



**INDustrial TECHNOLOGIES 2018**  
Innovative Industries for Smart Growth

## **INDTECH2018 Innovative industries for smart growth**

29-31 October, 2018  
Vienna, Austria

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Messe Wien Exhibition & Congress Center,  
Messeplatz 1



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**PILLAR 3**

**Session 3.4.**

**European funding and collaborations in the construction sector**



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**31 October 2018**



## Presentation summary



- The Energy-Efficient Building (EeB) cPPP
- The collaboration with Member States and the role of the EeB PPP in the SET Plan: the cases of the Implementation Working Group 5 (Energy Efficiency Solutions for Buildings) and the Implementation Working Group 3.2 on Smart Cities and Communities (Positive Energy Districts)
- An example of collaboration at a regional level: the LoI with Polish regions to create synergies and contribute to the development of energy plus sustainable cities and communities;
- The generalisation of Digital Construction platforms in the Construction Industry: an approach linking DG Connect, the Member states and the Construction ecosystem;
- Considerations on PPPs & Co-programming



## Construction: A key EU industrial sector



- > 80% of our time spent in buildings
- 78% of the overall construction sector dedicated to buildings
- Infrastructures:
  - *Roads, with a total road network of approximately 5 million km in the 28 EU Member States (60,000 km are motorways),*
  - *Railways, with a total length of lines around 215,000 km (107,500 km are electrified)*
  - *Waterways, with 41,000 km of navigable inland waterways*
- ~9% GDP. 1 million organizations (>95% SMEs)
- N°1 qualification and job provider in EU (18+ million jobs)
- An industry sector well represented and having impact in all EU28 MSs, on all European citizens
- 40% of EU contractors in the worldwide top-30 ranking\*
- *A sector still suffering of an image shortage...*



## EeB PPP - Mission statement



The ***Energy-Efficient Building (EeB) cPPP*** is a ***challenge-based approach*** benefiting to the Built Environment stakeholders, EU citizens and users, as well as local public authorities by:

- **Accelerating the progress in the reduction of energy use and GHG emissions** in line with the 2030 and 2050 EU objectives:
  - calling for an ambitious energy efficiency target,
  - leading to a higher renovation rate at lower costs;
- **Overcoming the current economic crisis**, keeping existing jobs and creating new ones in a market for energy-efficient buildings by starting a transformation of the building sector towards a technology-driven and market disruptive sector with skilled employees and rising productivity;
- **Improving the industrial competitiveness in Europe** up to become the most competitive actor worldwide offering cost-effective, user-friendly, healthy and safe products and solutions for smart cities.





## EeB PPP - Main priorities



The EeB cPPP strategic research and innovation agenda is articulated along 3 main pillars, in line with the revised directive on EPBD:

Technologies for acceleration of building stock renovation

- through research on systemic, cost attractive, mass-customised, high-performing and minimally invasive solutions
- to multiply by at least 2 the yearly renovation rate by 2020 against the current renovation rate of 1.2 % of the overall building stock

Interactive and sustainable buildings embedded at district and city scale

- for energy neutrality/positivity, aiming for 10-15 % reduction in energy demand and GHG emissions at EU scale by 2020

