



**PLUG-AND-USE RENOVATION  
WITH ADAPTABLE  
LIGHTWEIGHT SYSTEMS**

# Presentation title

**Name of the event**

Location, date

Presenter name

Partner name



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 958218.

# PLURAL PROJECT

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The European Research & Innovation project **PLURAL** funded by the Horizon 2020 programme aims to design, validate and demonstrate a palette of versatile, adaptable, scalable, off-site prefabricated **Plug-and-Use kits**.

The objectives of the project will be achieved through international cooperation of **18 partners** from **7 European countries** with overall budget of **9,5 million EUR**.

**START:** October 1, 2020

**END:** September 30, 2024

**DURATION:** 48 months

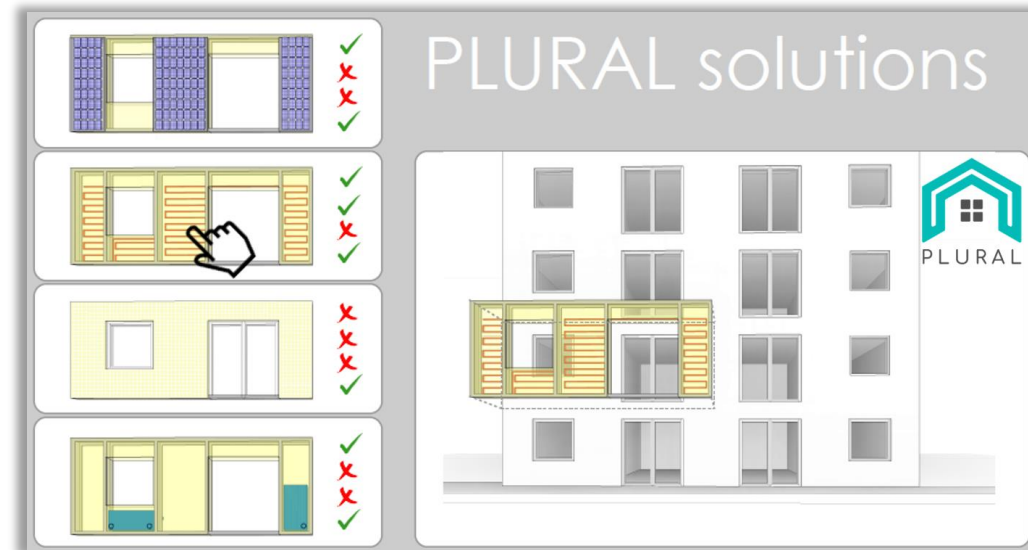
# PLURAL CONCEPT



**PLURAL** proposes an integrated “Plug-and-play” solution that takes into account User needs, which is hence named “Plug-and-Use” – PnU – kits.

The key is to understand how to select and integrate various **renewable energy technologies**, incorporate them in **prefabricated façade components** and optimize their performance for different building types, climates and socio-economic conditions.

**PLURAL** will focus on how to manufacture these kits **minimizing energy use** and **material waste**.



# PLURAL OBJECTIVES

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**PLURAL** aims to design, validate and demonstrate a palette of versatile, adaptable, scalable, off-site prefabricated PnU kits.

A **Building Information Modelling** (BIM) based platform and a **Decision Support Tool** (DST) will be developed to enable the optimal component selection, and integration, best PnU kit design, faster and low-cost manufacturing and installation. **Renewable energy** and smart control systems will be coupled with low environmental impact prefabricated façade components to create the integrated all-in-one PnU kits for residential building deep renovation.

- 1) **Near zero energy consumption of buildings renovated with PnU kits**
- 2) **Cost-effective renovation**
- 3) **Fast-track renovation**
- 4) **Environmentally- friendlier deep renovation**
- 5) **Flexibility – Adaptability**

# DEMONSTRATION SITES



The **PLURAL** concept will be integrated at **three different real demo building sites**, located in **Greece, Spain** and the **Czech Republic**, featuring different climate conditions, heating/cooling needs and user requirements.

**PLURAL** also includes **three virtual building demos** for simulating and validating the performance and operation of the solutions. The real demonstrators will also be used for their virtual assessment under conditions that differ from the actual ones.

The virtual demos are located in **Switzerland, Germany** and **Sweden**.



