



# Project overview & Second Open Call

**CARTIF**

BDA meeting, 4th November 2022

Spain

4 November 2022

**CARTIF**



# I-ENERGY Project overview

## Project Facts

Artificial Intelligence  
for Next Generation  
Energy  
**I-ENERGY**

Started:  
**01/01/2021**  
Duration:  
**36 Months**

Coordinator:  
**Institute of  
Communication and  
Computer Systems (ICCS)**

European Union's **Horizon 2020** Research and Innovation Programme

Budget:  
**4,999,844.50 €**

Grant Agreement Number:  
**101016508**

**ICT-49-2020** Artificial Intelligence on demand platform

# I-ENERGY Project overview

## Who we are



## 17 partners from 9 Countries

**7 Leading Research & Academy Institutions, SMEs and Large ICT companies** - With leading expertise on AI, ICT and Data in the energy sector

**Funding box** – cascade funding to start-ups and SMEs

**9 EPES stakeholders** covering the **full energy value chain**:

- Power network operators, including TSO and DSO
- Energy suppliers
- Aggregator/Energy Cooperative
- Power market actors
- ESCOs
- Financing institutions, energy agency and policy makers

## Motivation

### Artificial Intelligence is bound to revolutionise the Energy Sector

- Fast and accurate forecasts
- Demand / Supply predictions
- Grid flexibility
- Optimised maintenance
- Optimal operation

### AI proliferation in the energy sector holds the premise for a larger **environmental** and **social impact**

- Decentralisation, Democratisation and Digitalisation of energy
- Environmental sustainability
- Alleviating energy poverty
- Fighting climate change and environmental degradation

## I-ENERGY Vision...

Deliver an energy-specific **open modular framework for supporting AI-on-Demand in the energy sector (AI4 Energy)**

**Based on state-of-the-art AI and Data technologies**



**Energy Commodities Networks:** AI for energy networks optimised operation



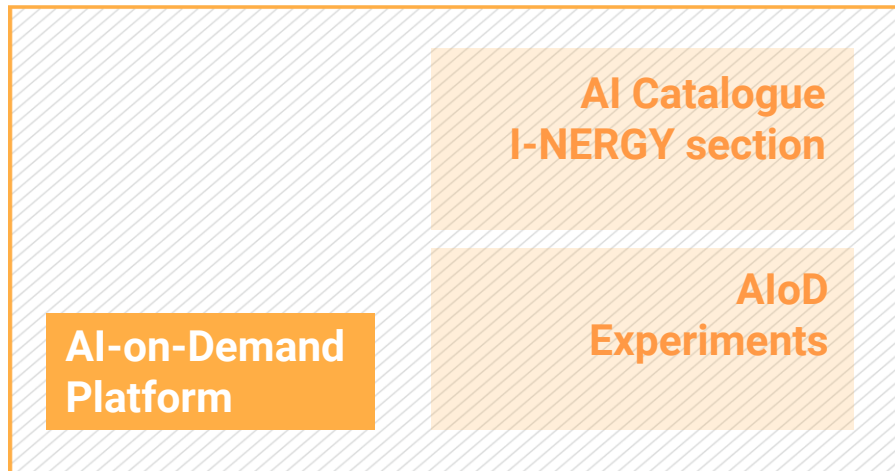
**Distributed Energy Resources:** AI for RES generation, buildings, districts, communities



**Energy Efficiency and Non-energy related Services:** AI enabling synergies / implications on other energy and non-energy domains

# I-ENERGY Project overview

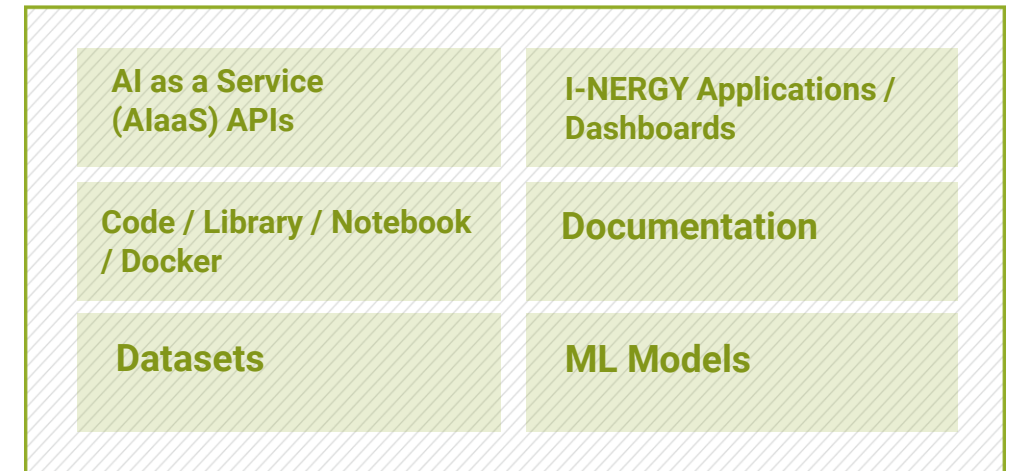
## Relation to the AloD Platform



*AI-on-Demand* is a **one-stop-shop** for anyone looking for AI knowledge, technology, tools, services and experts.