Ensuring energy performance during service life

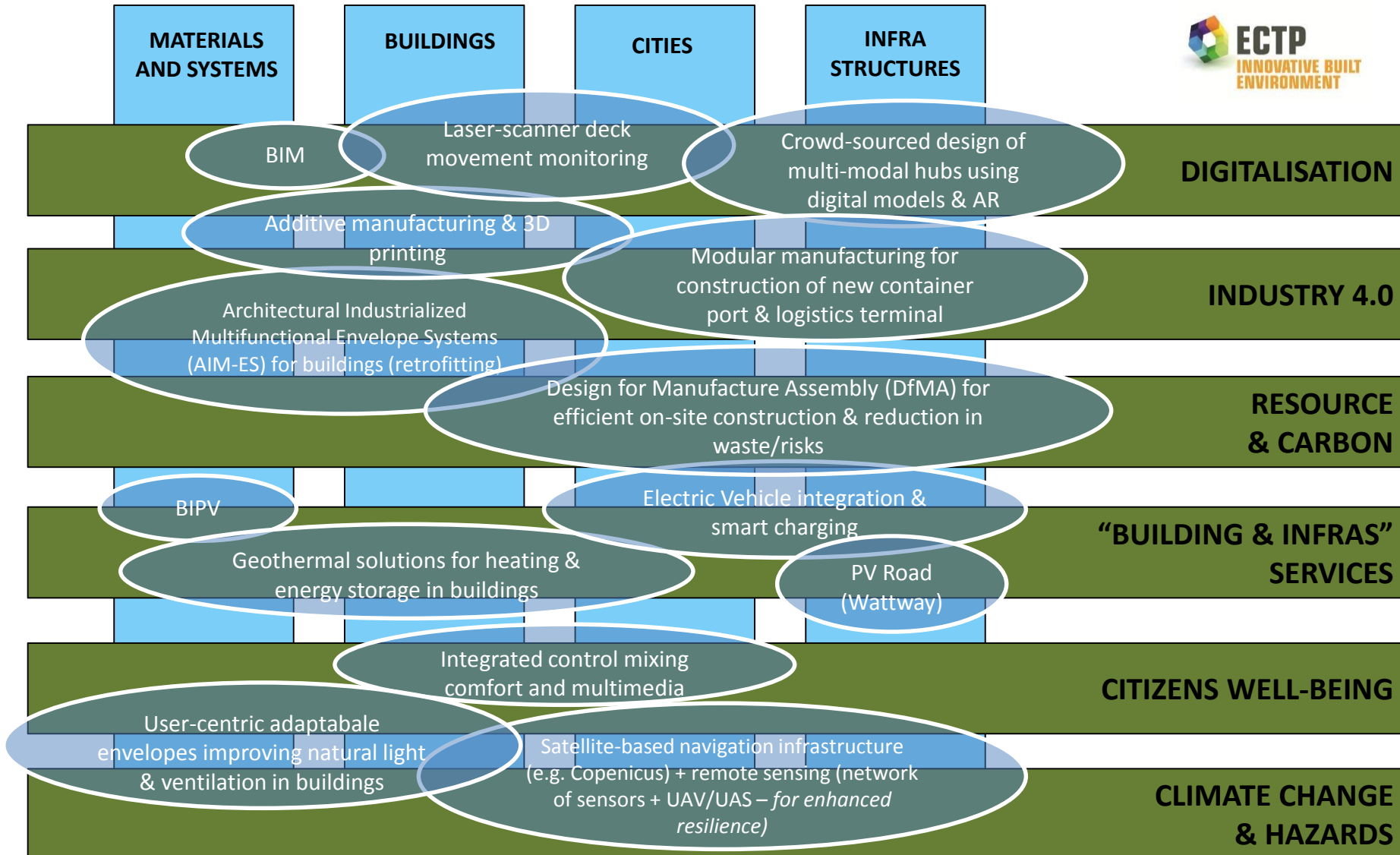
- developing novel solutions to ensure a long lasting performance and quality to the end-user as predicted at the design phase to the end-user.

