for innovation development and demonstration (grant 0.5 – 2.5 M€) – independent of Phase 1
  - Phase 3 – specific services for commercialisation
  - 4 cut-offs per year for Phases 1 and 2

- **Fast Track to Innovation (FTI)** - fully-bottom-up support for close-to-market innovation activities
  - open to all types of participants (indicative grant 1-2 M€)
  - Pilot in 2015 and 2016, 200M€
  - 3 cut-offs in 2015 and in 2016 (15/03, 01/06, 25/10/16)
R&I Policy developments, to create favourable conditions

- Stimulate demand-side actions
- Better collaboration between the public/private sectors to stimulate investments
  (e.g. links between Horizon 2020 and European Fund for Strategic Investments – EFSI)
- Financing (e.g. new approaches for SMEs, risk-sharing, risk-financing)
- Better regulation
- Standardisation
- New skills / training / education
- Promoting entrepreneurship (e.g. KIC on Added Value Manufacturing)
- Knowledge and risk management for products and industries
- Public procurement
- Programme evaluation of FP7 / Mid-term review of Horizon 2020
European Innovation Council (EIC)

The EU is making major efforts to boost innovation but is losing the race on scaling up disruptive, market-creating innovation

EIC could ...

- Bring together and simplify access to current EU innovation support?
- Fill gaps in current EU support for innovation (e.g. more support for 'scale-ups', mentoring, bridging the 'valley of death')?
- Provide strategic advice to improve innovation environments (e.g. on regulation, policies, practices)?

Call for ideas
http://ec.europa.eu/research/eic/
Reminders for proposal preparation

- **Timing**: prepare and submit proposals well before deadline.
- Respect **page limits** (evaluators will disregard excess pages).
- Read the LEIT Introduction – esp. business cases and exploitation strategies.
- Read other relevant cross-cutting WP documents.
- Ask peers other than the authors to review your proposal.
- No negotiation phase – no room for improvements during grant preparation.
- Expected impact can be a decisive factor.
Further information


**Participant Portal** - Funding Opportunities and support services

**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](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:
