



The EU Framework Programme for Research and Innovation

HORIZON 2020

**PPP funding opportunities
(NMBP calls in 2016-2017)**

**Leadership in Enabling and
Industrial Technologies**



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European Commission

Horizon 2020: Key elements

- A single programme with three pillars: **societal challenges, industrial competitiveness and excellence in science**
- **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

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'
➔ link to Digital Single Market
- **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'



Horizon 2020

Total indicative budget: 75 Bio. €*

Excellent science

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

24.2 Bio. €*

Industrial leadership

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

16.5 Bio. €*

Societal challenges

- *Health, demographic change and wellbeing*
- *Food security, sustainable agriculture, marine and maritime research and the bioeconomy*
- *Secure, clean and efficient energy*
- *Smart, green and integrated transport*
- *Climate action, resource efficiency and raw materials*
- *Inclusive, innovative and reflective societies*
- *Secure societies*

28.6 Bio. €*

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

NMBP in Horizon 2020

Priority 1: Excellent Science

Priority 2: Industrial Leadership

Leadership in enabling and industrial technologies (LEIT)

(i) ICT including micro- and nano-electronics and photonics

(ii) Nanotechnologies

(iii) Advanced Materials

(iv) Biotechnology

(v) Advanced Manufacturing & Processing

(vi) Space

**NMBP part
of 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

- **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)

Public-Private Partnerships in Horizon 2020

Institutional PPPs	Contractual PPPs
<ul style="list-style-type: none">• Innovative Medicines (IMI)• Clean Sky• Single European Sky ATM Research (SESAR)• Fuel Cells and Hydrogen (FCH)• Electronic Components and Systems (ECSEL)• Bio-based Industries (BBI)• Shift2Rail	<ul style="list-style-type: none">• Factory of the Future (FoF)• Energy-efficient Buildings (EeB)• Sustainable Process Industry (SPIRE)• Green Vehicles (EGVI)• Future internet (5G)• Robotics• Photonics• High Performance Computing• Big Data

Horizon 2020 rules

- **Types of action**

- RIA: Research and innovation actions
- IA: Innovation actions
- CSA: Coordination and support actions

- **Minimum participation conditions**

- At least three legal entities each established in a different Member State or an Associated Country, for collaborative actions (and minimum one entity for CSAs)

- **Evaluation criteria**

- Excellence – Impact – Quality and efficiency of the action (similar with FP7)
- Thresholds are depending on the call conditions

- **Time to Grant shortened**

- Maximum 8 months (5 to evaluation results and 3 to Grant Agreement)
- Grant preparation rather than negotiation (proposals are evaluated "as is" and not "what could be")

Simplified funding rates

FP7

Maximum reimbursement rates	Research and technological development activities (*)	Demonstration activities	Other activities
Network of excellence	50% 75% (**)		100%
Collaborative project(****)	50% 75% (**)	50%	100%
Coordination and support action			100% (**)



Horizon 2020

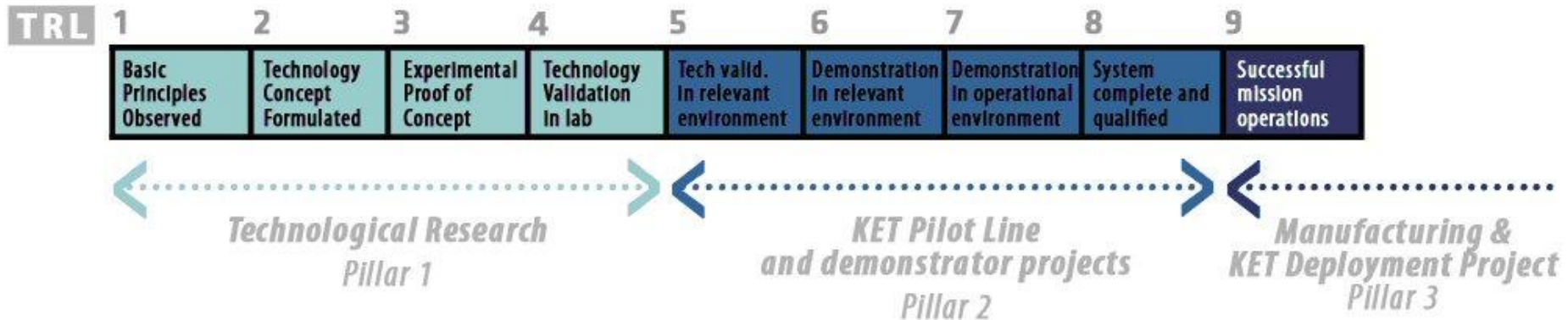
- **One project = One rate**
- For all beneficiaries and all activities in the grant.
- Defined in the Work Programme:
 - Up to 100 % of the eligible costs;
 - but limited to a maximum of 70 % for innovation actions (non-profit organisations to a maximum of 100%).
- **Single indirect cost model**
- 25% flat rate for all