### EeB PPP KPIs:

- 150 projects with 1000+ partners collaborating
- 150+ patents
- 55,000 people trained
- 450 pilots of innovative solutions
- 420 M€ private funds leveraged



## Construction & Built Env. - Samples of innovations







## The collaboration with MS and the role of the EeB PPP in the SET Plan

SET Plan (P. Cartuyvels, A. Zarli)

- *ECTP as stakeholder in both groups (besides Member States)*
- *The final 3.2 Implementation Plan:*
  - *largely influenced by the ECTP and the Positive-Energy Blocks concept*
  - *generalized to achieve research and innovation integration so as to Europe to become a global role model in integrated, innovative solutions for the planning, deployment, and replication of Positive Energy Districts*
  - *22 October (Brussels): Kick-off meeting for Implementation Plan on Smart Cities (follow-up of TWG 3.2)*
- *Implementation Plan for Action 5 - Energy Efficiency Solutions for Buildings:*
  - *Final version of the IP under request for approval*
    - *R&I Activity 5.1-1: **New materials for buildings***
    - *R&I Activity 5.1-2: **Prefabricated active modules for façades and roofs** or Key Enabling Technologies for **active building skins***
    - *R&I Activity 5.1-3: **Digital planning and operational optimization***
    - *R&I Activity 5.1-4: **Living labs - Energy technologies and solutions for decarbonized European quarters and Cities***
    - *R&I Activity 5.2-1: **Cost-efficient, intelligent, flexible heat pumps (also thermally driven) and heat pumps for high temperatures***
    - *R&I Activity 5.2-2: **Multi-source District Heating integrating renewable and recovered heat sources, higher temperature District Cooling and optimization of building heating system, to minimize the temperature levels in district heating networks***
    - *R&I Activity 5.2-3: **Cost reduction and increase in efficiency of micro CHP/CCHP***
    - *R&I Activity 5.2-4: **Compact thermal energy storage materials, components and systems***



## A cross-cutting initiative in synergy with Polish regions



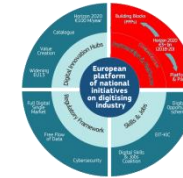
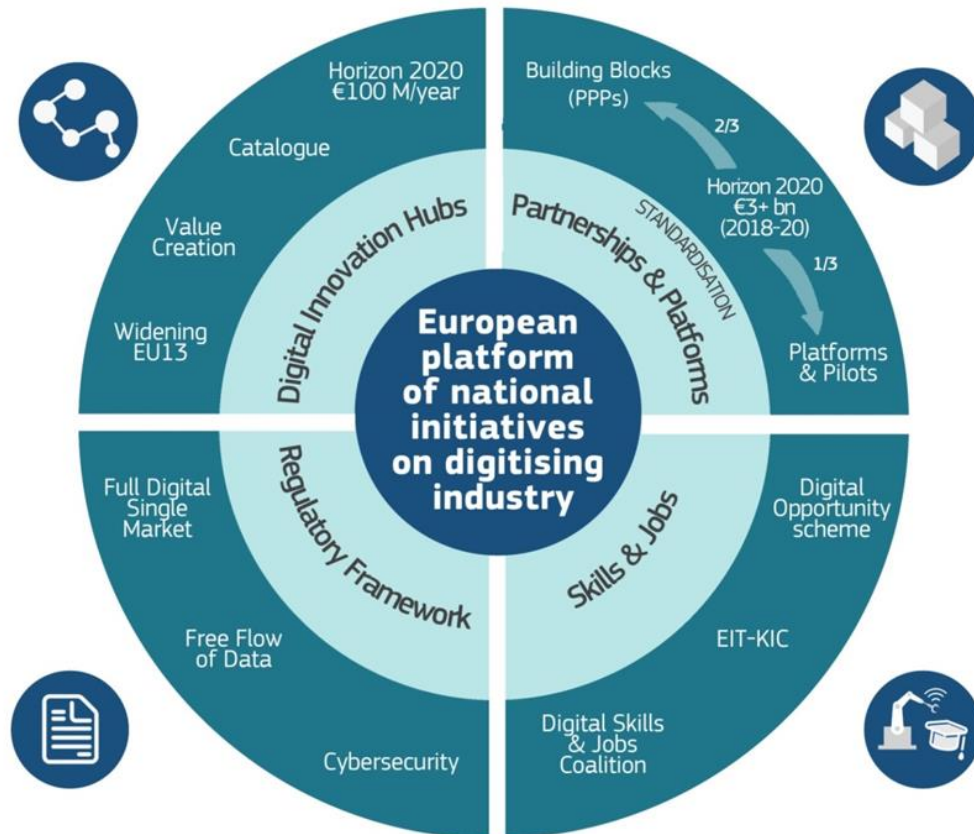
Letter of intent signed by ECTP and the Polish Regions to develop energetically positive, sustainable and citizens-friendly cities





