



European
Commission



Horizon 2020 and cPPPs

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Outline

- I. Horizon 2020 - *introduction*
- II. Leadership in Enabling and Industrial Technologies (LEIT)
- III. PPPs and EEB



What is Horizon 2020?

- A research and innovation funding programme of nearly EUR 80 billion (2014-2020, the biggest ever)
- Strengthening the recovery trend to invest in future jobs and growth
- Addressing people's concerns about their livelihoods, safety and environment
- A core part of Europe 2020, Innovation Union & European Research Area
- Strengthening the EU's global position in research, innovation and technology



Horizon 2020

Excellent science

*European Research Council
Future and Emerging
Technologies
Marie Curie actions
Research infrastructures*

Industrial leadership

*Leadership in enabling and
industrial technologies
Access to risk finance
Innovation in SMEs*

Societal challenges

*Health, demographic change
and wellbeing*

*Food security, sustainable
agriculture, marine and maritime
research & the bioeconomy*

*Secure, clean and efficient
energy*

*Smart, green and integrated
transport*

*Climate action, resource
efficiency and raw materials*

Inclusive societies

Secure societies

Horizon 2020 is different

- A strong challenge-based approach, allowing applicants to have considerable freedom to come up with innovative solutions
- Less prescription, strong emphasis on expected impact
- Broader topics
- Simplified set of instruments (e.g. research and innovation - 100%; innovation actions - 70%,...)
- Cross-cutting issues mainstreamed (e.g. social sciences, gender, international...)

II. Leadership in Enabling and Industrial Technologies (LEIT)

HORIZON 2020

Priority 1: Excellent Science

Priority 2: Industrial Leadership

Leadership in enabling and industrial technologies (LEIT)

(i) ICT including micro- and nano-electronics

(ii) Nanotechnologies

(iii) Advanced Materials

(iv) Biotechnology

(v) Advanced Manufacturing & Processing

(vi) photonics

**This
Work Programme**

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

LEIT in a nutshell:

- **Focus on Key enabling technologies and support to innovative SMEs to exit economic crisis (strengthen recovery)**
- **Emphasis on R&D and innovation areas with strong industrial dimension.**
- **Involvement of industrial participants and SMEs to maximise expected impact => evaluated in proposal !**
- **Activities primarily developed through relevant industrial roadmaps. (ETPs)**
- **Implementation by PPPs to better address the industry issues together with Industry and attract a strong private commitment**

What are Public-Private Partnerships?



EU

Industry

Public Private Partnership
Public and Private objectives aligned
Clear benefits for Europe
Strong private commitment

Activities
Open to all

IMPACT
Jobs, growth, social benefits



Benefits of PPPs

- Long-term commitments **and strategies**
- Increased efficiency **of funding (high leverage)**
- Covering whole value chain **and interrelated sectors**
- **Expanding** technological competencies
- Shortening time to market
- **High level SME** participation
- **Potential** synergies with Structural Funds (H2020)

Why Public-Private Partnerships in Horizon 2020?

- To solve problems together with industry
- To strengthen European industrial leadership
- To facilitate prioritisation of R&I in line with Europe 2020 objectives and industry needs
- To leverage research and innovation elements
- To strongly commit industry to joint objectives

PPPs in Horizon 2020

Joint Technology Initiatives

- **Innovative Medicines (IMI)**
- **Clean Sky**
- **Single European Sky ATM Research (SESAR)**
- **Fuel Cells and Hydrogen (FCH)**
- **Electronic Components and Systems (ECSEL - old ARTEMIS + ENIAC)**

New:

- **Bio-based Industries (BBI)**

Contractual PPPs

- **Factory of the Future (FoF)**
- **Energy-efficient Buildings (EeB)**
- **Green Vehicles (EGVI)**
- **Future internet (5G)**

New:

- **Sustainable Process Industry (SPIRE)**
- **Robotics**
- **Photonics**
- **High Performance Computing**

Contractual PPPs functioning

- Earmarked budget is only indicative
- Industry proposes strategy and advises on WPs
- Committology as usual under Horizon 2020
- Commission manages the programme
- H2020 Programme rules for participation
- Industry commitment via Partnership Agreement (Signed in Brussels Dec 2013)

Outcome of "contractual" PPPs in FP7

- Quick response in defining the strategy via Roadmaps
- Efficient calls with better success rates and time-to-grant
- 366 projects supported, with 4409 participations
- Increased participation of industry (57%) and SMEs (25%)
- More innovation related activities, including demonstration
- The full EC contribution of € 1.6 billion has been provided, resulting in a combined investment of €2.4 billion

Indicative EC funding RTD cPPPs

H2020 funding	NMP RTD	ICT CNECT	Transport RTD + CNECT	Energy RTD + ENER	Environment RTD	TOTAL M€
FoF	700	450	-	-	-	1,150
EeB	400	-	-	75+75	50	600
EGVI	70	-	600+80	-	-	750
SPIRE	700	-	-	50+50	100	900
TOTAL	1870	450	680	250	150	3,400

