
**Start** October 1, 2017
**Project duration** 36 months
**Total budget** 1,289,434 €
**EU Contribution** 773,660€

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**Project LIFE16 ENV/ES/000254**
Co-funded by the LIFE Programme of the European Union

The LIFE-Repolyuse project has managed to develop a new construction material (removable gypsum ceilings tiles), which incorporates in its composition polyurethane waste (PUR and PIR) from different industries.

All the tests indicated by the sector's regulations have been carried out: Flexural resistance, thermal conductivity, surface hardness, reaction to fire, moisture content and acoustic absorption test, to certify the technical viability of the new prefabricated product. The results obtained in the different tests have concluded that the new prefabricated product complies with the established commercial standards.

The new material has also obtained the CE mark, which proves that the product has been evaluated and that it complies with the safety, health and environmental protection requirements of the European Union. This marking is necessary for those products that are placed on the market within the EEA (European Economic Area).

**Benefits of this new material**

The lower weight of Life-Repolyuse tiles compared to a standard tile (28%), constructively involves a decrease in the weight of the false ceiling in which it is to be placed, which implies the possible reduction of the load-bearing structure of the same (less material to be used / less cost). It also allows increasing the performance in the placement of the tiles (as they are lighter, the operator can work faster). The weight of transport from the factory to the building site consequently is also reduced, bringing a reduced to the environmental impact.

Also, having achieved an A1 classification in the reaction to fire tests (UNE-EN ISO 1182:20114 and UNE-EN ISO 1716:20115), it allows to compete in better conditions with market products of this type, since there are similar products in terms of insulating properties (thermal and acoustic) and lightness, with a worse classification of reaction to fire according to the Eurocode.

December 2019

## Project's progress

**Demo-Sites**

The Project defines the implementation of the new gypsum-polyurethane tiles in three Demo-Site, two of them located in Spain (Burgos and Álava) and a third one in the United Kingdom (Coventry).The Demo-Site are being monitored to check the variations in temperature and humidity (comfort measure) that the new material can provide.Monitoring phases:

• Placement of sensors and calibration of the equipment
• Measurement on the standard ceiling for 10-12 months.
• Placement of the gypsum-polyurethane tiles.
• Measurement in the ceiling with gypsum-polyurethane tiles for 10-12 months

**Demo-Site Burgos (Spain)**

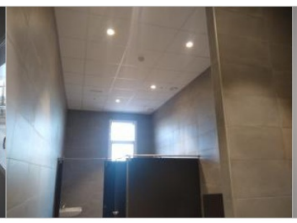
In the month of July, the gypsum tiles of the recordable ceilings of the Demo-site of the University of Burgos have been replaced by the new ones defined in the LIFE-REPOLYUSE project, and which have been manufactured by the company Yesyforma. The demonstrator has an approximate area of 350 m2 and is located on the second floor of the EPS (Milanera), in different areas of the Department of Architectural and Engineering Building and Land.

From this moment, the last phase of the Demo-site has begun, which involves measuring different comfort parameters in the rooms where these new tiles have been placed



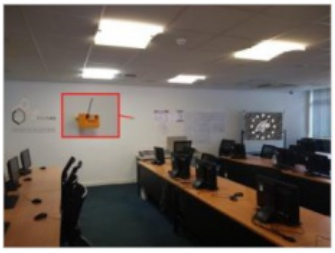
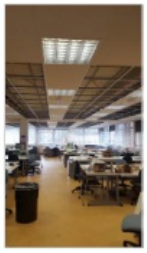
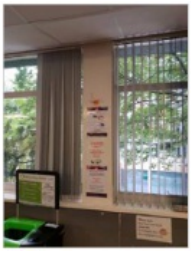
**Demo-Site Álava (Spain)**

In December, the company Tecsa and the University of Burgos, in collaboration with the service company Bjäland, started the monitoring of the second Demo-Site of the LIFE-REPOLYUSE Project in the facilities of the Miñano Technology Park in Vitoria (Spain). During 12 months, environmental parameters, of several spaces in the building will be captured, monitoring areas with "standard" false ceilings and areas with "LIFE REPOLYUSE" false ceilings, with the aim of simultaneously comparing the comfort conditions in the spaces built with the two types of materials.


**Demo-Site Coventry (UK)**

The Demonstration Site is located on the first floor of the Sir John Laing building at Coventry University and covers an area of approximately 400m2. The areas chosen are two technical computing rooms, some office space and the architectural studio. The traditional tiles are currently being monitored in order to make a comparison with the new product developed in the project.During the next month of January 2020, the new ceiling tiles developed in the project and manufactured by Yesyforma will be installed.


