

# Energy Efficient Buildings & NEB Matchmaking and Study Visit

11-13 MARCH 2026  
BRUSSELS

HORIZON  
europe

NCBR  
National Contact Point  
for EU Research Programmes

  
Industry  
Contact  
Point  
Low-emission  
Technologies  
and Clean Energy

NCBR  
National Centre for Research  
and Development

HORIZON  
europe

# 1 – My organization



- Private non-profit foundation from Catalonia
- 3rd largest technology centre in Spain in number of HE projects funded
- ≈ 850 researchers & professionals

## Contact:

**Digu Aruchamy**, EU Programme Manager.

[digu.aruchamy@eurecat.org](mailto:digu.aruchamy@eurecat.org) ; [www.eurecat.org](http://www.eurecat.org)

## Interdisciplinary integration



### Industrial Area

1. Advanced materials and new manufacturing processes
2. Functional printing and embedded devices
3. Collaborative and cognitive robotics
4. Functional textiles
5. Chemicals
6. Product innovation and multiphysics simulation



### Digital Area

1. Sensor systems and IoT
2. Quantum computing
3. Data science and analytics
4. Artificial intelligence
5. Cybersecurity
6. Multimedia technologies
7. Digital Health



### Biotechnology Area

1. Nutrition and health
2. Omic sciences
3. Biotechnology



### Sustainability Area

1. Water
2. Soil
3. Air
4. Energy
5. Waste
6. Environmental impact
7. Batteries
8. Climate change



**+ 200**

H2020 and Horizon Europe projects (2014-2025)

**+ 40**

Coordinated H2020 and Horizon Europe projects (2014-2025)

**+ 150**

Spanish companies in projects with Eurecat participation in 2025

**+ 600**

Large consortium R+D+I projects

**+100**

MEUR of return in H2020 and Horizon Europe (2014-2025)

**3.432**

Citations of our scientific publications by company researchers

## 2 – Project Idea

### HORIZON-CL5-2026-09-D4-01 : technical, social & economic factors impacting the energy performance of Smart Buildings

- **Idea:** AI Digital Twins for Smart Building Performance.
- **Innovation:** Autonomous 3D scanning and IoT data create high-fidelity digital twins linked to BIM for analysing performance gaps and occupant behaviour.
- **Impact:** Data-driven optimisation of HVAC and energy systems; 20–30% operational energy savings.
- **Demo building** – Eurecat’s Living Lab or a demo building as needed.

### HORIZON-CL5-2026-09-D4-02: Low disturbance prefabrication approaches for deep renovation of multi-storey buildings

- **Idea:** Robotic Plug-and-Play Deep Renovation for Occupied Buildings.
- **Innovation:** Scan-to-BIM digital twins and robotic façade installation translating drawings, point clouds and work orders into automated assembly tasks.
- **Impact:** Fast, precise retrofit of prefabricated components with minimal noise, dust and occupant disruption.
- **Demo building** – Eurecat’s Living Lab or a demo building as needed.

### HORIZON-NEB-2026-01-REGEN-01 - Sustainable, inclusive, affordable and beautiful solutions for thermal comfort in buildings

- **Idea:** Bio-based and Recycled Materials for Thermal Comfort in buildings.
- **Innovation:** Vitrimer-based bio-composites and recycled textile materials enabling passive and active thermal and acoustic comfort solutions.
- **Impact:** Improved indoor comfort with circular, affordable and aesthetically adaptable building materials.

# 3 – Expression of Interest

## Areas of Expertise that Eurecat can bring to project

- **AI and Digital Twins for building performance analysis**
- **Robotics for construction and renovation** (scan-to-BIM, robotic installation)
- **Advanced sustainable materials** (bio-based composites and recycled textile insulation)
- Integration of **BIM, sensing and building performance data**

## Eurecat Role / Contribution in projects

- **Technology provider** for AI building analytics and digital twins
- **Robotics solutions** for automated 3D capture and low-disturbance façade renovation
- **Development of sustainable thermal comfort materials** (Vitrimers composites & recycled textiles)
- **Eurecat living labs** pre-validation before pilots
- **Pilot buildings from Catalunya**

## Partners sought / Partners involved

- **Coordinators** preparing proposals under Built4People or NEB topics.
- **Prefabricated façade and modular renovation manufacturers.**
- **Construction companies** specialised in **deep renovation of multi-storey buildings.**
- **Architecture and engineering firms** with BIM and building design expertise.
- **Building owners / housing associations / facility managers** for demonstration sites.

# Thank you!

**Digu Aruchamy**

EU Programme Manager

[digu.aruchamy@eurecat.org](mailto:digu.aruchamy@eurecat.org)

[www.eurecat.org](http://www.eurecat.org)