EeB Rationale/The Sector

- **The construction sector is the largest European single activity (€1,2 trillion, 9.6% of GDP) and biggest industrial employer (14,6 million direct operatives, 30.7% of industrial employment, 43,8 million indirect workers).**
- **Sector is highly fragmented and 95% of the 3,1 million enterprises (EU-27) are SMEs. Turnover decreased significantly during the crisis and has not yet recovered.**
- **Buildings account for 40 % of total energy consumption and 1/3 of Greenhouse Gases in Europe.**

EeB Rationale/Sector status

- **Very low replacement rate of the existing stock (1-2% per year)**
- **Energy-efficient building solutions are at present too expensive for private investment by homeowners**
- **Renovation technologies offering energy savings would create new jobs**
- **Energy efficiency in the built environment cannot be solved on a Member State scale: novel technologies and systemic solutions are needed, which are optimised leveraging on research at EU scale, but customised at local scale**

General objectives

- To develop technologies and solutions enabling to speed up the reduction in energy use and GHG emission in line with the 2020 goals
- Achieve higher renovation rate of the building stock at lower cost and to meet regulatory needs.
- To develop innovative energy efficiency solutions in order to turn the building industry into a knowledge-driven sustainable business, with higher productivity and higher-skilled employees.
- To develop innovative and smart systemic approaches for green buildings and districts, addressing interoperability and standards,
- Helping to improve the competitiveness of EU building industry by providing new innovative products

Call 2015 – NMP-EEB



EeB 5 – 2015: Innovative design tools for refurbishment at building and district level

Innovation Actions, TRL 5-7

EeB 6 – 2015: Integrated solutions of thermal energy storage for building applications

Research & Innovation Actions, TRL 4-6

EeB 7 – 2015: New tools and methodologies to reduce the gap between predicted and actual energy performances at the level of buildings and blocks of buildings

Innovation Actions, TRL 5-7



EeB 8 – 2015: Integrated approach to retrofitting of residential buildings

Innovation Actions, TRL 5-7

EE 1 – 2014/15: Manufacturing of prefabricated modules for renovation of buildings

Innovation Actions, TRL 5-7

EE 2 – 2014/15: Buildings design for new highly energy performing buildings

Innovation Actions, TRL 5-7

Deadlines



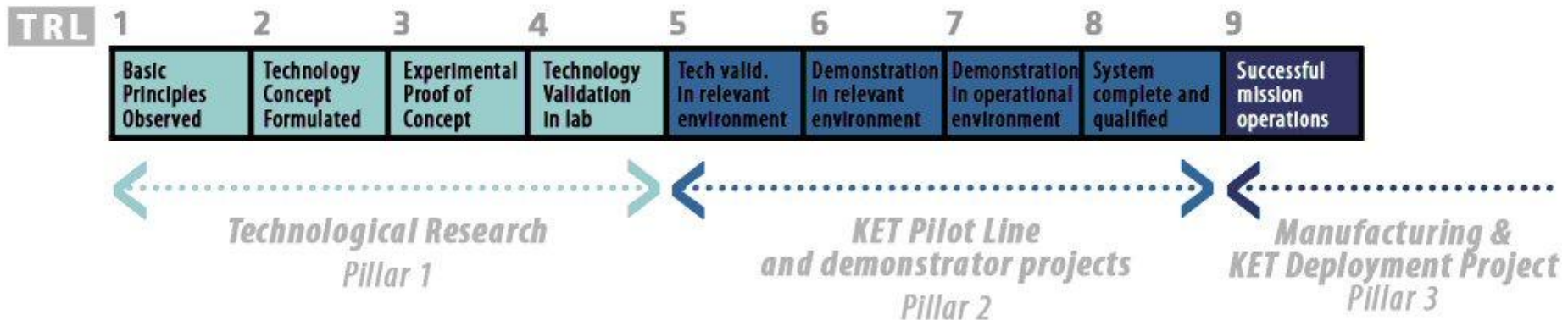
Topic identifier	Deadline 2015	Budget (Meuro)
EeB 5-2015 EeB 6-2015 EeB 7-2015 EeB 8-2015	09/12/2014	64.00
EE 2-2015	09/12/2014	9.00

Work Programme topics

Structure reflects the challenge-based approach: 3 key features

- **Specific Challenge**
 - sets context, problem to be addressed, why intervention is needed
- **Scope**
 - delineates the problem, specifies the focus and the boundaries of the potential action BUT without overly describing specific approaches
- **Expected Impact**
 - describes the key elements of what is expected to be achieved in relation to the specific challenge

The LEIT part of the WP uses **Technology Readiness Levels** (or TRL) from 3-4 up to 7-8



Synergies with other EU, national or regional programmes are encouraged:

- Some topics are particularly suitable for **additional funding**
⇒ e.g. to explore paths to commercial exploitation or to deploy H2020-funded technologies

LEIT proposals, innovation oriented:

Funded projects will be outcome oriented.

LEIT projects to develop key technology building blocks and bring them **closer to applications and market to pave way for industrial and commercial implementation.**

Proposal should describe

- Exploitation and/or business plans
- Engagement of partners along industrial value chain
- Standardisation
- IPR
- Dissemination of know-how
- Support for education and training
- Expected impact



**Thank you for your
attention**