The WP approach of Horizon 2020

- A strong challenge-based approach, allowing applicants to have considerable freedom to come up with innovative solutions
- Simplified list of possible types of action (e.g. research and innovation at 100%; innovation actions at 70%,...)
- Strong emphasis on expected impact, less prescription
- Cross-cutting issues mainstreamed (e.g. social sciences, gender, international co-operation...)
- Work programmes with 2-year duration

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 Work Programme 2016-2017

- Version now available:

<https://ec.europa.eu/programmes/horizon2020/en/draft-work-programmes-2016-17>

- 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 Focus Area 'Industry 2020 in the Circular Economy'
- Publication: 14 October 2015
- Deadlines of 2016 calls:
 - » NMBP two-stage: 8 Dec 2015 / 24 May 2016
 - » PILOTS (two-stage): 8 Dec 2015 / 24 May 2016
 - » **EeB, FoF, SPIRE: 21 Jan 2016**
 - » NMBP CSAs, ERA-NETS, NMBP-08: 21 Jan 2016

NMBP Work Programme 2016-2017

Budgets of 2016 calls:

- » NMBP: 230.78M€ (incl. BIOTEC, CSAs, ERA-NETs, NMBP-08)
- » EeB: 49M€
- » PILOTS: 32M€
- » FoF: 77M€ (+ 83M€ for ICT topics)
- » SPIRE: 74M€
- » SME Instrument (NMP + Biotech): 39.33M€

SME Instrument and 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 (indicative 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

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

Business Plan

- *The business plan submitted at proposal stage, should be further developed during the project. It shows how the consortium will use the results of activities generated by the project. It will include:*
- *The market opportunities - growth & jobs, short and medium term*
- *The target market (estimated size in Europe and globally)*
- *User and customer needs*
- *Show how the solutions will match the market and user needs*
- *The business model*
- *The commercialisation roadmap*
- *Financial projections*
- *Risk assessment*

Exploitation strategy

First of all it should be realistic

- *Identify obstacles, requirements and necessary actions in reaching higher TRLs*
- *Improve product robustness and reliability*
- *Availability of large scale testing , pilot and manufacturing facilities*
- *Standardisation, product approval by regulatory or relevant international bodies*
- *Sustainability of financing after the EU funding*

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

Dissemination and Exploitation

- Evaluated under "Impact" - section 2.2
 - *Plan for dissemination and exploitation* of the project's results: admissibility condition, unless otherwise specified in the work programme
- For Research and Innovation Actions (RIA, IA) : proposals will also be judged on their business potential

Reminders

- **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.



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



Workprogramme

Main WP

1. Introduction 2016-17 >
 2. Future and Emerging Technologies (FETs) 2016-17 >
 3. Marie Skłodowska-Curie actions (MSCA) 2016-17 >
 4. Research infrastructures (including e-Infrastructures) 2016-17 >
 5. Introduction to Leadership in enabling and industrial technologies (LEITs) 2016-17 >
 - 5i. Information and communication technologies (ICT) 2016-17 >
 - 5ii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2016-17 >
 - 5iii. Space 2016-17 >
 6. Access to risk finance 2016-17 >
 7. Innovation in SMEs 2016-17 >
 8. Health, demographic change and wellbeing 2016-17 >
 9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy 2016-17 >
 10. Secure, clean and efficient energy 2016-17 >
 11. Smart, green and integrated transport 2016-17 >
 12. Climate action, environment, resource efficiency and raw materials 2016-17 >
 13. Europe in a changing world - inclusive, innovative and reflective societies 2016-17 >
 14. Secure societies - protecting freedom and security of Europe and its citizens 2016-17 >
 15. Spreading excellence and widening participation 2016-17 >
 16. Science with and for society 2016-17 >
 17. Cross-cutting activities (Focus Areas) 2016-17 (NEW) >
-

The Energy-efficient Buildings PPP: research for low energy consumption buildings in the EU

- Development of innovative construction and retrofitting technologies;
- Definition of the research priorities in close collaboration with the EU construction sector;
- New market opportunities for EU companies;
- New jobs for high skilled EU professionals.



