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Building-integrated photovoltaic technologies and systems for large-scale market deployment

Purpose

The deployment of building-integrated photovoltaics (BIPV) is driven in the EU, amongst other factors, by the increasingly demanding legislation related to energy performance in buildings. However, several demands from the market stakeholders remain to be answered by the BIPV value chain in order to ensure the technology's successful take-off.

The objective of the PVSITES project is to drive BIPV technology to a large market deployment by demonstrating an ambitious portfolio of building-integrated solar technologies and systems, giving a forceful, reliable answer to the market requirements identified by the industrial members of the consortium in their day-to-day activity.

Funded by the European Union under the Horizon 2020 research and innovation programme, PVSITES is active from 2016 to 2019. All public results are published on the project website www.pvsites.eu, where you can also register to be informed of future activities and achievements.

Main Activities

- **Analysis of the BIPV market and regulatory framework to identify appropriate collaborative business models** for different BIPV products and services across market actors

- **Demonstration of a wide portfolio of BIPV products in real buildings and experimental facilities throughout Europe**, based on crystalline silicon and CIGS photovoltaic technologies

- **Development of a new inverter technology and building energy management systems** to ensure efficient and grid-friendly integration of the BIPV generation

- **Development of a user-friendly, integrated software tool** for the joint simulation of BIPV electricity production and building energy performance

- **Life-cycle assessment** of the developed products and installations

- **Organization of installation courses** for the developed BIPV products, **guided visits at the demonstration sites** and offering of **online training for the BIPV software tool**

Demonstration Sites

	Single House	Warehouse	Carport	Industrial Building	Apartment Building	Office Building
Responsible Partner	FormatD2	Flisom	Flisom	Cricursa	Vilogia	Tecnalia
Location	Grandglise Belgium	Zürich Switzerland	Zürich Switzerland	Barcelona Spain	Villeneuve d'Ascq France	San Sebastián Spain
BIPV Product(s)	Roofing shingles (CIGS on steel)	Large tiles on façade (CIGS on metal substrate) / Large roofing membrane (Bendable CIGS)	Roof tiles (CIGS on metal sheets)	Large roofing shingles (CIGS on metal substrate)	Ventilated façade (c-Si modules with hidden bus bars)	Ventilated façade (Glass-glass back contact c-Si cells)
Manufacturer	Flisom	Flisom	Flisom	Flisom	Onyx Solar	Onyx Solar
Orientation	S	S-SW	Horizontal	Horizontal	SE + SW	S
Surface	107 m²	100 m²	150 m²	200 m²	150 m²	150 m²
Installed Power	10 kWp	10 + 10 kWp	15 kWp	20 kWp	20 kWp	10 + 10 kWp
Use For Electricity	Self-consumption + Grid	Grid	Grid	Grid	TBD	Self-consumption + Grid

Project Partners

Tecnalia Research & Innovation

CTCV

FormatD2

Nobatek

Acciona Infraestructuras

Onyx Solar

Flisom

Vilogia

Film Optics Ltd

CADCAMation

BEAR-iD

Cricursa

R2M Solution Research to Market

CEA

WIP- Renewable Energies

Prototype of the BIPV software tool
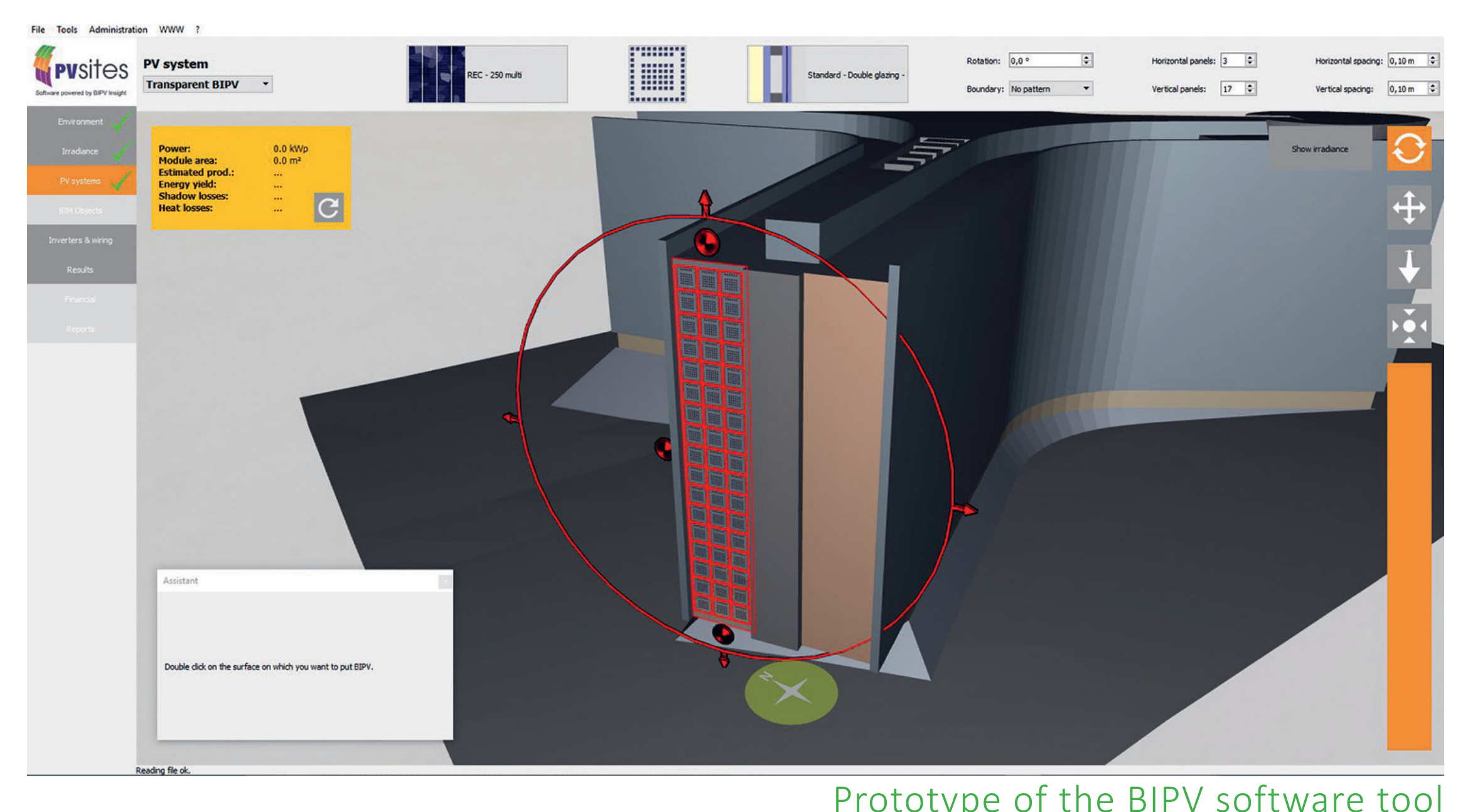
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Find us on:

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BIPV group