Towards a Smart and Decarbonised Future for European Buildings: ECTP perspective

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ECTP in a nutshell

European Construction, built environment & energy-efficient buildings Technology Platform

Continuously nurturing an integrated vision, roadmap and development approach on challenges such as climate change, resources, efficiency & sustainable development for the Built Environment (buildings, infrastructures, utility networks...) and Construction sector.

- ECTP: AISBL legal entity, based in Brussels
- 150 member-organisations from the Construction sector and other sectors from the whole supply chain of the Built Environment.
- Main mission: develop new R&D&I strategies to improve competitiveness, meet societal needs & take up environmental challenges.

Cooperate ➔ Innovate ➔ Implement ➔ Impact
ECTP with 6 thematic Committees

INFRASTRUCTURE • MOBILITY
AN ECTP COMMITTEE

BUILT ENVIRONMENT DECARBONISATION
AN ECTP COMMITTEE FOR INNOVATIVE BUILT ENVIRONMENT

MATERIALS • SUSTAINABILITY
AN ECTP COMMITTEE

HERITAGE • REGENERATION
AN ECTP COMMITTEE

BUILT FOR LIFE
AN ECTP COMMITTEE

DIGITAL BUILT ENVIRONMENT
AN ECTP COMMITTEE
A policy cross-cutting initiative, addressing buildings climate-neutrality but also broadly speaking sustainability, reducing resource intensity and increasing recyclability, taking into consideration other policies relevant to buildings, including the need to preserve our European Cultural Heritage.

- **European partnership under Horizon Europe aiming to catalyse the transition to a people-centric, climate-neutral, sustainable and smart built environment**

**Scope:**
- Decarbonisation, sustainability and better living (Europe & beyond)
- Gather partners across the built environment value chain for a cleaner, safer, affordable, smarter, decarbonised & sustainable Built Environment

**Aim:**
Produce & deliver on the market holistic innovation
→ long-lasting transformations & behavioural change
→ deliver long-term goals set by the EGD

**Approach:**
- People-centric holistic innovation
- High quality architecture → low carbon, highly energy & resource efficient built environment
- Drive the societal and economic transition towards sustainability.

**Coordination:**
- EC: DG ENER Lead contact → co-creation process among 12 EC services responsible for the policies focusing on the BE: ENER.B2, B3, B5; RTD.D1; GROW.C1; ENV.B2; MOVE.B3; CLIMA.C1; CNECT.H5; EAC.D1, D2; EMPL.C3.
- Partners others than the EU:

https://www.ectp.org/built4people/
### 3 general objectives

**GO1**

**Generate holistic innovation in the built environment towards sustainability** by 2027/28

**GO2**

**Revitalise the sector through decarbonisation and sustainability transition** by 2030

**GO3**

**Induce lasting behavioural change towards sustainable living** by 2030

### 10 specific objectives

| SO1 | Develop holistic solutions that break “technological silos” in built environment, lower carbon and resource intensity and mainstreaming LCA-based approach |
| SO2 | Develop solutions that enable/increase interactions of building with networks or increase sectors integration |
| SO3 | Demonstrate profitability and job creation potential of new sustainable and circular business models |
| SO4 | Demonstrate sector decarbonisation pathways across all the players in the value chain |
| SO5 | Demonstrate industrialisation potential and economies of scale, as well as applicability to a large share of the EU buildings stock/infrastructure |
| SO6 | Develop strategies, methods and tools to adapt skills, culture and way of working to the opportunities arising from the new solutions |
| SO7 | Engage the whole value chain as well as policy makers and civil society in the design, development and implementation of the new solutions |
| SO8 | Orientate and demonstrate innovation to achieving outcomes for users in terms of functionality, comfort, convenience, accessibility, health, etc. |
| SO9 | Demonstrate safeguarding and promotion of architectural elements that represent cultural/historical value and heritage |
| SO10 | Develop strategies, solutions and tools to reduce time to market of the new technologies |

### 10 operational objectives

| OO1 | Cost-effective multi-functional and/or prefabricated holistic renovation packages |
| OO2 | Set of smart-grid ready and smart-network ready buildings acting as active utility nodes |
| OO3 | Tools and applications to facilitate a life cycle-based approach |
| OO4 | New design models for buildings, infrastructure, public spaces and efficient and resilient cultural heritage |
| OO5 | New protocols and approaches to zero-carbo construction and retrofitting and circular and bio-based economy |
| OO6 | New services from home and in the community, incl. solutions for healthier indoor and outdoor environment |
| OO7 | New solutions and tools for public and private (green) as well as new business/financing/risk mgt models |
| OO8 | Solutions for smart and responsive buildings exploiting an improved knowledge of user experience (BaaS) |
| OO9 | EU-wide open databases and digital Data Management Platforms on the performance of the built environment |
| OO10 | Innovation clusters/ecosystems integrated with the construction value chain and other sectors |
### KPI’s on general objectives