The EeB Roadmap

- **Part 1: Vision**

- An innovative high-tech energy-efficient European Construction industry (regarding buildings and districts)

- **Part 2: Research and Innovation Strategy**


- Main drivers: Design, Structure, Envelope, Energy equipment, Construction Process, Performance Monitoring, Building's end of life, Cross-cutting challenges and integration along the value chain

- **Part 3: Expected Impacts**

- Reduce by 2020 energy use by 50% compared to 2010 levels
- Adequate rate of renovation: ideally up to a yearly 4% of the foreseen 2020 building stock
- Leveraging additional investments (factor 4 or higher)



" A " members: Industrial members

ACCIONA  Large: Turnover > 400 M€ www.acciona.es

AGC GLASS EUROPE  Large: Turnover > 400 M€

ARUP  Large: Turnover M€

BOUYGUES CONSTRUCTION  Large: Turnover M€

CEFIC  Association


CIE SPA  Large: Turnover M€

COMSA EMTE  Large: Turnover M€

D'APPOLONIA  Large: Turnover M€


DRAGADOS  Large: Turnover M€

EDF  Large: Turnover M€

FCC  Large: Turnover M€ www.rcc.es

FERROVIAL-AGROMAN  Large: Turnover > 400 M€ www.ferrovial.com

" B " members: Research Organisations

AIT AUSTRIAN INSTITUTE OF TECHNOLOGY  Small & medium RTD www.ait.ac.at

" C " members: SMEs

ASCAMM  **ACE**  SME www.ace-cae.eu


BBRI  **ACTIVE SPACE TECHNOLOGIES**  SME www.activespacetech.com

BPIE  **AIC ASTURIAS**  SME Association www.aicasturias.es


BUILD.AAU, AALBORG UNIVERSITY  **AMSOLUTIONS**  SME www.amsolutions.gr


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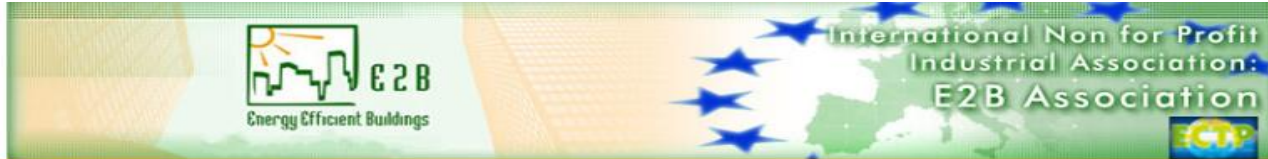
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Climate change is a reality, which is altering the world around us. Urgent action needs to be taken now.

The construction industry is a large contributor to CO2 emissions, with buildings responsible for 40% of the total European energy consumption and a third of CO2 emissions. To help address climate change the European Commission has set specific targets to be achieved by 2020, known as the 20/20 targets. These targets are to reduce energy consumption by 20%, reduce CO2 emissions by 20% and provide 20% of the total energy share with renewable energy.

