

Involved in national dynamics on all subjects relating to construction and interior design, the Carnot MECD Institute provides you with an R&D offer that anticipates energy, environmental and societal challenges of our time. The research carried out combines a multi-scale approach, from the material to the demonstrator.

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RELEVER LES DÉFIS DE L'INNOVATION DU SECTEUR DE LA CONSTRUCTION

Research themes in response to the challenges of the construction sector:

MECD Institute has the skills and resources to facilitate the transformation of the sector by stimulating the emergence of innovations through its research means and by supporting companies until they are placed on the market. MECD focuses its researches and provides support around 4 integrated and transversal strategic axes:

Sustainable construction: developing solutions for the future for energy efficient, sustainable, and resilient buildings and infrastructure(-circular economy, recycling, reuse and re-employment, bio-based materials, local and environmental impacts, performance approach, energy efficiency, resource management)

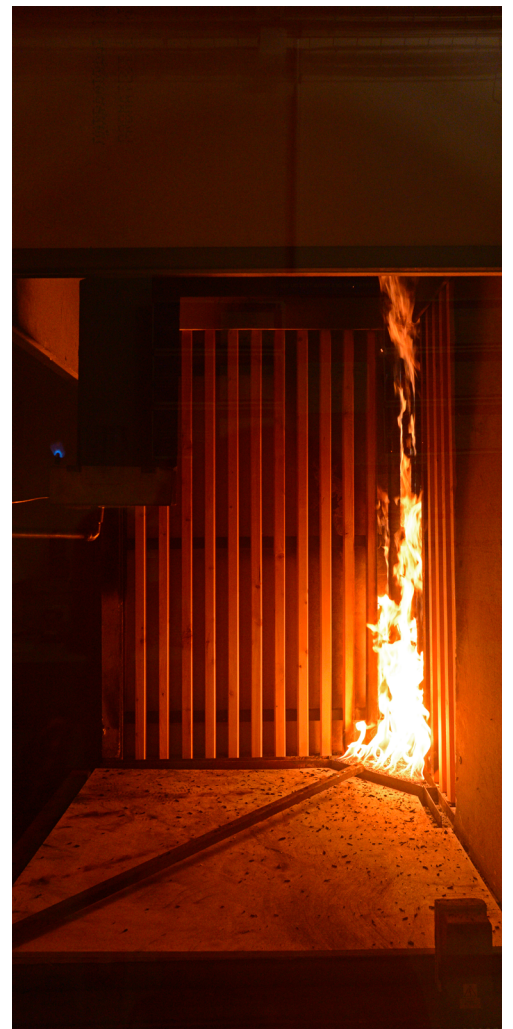
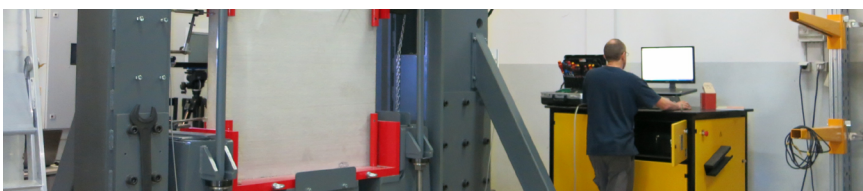
Multifunctional diversity: innovative design solutions using the mixed materials potential and respond to changing expectations, practices, and regulatory requirements

Industry of the future and digitisation: support the digital transformation of the construction sector, from design to predictive maintenance, including the industry of the future (digital tools and modelling software, Immersive reality, digitization of manufacturing processes (traceability, EDI, ...), technology transfer and execution operators of prefabrication (logistics, assembly, implementation, security)

Implementation process, exploitation, and use: address expectations, perspectives and practices of experts and users and take them into account when setting up implemented

Target markets

- Construction: building and civil engineering structure
- Furniture
- Indoor or outdoor furniture





Offer and skills

MECD differs from research organization in R&D ecosystem under construction by:

- A Great proximity to construction companies, from manufacturing to implementation (SMES in particular)
- A Territorial coverage
- An Expertise across TRL scale, leading to innovation for industries.
- Tests and modelling facilities covering all types of requirements.
- A multi-scale approach, from the material (including the process) to the demonstrator.
- A valorisation of research results.

Significant test means for research

- Mechanical testing platforms (static, seismic, strength/reaction to fire), fire tests,
- Physical testing platforms of building (acoustics, thermal, sealing, indoor air quality, etc.)
- Micro-characterization platforms (chemical tests, SEM, DRX, etc.)
- FABLAB (prototyping, 3 D printing, etc.)
- Use observatory platform

Key figures

Permanent staff
(full-time equivalent): 140
PhD Students: 65

Partnership incomes
with industry: €5,3M
Global budget: €17,9M

Contacts

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