# PARTNERS

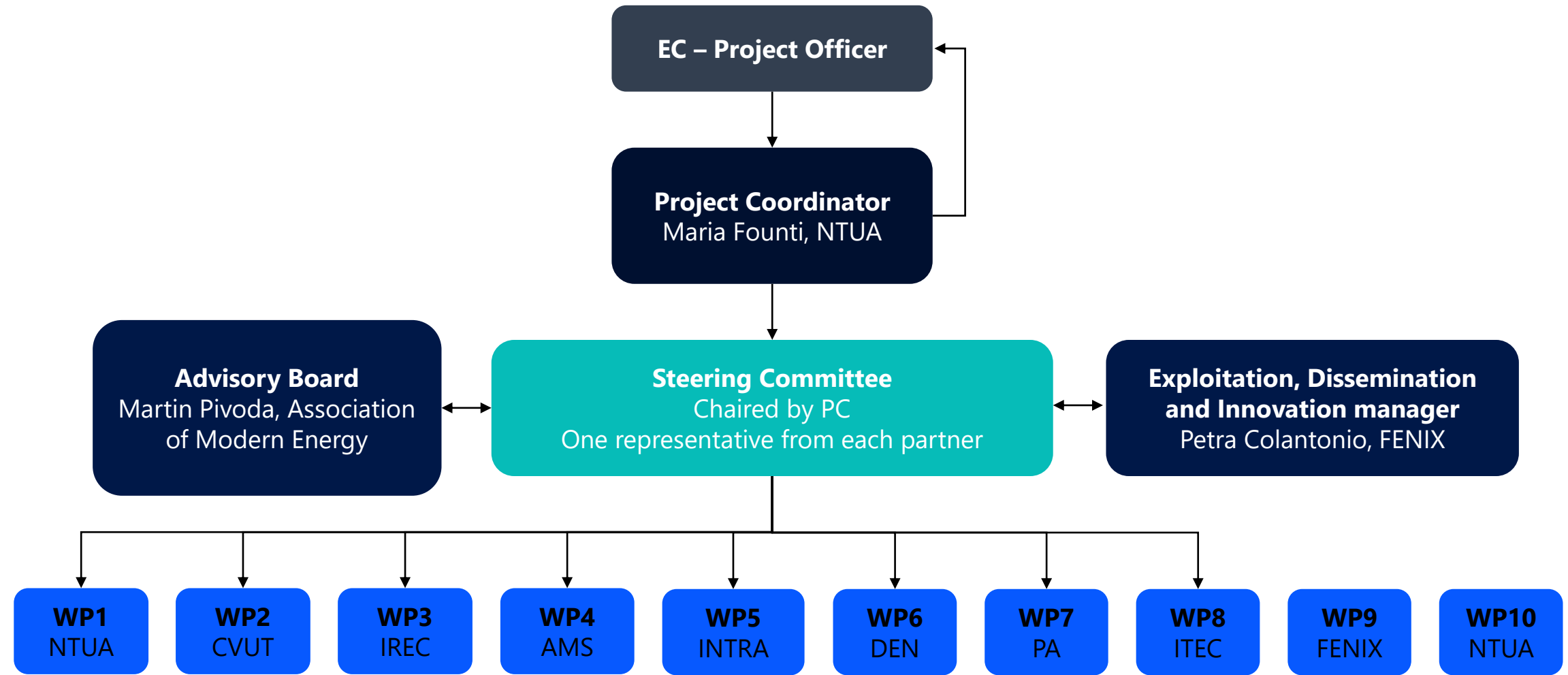


Cooperation of **18 partners**  
from **7 European countries.**

Greece, Spain, Luxembourg,  
Switzerland, Germany, Poland  
and Czech Republic.



# MANAGEMENT STRUCTURE



# SOCIAL MEDIA

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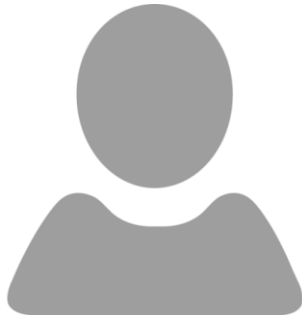


# CONTACT

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05.03.2021

Meeting name, Date, Place

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