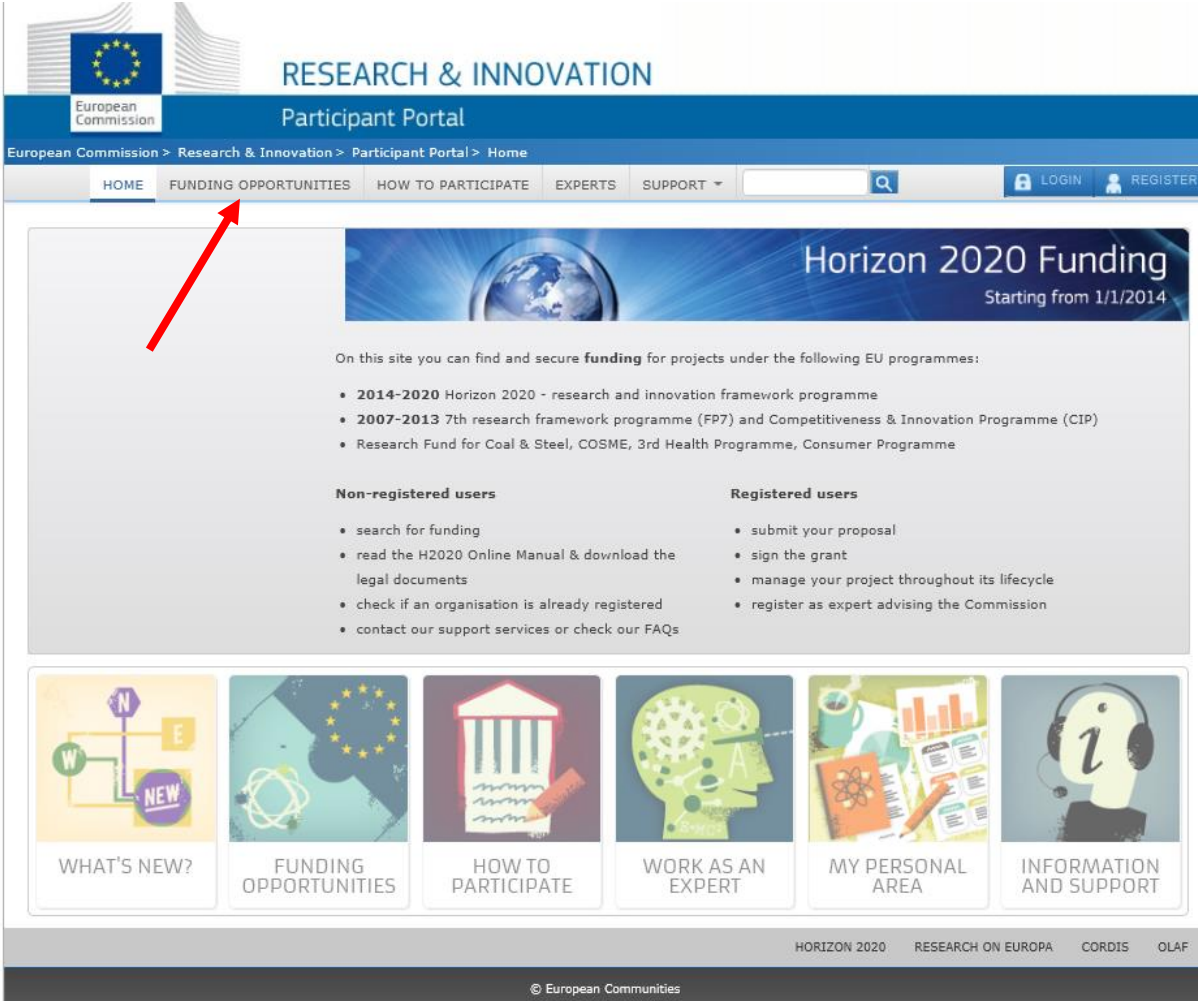
In order to help the construction industry reach the 20/20 targets and achieve energy neutral buildings and districts by 2050 the European Construction Technology Platform has set up the Energy Efficient Building European Initiative (E2B EI), steered by the Energy Efficient Buildings Association (E2BA) founded in November 2008.

This is a Europe wide industry driven research and demonstration programme for energy efficient buildings and districts, with the ambitious vision that all European buildings will be designed, built or renovated to high energy efficiency standards by 2050.



Last News

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



RESEARCH & INNOVATION
Participant Portal

European Commission > Research & Innovation > Participant Portal > Home

HOME **FUNDING OPPORTUNITIES** HOW TO PARTICIPATE EXPERTS SUPPORT

LOGIN REGISTER

Horizon 2020 Funding

Starting from 1/1/2014

On this site you can find and secure **funding** for projects under the following EU programmes:

- **2014-2020** Horizon 2020 - research and innovation framework programme
- **2007-2013** 7th research framework programme (FP7) and Competitiveness & Innovation Programme (CIP)
- Research Fund for Coal & Steel, COSME, 3rd Health Programme, Consumer Programme

Non-registered users

- search for funding
- read the H2020 Online Manual & download the legal documents
- check if an organisation is already registered
- contact our support services or check our FAQs

Registered users

- submit your proposal
- sign the grant
- manage your project throughout its lifecycle
- register as expert advising the Commission

WHAT'S NEW? FUNDING OPPORTUNITIES HOW TO PARTICIPATE WORK AS AN EXPERT MY PERSONAL AREA INFORMATION AND SUPPORT

HORIZON 2020 RESEARCH ON EUROPA CORDIS OLAF

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EU Programmes 2014-2020

Search Topics

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Calls



H2020

Research Fund for Coal & Steel

COSME

3rd Health Programme

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Justice Programme

FP7 & CIP Programmes 2007-2013

Calls

Other Funding Opportunities



Quick finder for grants for individual researchers and teams:

- [Marie Skłodowska-Curie actions](#)

The grant management and experts services may experience issues **Saturday 24th of October, between 07:00 and 16:00 (CET)**, while system maintenance is being performed.
We apologise for any inconvenience this may cause.