# Events

## Monitoring of the demo-site of Vitoria

On 27 December 2019, the monitoring environment was successfully installed in the facilities of the Technology Park of Miñano, Vitoria (Spain). The company Tecsa and the University of Burgos, in collaboration with the service company Bjäland have started the monitoring of the third Demo-Site of the LIFE-REPOLYUSE Project in the facilities of the Technology Park of Miñano in Vitoria (Spain). …

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## The European Life-Repolyuse Project promotes research and recycling among primary school students

Fifty students from the 1st year of Primary Education (6 years old) of the Colegio Niño Jesús visited the Milanera Campus of the Higher Polytechnic School to participate in the educational activities of the European Project Life-Repolyuse "REcovery of POLYurethane for reUSE in eco-efficient materials" of the Research Group in Building Engineering (GIIE) of the University of Burgos. In addition to …

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## Build your sustainable house

On November 16, the workshop "Build your sustainable house" was held at the Public Library of Villadiego (Burgos), with 25 children between 2 and 9 years old. The activity aims to make children aware of the importance of using sustainable materials, manufacturing recycled plasterboards from different industrial waste, and learning different practical ways of using waste materials. The workshop, is …

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## European Researchers Night

The UBU Building Engineering Research Group took part in the European Night of Researchers in order to disseminate the Life-Repolyuse project. The project researchers offered workshops where children from 4 to 10 years learned to develop a new construction material with industrial waste. The SUSKIDS project was also presented, which seeks to educate people with Down Syndrome in the field …

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## Visit to the Demo-site of Coventry

This summer Gorka Arteta how representative of the TECSA company in the Life-Repolyuse Project, has been at Coventry University with Abdullahi Ahmed, visiting the DEMO-SITE where the new false ceiling tiles designed in the project and produced by Yesyforma will be installed. Traditional tiles are currently being monitored in order to make a comparison against the new product developed in the …

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## Placement of the new gypsum tiles in the Demo-site of the UBU


In the month of July, the gypsum tiles of the recordable ceilings of the Demo-site of the University of Burgos have been replaced by the new ones defined in the LIFE-REPOLYUSE project, and which have been manufactured by the company Yesyforma. The demonstrator has an approximate area of 350 m2 and is located on the second floor of the EPS …

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## UBU at the XLVI General Assembly of Atedy

Carlos Junco Petremet, member of the GIIE of the University of Burgos, attended the XLVI General Assembly of ATEDY, held in Madrid on May 20,


2019, in order to present the Life-Repolyuse Project to its partners. ATEDY is the Technical and Business Association of Gypsum, born in 1973, is formed by Spanish manufacturers of plasters, gypsums and its prefabricated (such …

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## X Congress of Young Researchers in Polymers


Raúl Gómez Rojo researcher at Life-Repolyuse presented the paper entitled "Characterization of polyurethane foam waste for reuse in eco-efficient building materials" at the X Congress of Young Researchers in Polymers

Read more.


## Workshop with the children of 3rd year early childhood education of the School Rio Arlanzón in Burgos

The students of 3rd year early childhood education (5-6 years) from the School Rio Arlanzón, have visited the Polytechnic School to know the work that is being done in the Research Group in Building Engineering (GIIE) of the University of Burgos within the European Project LIFE-REPOLYUSE "REcovery of POLYurethane for reuse in eco-efficient materials". The objective and purpose of this …

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## Life-Repolyuse at the International Conference "Save the Planet"


The UBU presented the Life-Repolyuse project at the 10th International Exhibition and Conference on Energy Efficiency and Renewable Energies "Save the Planet-Waste Management and Recycling" in Sofia (Bulgaria). Save the Planet is an event for technology and knowledge providers in the field of energy efficiency and renewable energies in Southeast Europe. This year the subject revolved around the premise that

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## News

The European Life-Repolyuse Project promotes research and recycling among primary school students

Posted on December 13, 2019 by ubu.es

Research approaches the students of Primary

Posted on December 13, 2019 by diariodeburgos.es

European Researchers Night

Posted on September 30, 2019 by ubu.es

The “little ones” learn what it’s recycling

Posted on May 16, 2019 by ubu.es

Life-Repolyuse at the International Conference “Save the Planet”

Posted on May 09, 2019 by ubu.es