



The Open Innovation Test Bed

Contents

This is the fourth edition of the newsletter related to the LightCoce Project. This issue is dedicated to an overview of the Open Innovation Test Beds. Starting from the topics discussed in the Lightweight OITB Event, held on the 27th of November 2020, the main challenges, purposes, and opportunities of this innovative framework are addressed. Moreover, a summary of the dissemination activities run by the partners is made and the main advances made by the project are stated.

- [An Innovative Framework](#)
- [LightCoce Numbers](#)
- [Breaking News](#)
- [Contacts](#)





What is LightCoce project?

LightCoce is a research project funded by the European Community under the H2020 program, with the aim of creating an ecosystem of business innovation capable of upscaling and testing new multifunctional lightweight materials for SMEs.



How LightCoce helps you overcome complex standards and regulations?

Standardization and regulatory compliance are key issues for further exploitation and commercialization of innovations. Testing will be in alignment with international standards (CEN, ISO, ASTM, etc.) and regulatory framework aiming to develop products towards EU standards.



Which is the target market of LightCoce?

LightCoce can address different types of customers such as: Banks, Funds / Investors, Incubators / Accelerators Public Bodies and Owners of Infrastructures Research Institutes / Universities, Large Enterprises, SMEs, Startup / New Ventures Industrial Associations or Groups Raw Materials Providers.



Do you need to innovate your business?

Innovation services are open access under specific fees to all parties, such as: development of business model, marketability assessment, suggesting technology to enable your value proposition or embodying it in a product / service in favour of the user, ensuring the proper protection of the IP developed and identifying the funding opportunities at local or EU scale.



Can large-scale modeling help you evaluate new opportunities?

The Modeling Group focuses on process modeling and simulation through the development of holistic models of processes through multi-scale modeling of materials and unitary operations. Moreover, predictive modeling at different levels will be implemented to generate a chain of models that lead to full-scale simulation of real structures, to evaluate the overall performance of solutions at a global level.



Which professionals can benefit from LightCoce services?

The relevant reference markets are different, such as: Construction Industry, Bricks and Tiles Industry, Aerospace Industry, Automotive Industry, Defense Industry.

The Open Innovation Test Bed

An Innovative Framework

The second clustering event of the Lightweight OITB, held on the 27th of November 2020,

represented an interesting opportunity to discuss several issues related to the innovative approaches among various European Projects. Together, members of LightCoce discussed with representatives from LightMe, LEEBED, and Oasis the various progress on the OITB issues related to their projects.

In the Horizon 2020 framework on advanced lightweight materials, particular relevance is assumed by **open innovation testbeds (OITB)**. These test beds represent **a set of entities**, established among the Member States or other Associated Countries, **that should be able to provide common access to physical facilities, capabilities, and services that are needed in order to develop, test, and upscale nanotechnology and advanced lightweight materials in the industrial environments**. In practice, they represent the principal way to materialize ideas in which the LightCoce project is interested.

The main objective of the OITBs is to bring that innovation within the reach of companies and users, by advancing from validation in a laboratory to prototypes in industrial environments. They represent **a valuable way to accelerate the innovation process**, creating an interface between the EU, the regulations, and the customers. In this

scenario, LightCoce represents a significant project since it aims to build an Ecosystem for the up-scaling of lightweight multi-functional concrete and ceramic materials and structures.

When we examine the innovation system, we have to consider that we work in speed and complex environments. The starting point of view is the one related to the fact that before any commercialization of new technologies, their testing and validation are essential in order to safely accelerate technology diffusion and properly access to markets, in particular for the case of the emerging ones. In this context, Open Innovation means that any interested user, not only in Europe, but also beyond, can directly access the facilities, capabilities, and services of the Test Beds. This can happen independently from the fact that the users are part of the OITB Horizon 2020 consortium or not, granting access at fair conditions and pricing, emphasizing mutual obligation in order to carry on transparent relationships with particular regard to security, safety, and intellectual property rights.