11

Results

Keyword Search:

EeB

SEARCH

If you don't find your topic, you can also use the [free text search](#).

Programme H2020 RFCS COSME 3rd Health Programme
 Consumer Programme Justice Programme

Status Forthcoming Open Closed

Sort by (Planned) opening date Deadline Topic title Topic identifier

Topic: [EE-10-2016:Supporting accelerated and cost-effective deep renovation of buildings through Public Private Partnership \(EeB PPP\)](#)

Open

Publication date: 14 October 2015

Types of action: IA Innovation action

DeadlineModel: single-stage

Opening date: 15 October 2015

Deadline: 21 January 2016 17:00:00

Time Zone : (Brussels time)

Topic: [EE-12-2017:Integration of Demand Response in Energy Management Systems while ensuring interoperability through Public Private Partnership \(EeB PPP\)](#)

Forthcoming

Publication date: 14 October 2015

Types of action: IA Innovation action

DeadlineModel: single-stage

Opening date: 15 June 2016

Deadline: 19 January 2017 17:00:00

Time Zone : (Brussels time)

TOPIC : New technologies and strategies for the development of pre-fabricated elements through the reuse and recycling of construction materials and structures

Topic identifier: EEB-04-2016

Publication date: 14-10-2015

Types of action: RIA Research and Innovation action

DeadlineModel: single-stage

Opening date: 15-10-2015

Deadline: 21-01-2016 17:00:00

Time Zone : (Brussels time)



Horizon 2020

> Industrial Leadership

Call : [H2020-EEB-2016-2017](#)

[H2020 website](#)

Topic Description

- Less

Specific Challenge:

As a consequence of economic development, construction and demolition waste (CDW) has become a serious problem, creating serious environmental pollution in certain areas of the world. In the EU, CDW accounts for approximately 25% - 30% of all waste generated and consists of numerous materials, many of which can be recycled.

Advanced research actions and technical solutions are required for large-scale reuse and recycling of construction materials in building refurbishment, contributing to overall CO₂ and energy reduction. At the same time pre-fabricated components are now commonly used in the construction sector not just to reduce costs but also to facilitate installation/dismantling and re-use of components.

The development of pre-fabricated elements containing a high share of recycled materials and of energy-efficient building concepts considering a high fraction of material replacement is needed. The main focus would be on the recovery/ recycling of materials that have the highest technical and economic interest and which are associated to refurbishment or demolition processes.

At the same time, the possibility to reuse different materials in energy-efficient buildings should be further investigated through a proper characterisation of their properties. Also the development of processes for easy disassembly needs to be considered as well as the need to address strict regulations and standards (eg. anti-seismic) in several European regions.

The EC Waste Directive mentions under Art 11- 2b that: "by 2020, the preparing for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials, of non-hazardous construction and demolition waste excluding naturally occurring material defined in category 17 05 04 in the list of waste shall be increased to a minimum of 70 % by weight."

Scope:

Energy-efficient building concepts using new or adapted prefabricated components need to be developed, in order to implement construction processes allowing the reuse and recycling of different materials and structures while reducing energy use and minimising environmental impacts.

In the case of building retrofitting with traditional construction methods poor results are frequently obtained. Recent developments show that even with new constructions the use of recycled materials is still a challenge when prefabrication is concerned. There is a need to address material flows (on-site and off-site processes) and harmonize the way to acquire and use all the information related to the building and its stakeholders (procurers, builders, owners, users, operators, etc.) in order to radically modify the construction processes (e.g. lean construction and higher degree of industrial building prefabrication), and the off-site production of components (e.g. prefabricated components).

Proposals should cover the following areas:

- Optimisation of recyclability properties of the materials and development of solutions to recycle and reuse construction materials and existing building structures in particular through the uptake by the manufacturing chain.
- Innovative pre-fabricated elements solutions integrating the latest developments in recycling and reuse of CDW as well as in construction and installation processes which show clear evidence of technical and economic viability for structural and non-structural components with a life-cycle perspective.

The project should also address the demonstration of refurbishment of energy-efficient buildings representative of the construction sector in all Member States of Europe, allowing for a high replication potential.

Activities are expected to focus on Technology

This topic is particularly suitable for SMEs.

The Commission considers that proposals requesting a maximum of 1 million would allow this specific challenge to be addressed. The number of proposals to be submitted will preclude submission and selection of proposals requiring more than 1 million.