**GO1** Generate holistic innovation in the built environment towards sustainability

1. R&I investment in the sustainable built environment area catalysed by the partnership
2. # innovative products/services/processes linked to sustainability that are catalysed by the partnership and number of jobs created
3. Contribution to the successful deployment of relevant EU instruments and frameworks
4. # training programmes developed for the sustainable built environment

**GO2** Revitalise the sector through decarbonisation and sustainability transition

5. Energy savings (MWh)
6. GHG emission reduction (tCO2e) / Pollution reduction
7. Share of reused/recycled materials used in construction (%)
8. Share of buildings designed and constructed based on a life cycle approach.
9. # buildings with on-site RES production
10. # of workers trained on working methods and tools in the fields covering the B4P objectives
11. Share of the EU population living and working in green neighbourhoods
12. # of private and public building owners with sustainable behaviour in their building stock

### KPI’s on specific objectives

**SO1**

13. # demonstrated innovative solutions and packages for sustainable construction and renovation

**SO2**

14. # demonstrated innovative solutions for the sustainability of the built environment value chain

**SO3**

15. # innovative services developed and demonstrated

**SO4**

16. # living labs established and involved in the partnership’s projects

**SO5**

17. Total floor area and # buildings (residential or non-residential) directly involved in the partnership’s projects demonstration activities

**SO6**

18. # and type of heritage buildings involved in/enhanced by the partnership’s projects, in line with the safeguarding of the historical environment and architectural values of the building stock

**SO7**

19. # building occupants and users involved in the partnership’s projects demonstration activities

**SO8**

20. # people trained across the whole value chain in the deployment of innovative sustainable technologies, systems and methods
SmartBuilt4EU highlights

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement N° 956936.
SmartBuilt4EU in a nutshell

Support to the coordination of European smart buildings innovation community

- **Call: Building a low-carbon, climate resilient future: secure, clean and efficient energy**
- 01/10/2020 – 31/03/2023
- Duration: 30 months
- SmartBuilt4EU has supported the emergence of a smart buildings market in Europe. In addition to promoting exchanges between innovators, the project has coordinated a large stakeholder’s community in promoting and testing the Smart Readiness Indicator (SRI).
Main objectives & activities

• **Consolidate & support** the innovation ecosystem in the SB value chain
• **Reference and promote** key innovators and innovations in SB

- Consolidate findings into a SRIA
- Feed the design of future HEu calls on SB
- Recommendations to policy makers

• **Develop and test tools** to support the deployment of the SRI

1. **Mapping and consolidation of the Smart Building Innovation Community**
   - Referencing & promotion of innovators web-platform

4. **R&I roadmap and policy recommendations**
   - Strategic R&I agenda

2. **Knowledge sharing and supporting activities for the SBIC**
   - Setting up Task Forces & drafting of white papers, success stories, participation to major events

3. **Contribution to the promotion, experimentation and roll-out of the SRI as a base for the smart building business case**
   - Tools and coaching for the smart readiness indicator

5th activity: **communication & enhance visibility of the SBIC**

- **Collaborative work**
- **Break silos, share** information
- **Identify barriers, opportunities & best practices** for the further uptake of SB

Join the SBIC!
Key results and outcomes

**Brochure on Smart Buildings EU-funded innovations**
Success stories

**SRIA**
Policy Recommendations

**Co-benefit indicators**
Factsheets
Solution packages
Awareness sessions on SRI (recordings)

1. Mapping and consolidation of the Smart Building Innovation Community
   - Referencing & promotion of innovators web-platform

2. Knowledge sharing and supporting activities for the SBIC
   - Setting up Task Forces & drafting of white papers, success stories, participation to major events

3. Contribution to the promotion, experimentation and roll-out of the SRI as a base for the smart building business case
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4. R&I roadmap and policy recommendations
   - Strategic R&I agenda

5. 5th activity: communication & enhance visibility of the SBIC

12 White Papers
Brochure on Smart Buildings Future Technologies

Join the SBIC!

SRI not binding yet to EPBD
12 White papers – 4 Task forces

**TF1: Interactions with users**
- End user acceptance and attractiveness
- Occupant-centric building for enhanced quality of life
- Responsive end-user

**TF2: Efficient building operation**
- Interoperability
- Optimised building costs
- Smartness to reduce building’s environmental impacts

**TF3: Interactions with the external environment**
- Providing flexibility to power grids
- Smart building integration into multiple networks
- Data driven indicators

**TF4: Crosscutting issues**
- Smart financing & business models
- Data governance
- Education and upskilling

**BARRIERS**
- R&I gaps (R&D, demo, scaling up & industrialisation, awareness raising, regulation, certification & standardisation)

**DRIVERS**
- Policy Recommendations

**Strategic Research & Innovation Agenda**

White papers available [here](#).
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Policy Recommendations – overview of topics covered

1. Smart buildings data governance
2. Open data culture/framework
3. Dynamic building certificates (e.g. logbook)
4. National or local regulations supporting the smartening of the building stock
5. Interoperability of smart solutions and flexibility of smart buildings
6. SRI implementation support
7. Labelling of devices and building certification
8. Regulatory sandboxes
9. (Green) public procurement
10. Upskilling
Thank you for the attention!

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