

## 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.

## DETALLES

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### ORIGEN DE LA MADERA

Bosque

### TIPO DE MADERA

Madera en rollo

### POTENCIAL DE MOVILIZACIÓN

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

### POTENCIAL DE SOSTENIBILIDAD - VALOR

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### TIPO DE MADERA AFECTADA

Sawn timber, KVH

### FACILIDAD DE APLICACIÓN

Medium

### IMPACTO EN EL MEDIO AMBIENTE Y LA BIODIVERSIDAD

Positive

### FACILIDAD DE IMPLEMENTACIÓN - EVALUACIÓN

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### EFFECTO SOBRE LOS INGRESOS

Positive: decreased building time

### PREREQUISITOS CLAVE

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### POTENCIAL DE EXPLOTACIÓN

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### TIPO DE EVENTO EN EL QUE SE HA PRESENTADO ESTA IFS

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### HUB

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### EFFECTO SOBRE EL EMPLEO

Positive: increased efficiency of materials

### IMPACTO ECONÓMICO

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

### COSTES DE IMPLEMENTACIÓN (EURO - €)

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### CONOCIMIENTOS ESPECÍFICOS NECESARIOS

High knowledge needed about similar construction systems

## MÁS DETALLES

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### RETO ABORDADO

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### PALABRAS CLAVE

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### PAÍS DE ORIGEN

España

### DOMINIO

Industria de la construcción con madera

### SOLUCIÓN DIGITAL

No

### ESCALA DE APLICACIÓN

Nacional

### TIPO DE SOLUCIÓN

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### INNOVACIÓN

Si

### AÑO DE INICIO Y FIN

2017 - 2018

## REFERENCES AND RESOURCES

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### SITIO WEB PRINCIPAL

<http://www.mabitat.es>

### SITIO WEB DEL PROYECTO

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### REFERENCIA DEL PROYECTO

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### RECURSOS

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PROYECTO BAJO EL QUE SE HA CREADO ESTA FICHA

Rosewood

FECHA DE MENSAJE

13 Sep 2019

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