Expected Impact:

- CO2 savings (by min. 30 %), energy savings (by min 20%), and higher resource efficiency (minimum share of recycled materials in final product of at least 10-15 %) will ultimately contribute to a resource-efficient and climate change resilient economy.
- Creation of new value chains by expanding the size and attractiveness of CDW recycling and reuse for energy-efficient buildings construction and refurbishment, properly tackling non-technological barriers.
- High replication potential of the solutions obtained, with the possibility to export EU technology worldwide.
- Contribution to achieving the objectives of the European Innovation Partnership on Raw Materials, in particular to the relevant impacts shown in Action I.5 "Recycling of raw materials from products, buildings and infrastructure" of the Strategic Implementation Plan [<https://ec.europa.eu/eip/raw-materials/en/content/strategic-implementation-plan-part-ii#I.5%20Recycling>].

Proposals should include a business case and exploitation strategy, as outlined in the Introduction to the LEIT part of this Work Programme.

Topic conditions and documents

[+ More](#)

Please read carefully all provisions below before the preparation of your application.

Submission Service

To access the Electronic Submission Service of the topic, please select the **type of action** that is most relevant to your proposal from the list below and click on the '**Start Submission**' button. You will then be asked to confirm your choice of the type of action and topic, as these cannot be changed in the submission system. Upon confirmation you will be linked to the correct entry point.

To access existing draft proposals for this topic, please login to the Participant Portal and select the My Proposals page of the My Area section.

Type of Action

Research and Innovation action [RIA]

[START SUBMISSION](#)

Topic

New technologies and strategies for the development of pre-fabricated elements through the reuse and recycling of construction materials and structures - EEB-04-2016

Guidance on proposal submission:

[H2020 ONLINE MANUAL](#)

IT Guidance:

[it HOW TO](#)

Get support

[+ More](#)

ASSISTANCE

National Contact Points (NCP) - contact your NCP for further assistance.

- List of Countries and applicable rules
- Eligibility and admissibility conditions
- Evaluation criteria and procedure, scoring and threshold
- Indicative timetable for Evaluation and Grant Agreement
- Proposal templates and Evaluation Forms
- Additional Provisions (TRLs,)
- Open access
- Additional Information

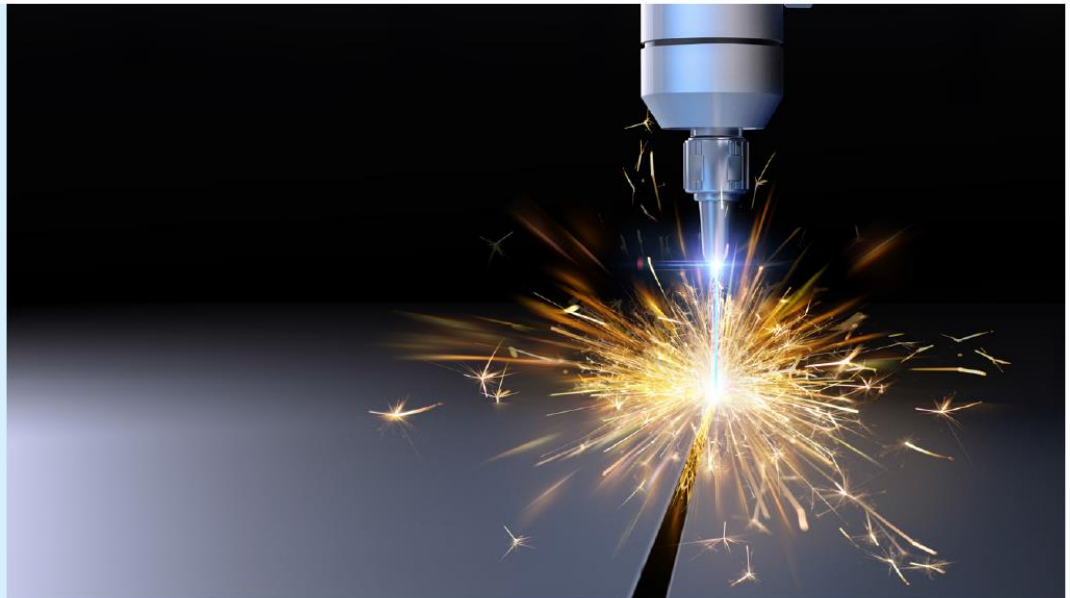


Energy-efficient Buildings PPP

- **EEB-1: Highly efficient insulation materials with improved properties, IA**
- **EEB-2: Performance indicators and monitoring techniques for energy-efficiency and environmental quality at building and district level, CSA**
- **EEB-3: Integration of advanced technologies for heating and cooling at building and district level, IA**
- **EEB-4: New technologies and strategies for the development of pre-fabricated elements through the reuse and recycling of construction materials and structures, RIA**
- **EE-10: Supporting accelerated and cost-effective deep renovation of buildings, IA (Energy)**

