

R&D PROJECT



Title of the project

Bringing down costs of BIPV multifunctional solutions and processes along the value chain, enabling widespread nZEBs implementation

Acronym

BIPVBOOST

Contents of the project

Building-integrated photovoltaic (BIPV) technology has the potential to significantly contribute to the achievement of the demanding energy efficiency targets set by the EU. However, its market uptake has been hindered in the past years by the difficulties of the industry in providing holistic solutions complying with key demands from decision makers and end-users. In this sense, it is a common perception that a joint industrial effort is needed to conceive and develop highly-efficient and multifunctional energy producing construction materials, in order to provide market opportunities at a world-wide level for the European photovoltaic and construction industry value chains. This market deployment depends critically on the achievement of **ambitious targets** in terms of **significant cost reduction, flexibility of design, high performance, reliability in the long-term, aesthetics, standardization and compliance with legal regulations**.

General objectives

The main objective of BIPVBOOST project is to bring down the cost of multifunctional building-integrated photovoltaic (BIPV) systems, limiting the additional cost with respect to traditional, non-PV, construction solutions and non-integrated PV modules, through an effective implementation of short and medium-term cost reduction roadmaps addressing the whole BIPV value chain and demonstration of the contribution of the technology towards mass realization of nearly Zero Energy Buildings (nZEBs).

Project demonstrators

COMSA has led WP8, related to the demonstration at large-scale level of the five multifunctional BIPV solutions in four existing buildings, coordinating the design, manufacturing and execution of the prototypes, and the analysis and assessment of the results. The innovative multifunctional BIPV solutions developed and demonstrated at large scale in the project are:

- Glass-glass bifacial modules on balustrades.
- Glass-glass back contact modules from automated tabber on walkable floor.
- Glass-glass c-Si modules with different configurations and innovative façade structure on ventilated façade. The modules have been manufactured in the innovative flexible automated tabber.
- CIGS modules and innovative roof structure on roof retrofitting.
- Multifunctional BIPV elements with integrated insulation on opaque cladding.



Project results

After a monitoring period of one year, a final assessment of the influence of the five innovative BIPV solutions on the energy balance of the building has been developed, the life cycle analysis has been carried out, and the cost reduction obtained in the project has been analyzed. The results obtained have met all the project objectives in terms of cost, efficiency and sustainability to promote the massive implementation of BIPV in the market, except for the solution with CIGS modules, whose final material cost has been higher than initially planned.

PROJECT WEBSITE

<https://bipvboost.eu/>

PROJECT PARTNERS



COMSA BUSSINESS AREAS

Technical area
COMSA CORPORACIÓN
COMSA INDUSTRIAL
COMSA SAU

COMSA COORDINATOR

Merche Polo Carbayo (COMSA CORP)

PROJECT DURATION

2018-2023

PROJECT BUDGET

11.434.538,75 €

COMSA's BUDGET

340.625,00 €

KEYWORDS

BIPV, integration in buildings, cost reduction, nZEB, value chain

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