## Generalising Digital Construction (1/2)

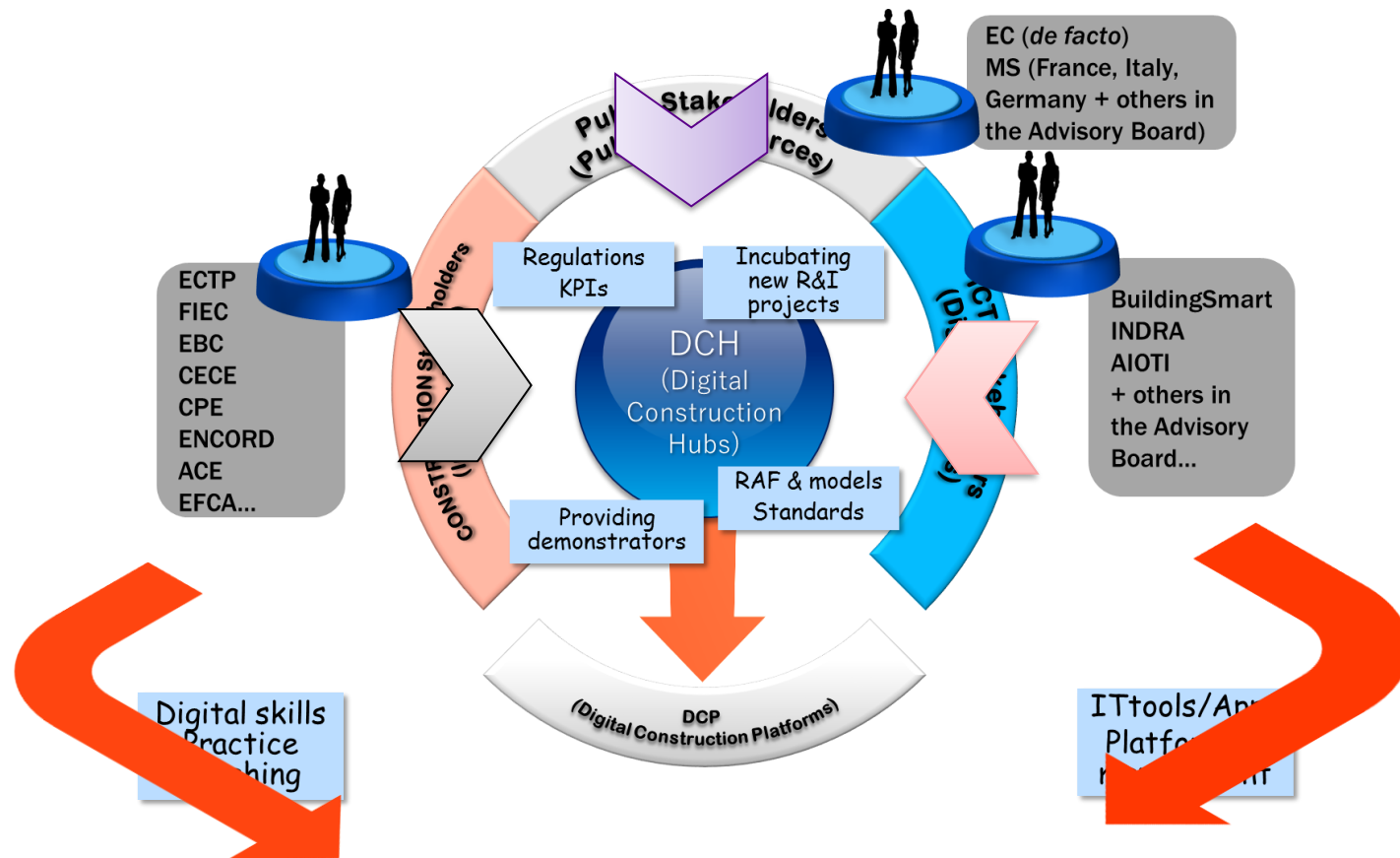
### Digitising European Industry Part of the Digital Single Market Policy