Factories of the Future PPP: towards competitive EU manufacturing

- Underpinning Europe's industrial competitiveness;
- Addressing global demand for affordable, personalised and eco-efficient products;
- Adapting manufacturing to a smart, green and inclusive economy;
- Reinforcing the role of manufacturing for growth and jobs.





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Factories of the Future PPP

- **FOF-1: Novel hybrid approaches for additive and subtractive manufacturing machines, RIA**
- **FOF-2: Machinery and robot systems in dynamic shop floor environments using novel embedded cognitive functions, IA**
- **FOF-3: Zero-defect strategies at system level for multi-stage manufacturing in production lines, IA**
- **FOF-4: Continuous adaptation of work environments with changing levels of automation in evolving production systems, RIA**
- **FOF-5: Support for the further development of Additive Manufacturing technologies in Europe, CSA**
- **FOF-11: Digital automation, RIA + CSA (ICT)**
- **FOF-13: Photonics Laser-based production, RIA + IA (ICT)**

Sustainable Process Industry PPP: efficient and smart processes meeting the needs of tomorrow

- Accelerating innovation and resource efficiency in the European process industry;
- Key targets: 30% less energy consumption and 20% fewer raw materials;
- Creating knowledge, skills and high-tech jobs;
- Increased use of renewable feedstocks;
- Efficient sorting, separation and recovery technologies.





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Sustainable Process Industry PPP

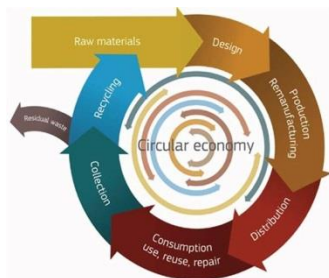
- ***SPIRE-1: Systematic approaches for resource-efficient water management systems in process industries, IA***
- ***SPIRE-2: Plant-wide monitoring and control of data-intensive processes, RIA***
- ***SPIRE-3: Industrial technologies for the valorisation of European bio-resources into high added value process streams, IA***
- ***SPIRE-4: Industrial furnace design addressing energy efficiency in new and existing furnaces, RIA***
- ***SPIRE-5: Potential use of CO₂ / CO and non-conventional fossil natural resources in Europe as feedstock for process industry, CSA***
- ***SPIRE-6: Business models for flexible and delocalised approaches for intensified processing, CSA***



Sustainable Process Industry PPP

(topics outside NMBP and Focus Area)

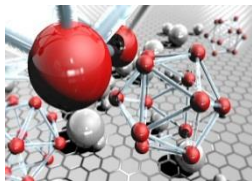
- **EE-17: Valorisation of waste heat in industrial systems, IA (Energy)**
- **EE-21: ERA-NET Cofund actions supporting Joint Actions towards increasing energy efficiency in industry and services, ERA-NET Cofund (Energy)**
- **LCE-25: Utilisation of captured as feedstock for the process industry, RIA (Energy)**



Circular Economy topics

(in Focus Area, but not in NMBP)

- **CIRC-01: Systemic, eco-innovative approaches for the circular economy: large-scale demonstration projects**
 - a) **Design for circular value and supply chains (2016), IA**
- **CIRC-02: Water in the context of the circular economy**
 - a) **Demonstrating the potential of efficient nutrient recovery from water (2016) , IA**
- **CIRC-03: Smart Specialisation for systemic eco-innovation/circular economy, CSA**
- **CIRC-04: New models and economic incentives for circular economy business, RIA**
- **CIRC-05: Unlocking the potential of urban organic waste, RIA**



Advanced materials and Nanotechnologies for high added value products & process industries

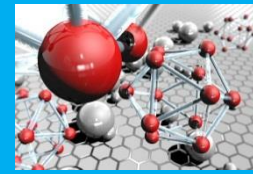
- NMBP-1: Novel hybrid materials for heterogeneous catalysis, RIA***
- NMBP-2: Advanced Materials for Power Electronics based on wide bandgap semiconductor devices technology, RIA***
- NMBP-3: Innovative and sustainable materials solutions for the substitution of critical raw materials in the electric power system, RIA***



