

## High Efficiency Light Panel (HELP), a new wood-base panels system.



The aim of the project is to develop a construction system known as High Efficiency Light Panel (HELP). Consists of a set of innovative solutions based on a mixture of lightweight timber framing and cross laminated timber (CLT), for the manufacture of "Zero Emission" walls, slabs and roofs.

There is an improvement of the structural capacity of the construction system that allows more height (3-4 floors) than with the traditional lightweight building. The positioning of a three-layer or CLT board on the inside of the walls acts directly as a vapour barrier, saving the cost of installation.

The new building solutions are based on wooden or wood-base panels which will be subjected to tests, analytical calculations and numerical approximations for their structural, thermal, acoustic, watertight and fire resistance characterization. In addition, its environmental characterization (CO<sub>2</sub>, reutilization) will be carried out.

A solution with the new construction system has been defined for use in slabs, walls and roofs. Spreadsheets have been developed to obtain thermal transmissivity, surface and interstitial condensations, sound absorption and structural capacity.

## DETAILS

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### ORIGIN OF WOOD

Forest

### TYPE OF WOOD

Stemwood

### KIND OF WOOD CONCERNED

Sawn timber, KVH

### IMPACT ON ENVIRONMENT & BIODIVERSITY

Positive

### INCOME EFFECT

Positive: decreased building time

### EXPLOITATION POTENTIAL

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### HUB

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### ECONOMIC IMPACT

Increase of the load-bearing capacity of the building by 30% approximately

### SPECIFIC KNOWLEDGE NEEDED

High knowledge needed about similar construction systems

### MOBILIZATION POTENTIAL

10-20 m<sup>3</sup> / house

### SUSTAINABILITY POTENTIAL - VALUE

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### EASE OF IMPLEMENTATION

Medium

### EASE OF IMPLEMENTATION - EVALUATION

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### KEY PREREQUISITES

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### TYPE OF EVENT WHERE THIS BPI HAS BEEN FEATURED

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### JOB EFFECT

Positive: increased efficiency of materials

### COSTS OF IMPLEMENTATION ( EURO - € )

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## MORE DETAILS

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### CHALLENGE ADDRESSED

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### KEYWORDS

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### COUNTRY OF ORIGIN

Spain

### DOMAIN

Wood construction industry

### DIGITAL SOLUTION

No

### SCALE OF APPLICATION

National

### TYPE OF SOLUTION

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### INNOVATION

Yes

### START AND END YEAR

2017 - 2018

## REFERENCES AND RESOURCES

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### MAIN WEBSITE

<http://www.mabitat.es>

### PROJECT WEBSITE

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### PROJECT REFERENCE

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### RESOURCES

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**PROJECT UNDER WHICH THIS FACTSHEET HAS BEEN CREATED**

Rosewood

**POST DATE**

13 Sep 2019

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