Potential clients

Banks, Funds/Investors, Incubators/Accelerators
Public Bodies and Owners of Infrastructures
Research institutes/Universities
Large Enterprises, SMEs, Startup/New ventures
Industrial Associations or Groups
Raw Materials Providers

Users' ideas

from
Constructions industry
Bricks and tiles industry
Aerospace industry
Automotive industry
Defence industry

Services

Innovation Management

Innovation Management
Business plan
Technology transfer
Marketability

Data Management

Data mapping
Data handling
Data storage

Stand., Reg. Safety & Env. Assessment

Pre-normative research
Compliance with standards
and regulations
H&S and NanoSafety

Process & materials

Materials modelling
Process optimization
Simulation

Characterisation

Process parameters
Structural/Morphological,
Thermal, Mechanical
& Functional properties



PL1 - Smart lightweight concrete and components



PL2 - Cellular lightweight concrete



PL3 - Pressed ceramics



PL4 - Extruded lightweight ceramics



PL5 - Spark plasma sintering

LightCoce Ecosystem

Pilot Lines

1

2

3

4

5



The Open Innovation Test Bed

Advisory board
Well-established entities
in the field of technology and
innovation management

Management board
Representatives from all groups
and all core partners
of the ecosystem

Single Entry Point
Non-Profit Organization

The Scope

Considering Open Innovation Test Beds, the European Commission identified as main purpose the open access to facilities and services for design, development (prototyping), testing, and upscaling materials and nanotechnologies for new products.

The idea is to put the ability to create value before the opportunity to make profits, enhancing new partnerships with complementary and interdisciplinary skills, and unlocking potential in long-lasting relationships. This aspect assumes a particularly relevant role also in the Covid-19 crisis in order to preserve an open-minded attitude that can help companies to stay on top of innovation after the crisis.

According to the materials provided by the European Commission, additional scopes of the OITB are related to the demonstration in the relevant industrial environments and the show-casing technologies with user industry in cross border applications, facilitating the access of EU SMEs among the value chain of the product. In addition, identifying and assessing regulatory, economic, and technical barriers that can potentially affect innovation, OITB will engage different stakeholders across European Countries and Associated ones.

The expected impact of the OITB is supposed to be related to the process of opening and upgrading European facilities, to the

reduction of the costs of service access for the companies that will use the test beds, and to an improvement in productivity. Overall, other impactful initiatives may be related to the acceleration of innovation in the specific domain and to an increasing access to finance for investing in nanotechnology and advances materials or in their application within the process and other projects.

This access-related aspect assumes relevance in particular for SMEs, with an expected 20% increase in SMEs' access to OITB's services and to finance for investing in these materials.

Users will be able to receive information complete and transparent, via a Single Entry Point (SEP) which will represent the main contact for the ecosystem but also the main interface with the users. This Single Entry Point will act as a legal entity with the power to sign contracts on behalf of the OITB and be considered accountable for it.

Sources:

Dahlander L., Wallin M. Why Now Is the Time for "Open Innovation". *Harvard Business Review*. June 2020.
<https://hbr.org/2020/06/why-now-is-the-time-for-open-innovation>

European Commission. *Building an Open Innovation Eco-system*. EuroNanoForum. Bucharest 13 June 2019

European Commission. *Open Innovation Test Beds Guidelines for Internal Management and Access Conditions*. Work Programme 2018-2020. May 2018

11

Million euro granted

04

Projects founded under this program

09

EU countries

08

Test cases

26

Industrial and RTO partners

05

Pilot lines

Breaking News



LightCoce on ResearchGate

The page of the LightCoce Project is online on the ResearchGate Portal. The first five articles related to the up-scaling of lightweight multi-functional concrete and ceramic materials and structures have been uploaded on the Portal and can be consulted online.

For more information and for access to the articles published:
<https://www.researchgate.net/project/LightCoce-Building-an-Ecosystem-for-the-up-scaling-of-lightweight-multi-functional-concrete-and-ceramic-materials-and-structures>



First LightCoce Internal WorkShop

On Tuesday the 17th of November, the first LightCoce internal workshop took place. The topic of the discussion was “Collaboration Management” and the activities have been moderated by ISQ which is responsible for the training within the Project.

It has been an interesting chance for all the consortium partners to foster their skills and to improve their ability on working together on open innovation issues!



The Lightweight OITB Event

On Thursday 27th of November, the National Technical University of Athens, Axia Innovation, UniSMART, and Sustainable Innovations represented the LightCoce project at the 2nd Clustering online Event of Lightweight OITB, together with members of other European Projects as LightMe, LEEBED, and Oasis. Topics of the discussion have been the Progress on SEP structure, Business models and Business Plans of OITB, Best practices for IPR handling and pricing policy, OITBs Open Calls and Mitigation plans for COVID related issue.