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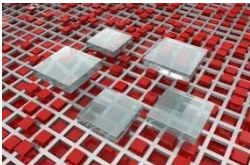
Green Vehicles PPP

- NMBP-8: Affordable weight reduction of high-volume vehicles and components taking into account the entire life cycle, RIA***



Advanced materials and Nanotechnologies for Healthcare

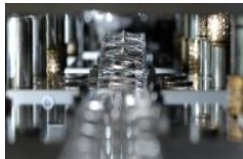
- ***NMBP-9: Biomaterials for diagnosis and treatment of demyelination disorders of the Central Nervous System, RIA***
- ***NMBP-10: Nanoformulation of biologicals, RIA***
- ***NMBP-11: ERA-NET on Nanomedicine, ERA-NET Cofund***



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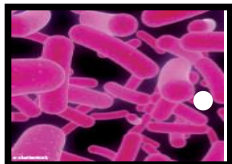
Advanced materials and Nanotechnologies for Energy applications

- ***NMBP-17: Advanced materials solutions and architectures for high efficiency solar energy harvesting, IA***
- ***NMBP-18: Advanced materials enabling the integration of storage technologies in the electricity grid, IA***



Eco-design and new sustainable business models

NMBP-21: Manufacturing technologies supporting industry and particularly SMEs in the global competition, ERA-NET Cofund



Biotechnology

BIOTEC-1: ERA-NET Cofund on Biotechnologies, ERA-NET Cofund

BIOTEC-2: Bioconversion of non-agricultural waste into biomolecules for industrial applications, RIA

BIOTEC-3: Microbial chassis platforms with optimised metabolic pathways for industrial innovations through systems biology, RIA

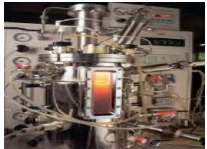
BIOTEC-4: KET Biotechnology foresight identifying gaps and high-value opportunities for the EU industry, CSA



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Modelling for the development of Nanotechnologies and Advanced Materials

- **NMBP-23: Advancing the integration of Materials Modelling in Business Processes to enhance effective industrial decision making and increase competitiveness, RIA**
- **NMBP-24: Network to capitalise on strong European position in materials modelling and to allow industry to reap the benefits, CSA**



Science-based risk assessment

and management of Nanotechnologies, Materials and Biotechnologies

- **NMBP-26: Analytical techniques and tools in support of nanomaterial risk assessment, RIA**
- **NMBP-27: Promoting safe innovation through global consolidation and networking of nanosafety centres and strengthening the European industry through co-operation in nanosafety, CSA**



Innovative and responsible governance of new and converging enabling technologies

- ***NMBP-30: Facilitating knowledge management, networking and coordination in the field of formulated products, CSA***
- ***NMBP-31: Presidency events, CSA***
- ***NMBP-32: Support for National Contact Points, CSA***
- ***NMBP-33: Networking and sharing of best experiences in using regional clusters strategies with a focus on supporting innovation in the NMBP thematic area, CSA***
- ***NMBP-36: Policy support for Industry 2020 in the circular economy, CSA***



Pilot lines in Nanotechnology and Materials

- *Cross-cutting KET pilot activities building on previous research that is ready to be processed towards industrial-scale processes.*
- **PILOTS-1: Pilot lines for manufacturing of materials with customized thermal/electrical conductivity properties, IA**
- **PILOTS-2: Pilot line manufacturing of nanostructured antimicrobial surfaces using advanced nanosurface functionalization technologies, IA**



European



Latest Headlines


08 October 2015

New publication:



Contractual public-private partnerships in Horizon 2020

The contractual Public-Private Partnerships (cPPPs) launched in Horizon 2020 address research and innovation activities in areas of strategic importance to the European Union's competitiveness and industrial leadership, and offer solutions for specific societal challenges.

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Public-Private Partnerships Info Day, Brussels 16 October



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• [More information](#)

Further information

- [Sustainable Process Industry session webstreaming](#)
- [Plenary session webstreaming](#)
- [Factories of the Future session webstreaming](#)
- [European Green Vehicles Initiative session webstreaming](#)
- [Energy-Efficient Buildings webstreaming](#)



Further information and advice

Horizon 2020: http://ec.europa.eu/research/horizon2020/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 (NMBP)

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/participants/portal/desktop/en/support/research_enquiry_service.html



**Thank you for your
attention**