

**The PVadapt Project aims to provide a cost-effective, smart, sustainable and multifunctional Building Integrated PhotoVoltaics system (BIPV), empowered by solar thermal features, a smart energy management system and a circular-by-design approach.**

### Main Features

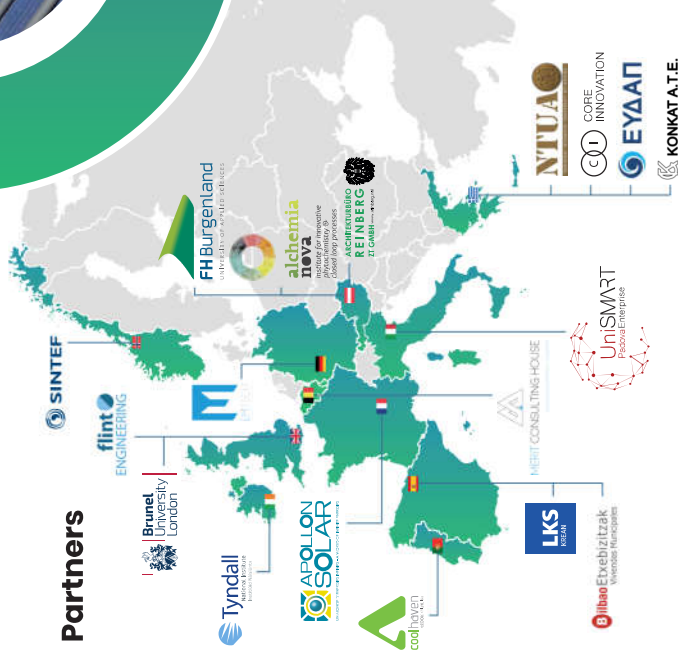
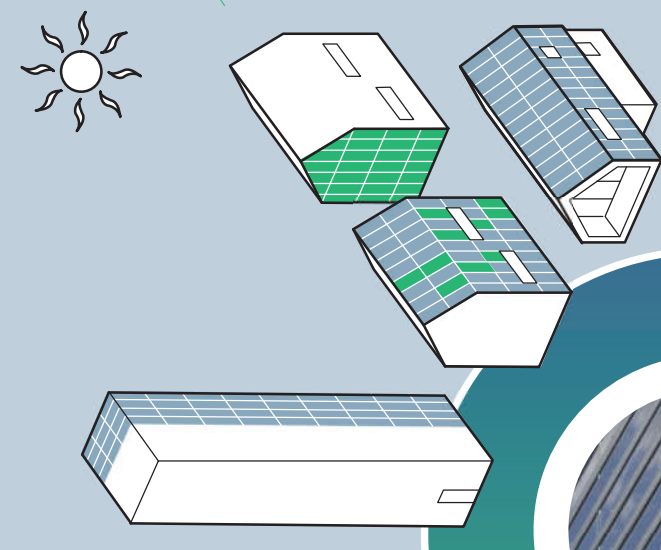
- 1 PV/T: integration of flat heat pipes with PV Module
- 2 Prefabrication and Modularity: customizable and flexible system tailored to the end-users' needs
- 3 Smartness: Smart Envelope System for load prediction and shifting and for predictive maintenance
- 4 Circularity: promoting environmentally and financially viable technology by closing loops and giving new value to waste

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## Combined Innovation in Modular Construction



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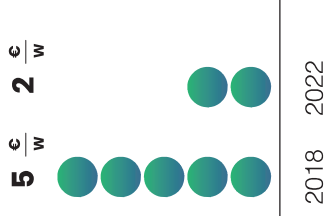
## Project Overview

The PVadapt system is based on the integration of two components: first, the Structural & Thermal component; second the Heat Mat bonded to PV modules. These two parts will produce "building blocks" exhibiting a combined structural, thermal solar and BIPV function. A "Green Wall" approach will also be implemented for roofs and facades in both new and existing constructions. A Smart Envelope System using predictive algorithms will be integrated in PVadapt, featuring grid connectivity and an intelligent energy management system. The project will also rely on sustainability, focusing on recyclability and reusability of materials.

## Project Goals

The goal of PVadapt is to maximize the accessibility of BIPV systems. Ease and speed of installation, low cost, modularity and less construction and demolition waste (CDW) are among the main benefits of the project. We expect to reduce the cost of energy production from 5 € / W to 2 € / W by 2022.

## Cost of energy production



## PVadapt customized modules

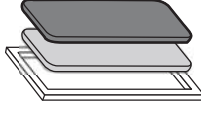
A + B

Structural / Insulating solution



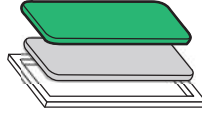
A + B + C

Structural / Insulating / Solar Thermal solution



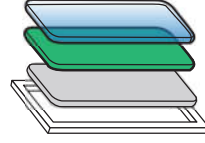
A + B + Green Layer

Structural / Insulating / Green wall solution



A + B + Green Layer + Semitransparent PV Module

Structural / Insulating / Green wall / Semitransparent PV solution



## PVadapt standard module

- A - Structural Component: Steel Frame
- B - Insulating Component
- C - Heat Recovery & Efficient Cooling Component
- D - PV Module