Lightcoce on Construction and Building Materials

A new article related to the LightCoce project has been published in September 2020 in the international academic journal Construction and Building Materials. The article aims to investigate extensive cracking in concrete and the way in which impact the durability and the performance of the material over time. Through multi-wall carbon nanotubes, the concrete's overall electrical conductivity is increased via self-sensing, enabling internal structure condition monitoring.

The article can be found as:
Suchorzewski, J. Prieto, M., & Mueller, U. (2020). “An experimental study of self-sensing concrete enhanced with multi-wall carbon nanotubes in wedge splitting test and DIC”. *Construction and Building Materials*. 262.120871.

Welcome to LightCoce partners 4 / 26 - fourth group



Ł-INOP

The Instytut Obróbki Plastycznej – INOP performs research, development, implementation activities and participates in national and international projects on non-metallurgical metal forming. The Institute has well experienced staff supported with advanced computer systems, as well as modern scientific and investigation facilities. The high quality of the investigation and development works is ensured by the Quality Management System and the Accredited Investigation Laboratory.

Contact info:

www.inop.poznan.pl
inop@inop.poznan.pl



ISQ

The Instituto de Soldadura e Qualidade is an independent, private, non-profit, technical, scientific and industrial oriented organization founded in 1965, with international presence in 4 continents. ISQ main activities include technical inspections, consultancy, testing, metrology, training and research, development and innovation. These activities cover a wide range of technical areas such as materials, structural integrity, risk assessment, sustainability, eco and energy efficiency, health and safety, quality assurance, production technologies, industrial automation and robotics.

Contact info:

www.isq.pt
info@isq.pt



ITC-AICE

The Ceramic Industry Research Association is a Private non-profit Research Institute recognized by the Spanish Ministry of Economy and Competitiveness as Technology Centre. The competence attained through ITC-AICE's wide-ranging research activity enables to extend its field of action to other types of processes and materials. ITC-AICE works in the field of ceramic processing, energy efficiency, and industry's environmental impact minimization, as well as in the functionalisation of ceramic surfaces and in the achievement of new technical performance and aesthetic features of products related to the habitat hyper-sector and other industries, such as high-tech tools advanced ceramics, automotive or petrochemical sectors.

Contact info:

www.itc.uji.es
itc@itc.uji.es



KERABEN GRUPO

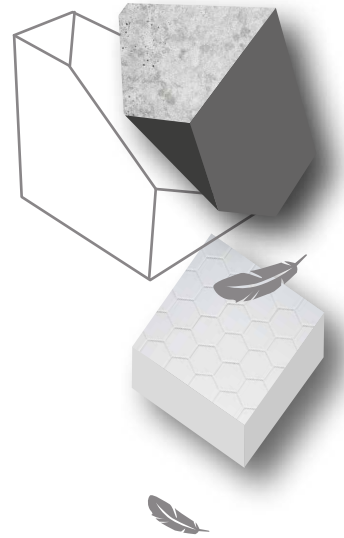
KERABEN

KERABEN GRUPO SAU is a Spanish company, devoted to the manufacturing of ceramic tiles. KERABEN enjoys a leading position in the sector of premium ceramic solutions, delivering top quality products with a notable design component at the middle-to-high-end segment. The finest raw materials, cutting-edge ceramic tile technology and the commitment to excellence shown by our team of professionals are the finest guarantees for our consistently outstanding quality. Technology and Innovation are some of the main cornerstones of Keraben's competitive strategy.

Contact info:

www.kerabengrupo.com
marketing@kerabengrupo.com

Inspiration



**“The secret of change is to focus all
of your energy not on fighting the old,
but building on the new”**

Socrates

Connect with us!

Are you eager to know more
about the state of the art of lightweight
concrete and ceramics?

Are you a professional or a company
providing services that LightCoce
might need?

Are you an expert in the field
of lightweight materials?

Contact us to share your
feedbacks and ideas
on this page:
info@lightcoce-oitb.eu



www.lightcoce-oitb.eu



@lightcoce



@lightcoce



LightCoce Project

Project Coordinator:

Maria Taxiarchou
taxiarh@metal.ntua.gr



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 814632.

LightCoce Newsletter n° 4
December 2020