- European digital platforms in the Construction Industry: an approach linking DG Connect, the Member states and the Construction ecosystem
- Coordination & support activities to pave the way for future digital industrial platforms in the construction sector
  - *Major improvement potential in optimising resource use, environmental performance, health, comfort, and resilience to climate change*



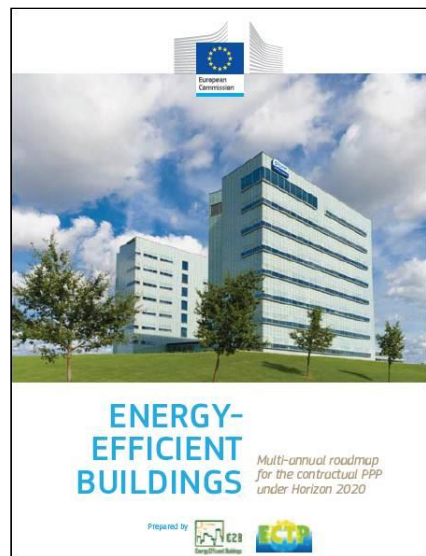
## Generalising Digital Construction (2/2)



## EeB PPP – A success story towards the future...



- **Vision turns to be reality:**
  - Positive energy buildings do exist
  - No valley of death for EeB PPP projects:
    - from research to implementation
- **An ongoing achievement:** turning the construction sector into a **knowledge based sustainable business** serving all European citizens in the context of a fully sustainable development.



HIKARI - 12 000 m<sup>2</sup> zero energy building in the Lyon-Confluence area in Lyon  
*Photography not to be used without prior authorisation*





## Considerations on PPPs & Co-programming



cPPPs already have a **fully transparent governance and monitoring process** - with KPIs, as defined in the context of the EeB cPPP, being continuously monitored, at least on a yearly basis.

**Co-design and endorsement by both private and public stakeholders of R&I priorities** from the cPPP open platform - taking into account a comprehensive vision from the industry the value chain, including RTOs, industry & SMEs.

**Endorsement of roadmaps at national level** (through NCP and/or smart specialization strategy e.g. RIS3) **and regional level** (regional authorities e.g. via the Committee of Regions)

cPPP: an **instrument to embrace the complexity of actors, challenges and innovation needs** in a comprehensive and systemic way – being a pan-European inclusive ecosystem: (RTOs, industrialists, owners, legislators, users associations, etc.), in a multi-disciplinarity and open approach

**Collaboration with MS**  
**(1)** Regular presentations & exchanges with MS/RCPs (at least 1-2 times/year – at Program Committee meetings)  
**(2)** Some MS may participate on a regular basis to the cPPP Partnership Board

**Links between cPPPs & other instruments (1/2):** common (elements of) roadmaps, synergies between instruments from cross sectors (e.g. urban with energy, transport, communication integration to anticipating future evolution of the urban environment)

**Framework for exchanges between the cPPPs and the different Directorates General of the European Commission**, allowing common approaches and shared objectives (and avoiding silos!) to be translated into future calls for projects which would reflect the necessary cross-disciplinary integration.

**Links between cPPPs & other instruments (2/2):** **(1)** at least 15% of the projects under the cPPPs umbrella should show collaboration with projects from other cPPPs.  
**(2)** Each cPPP should yearly deliver at least 3 'macro-deliverables', executed with at least one other cPPP.