### AloD Energy

Proliferate AloD platform with AI and resources for the Energy Sector



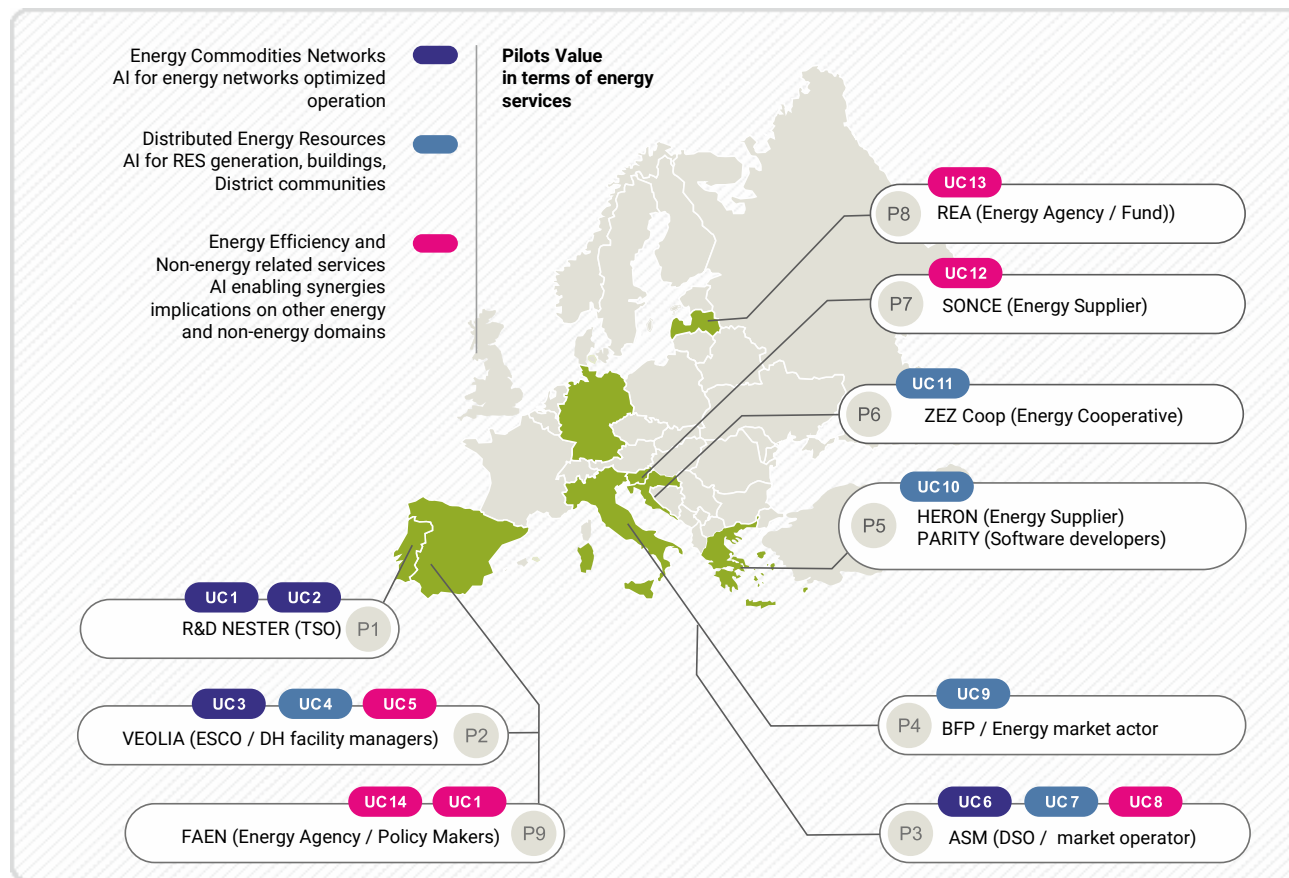
Project assets  
tested on real pilot cases

Open Calls



# I-ENERGY Project overview

## Pilots



The overall I-ENERGY service analytics framework is applied, implemented, demonstrated and validated in real life pilots in:

- 9 pilot hubs (15 use cases)
- across 8 countries

# I-ENERGY Second Open Call

## Call and Deadlines

### TECHNOLOGY TRANSFER PROGRAMME II

#### CALL LAUNCH

10 OCT 2022 – 12 DEC 2022

#### WHO CAN APPLY?

##### CONSORTIA OF 2 MEMBERS:

- 1 service developer provider: SME, including start-up
- 1 Pilot infrastructure provider / Data Owner (EPES): Any legal entity

#### SCOPE

DEVELOPING NEW SERVICES ON TOP OF EXISTING TECHNOLOGIES (MVPs)

#### NO. SELECTED

15

#### FUNDING

UP TO 100,000 EUR

#### DURATION OF SUPPORT PROGRAMME

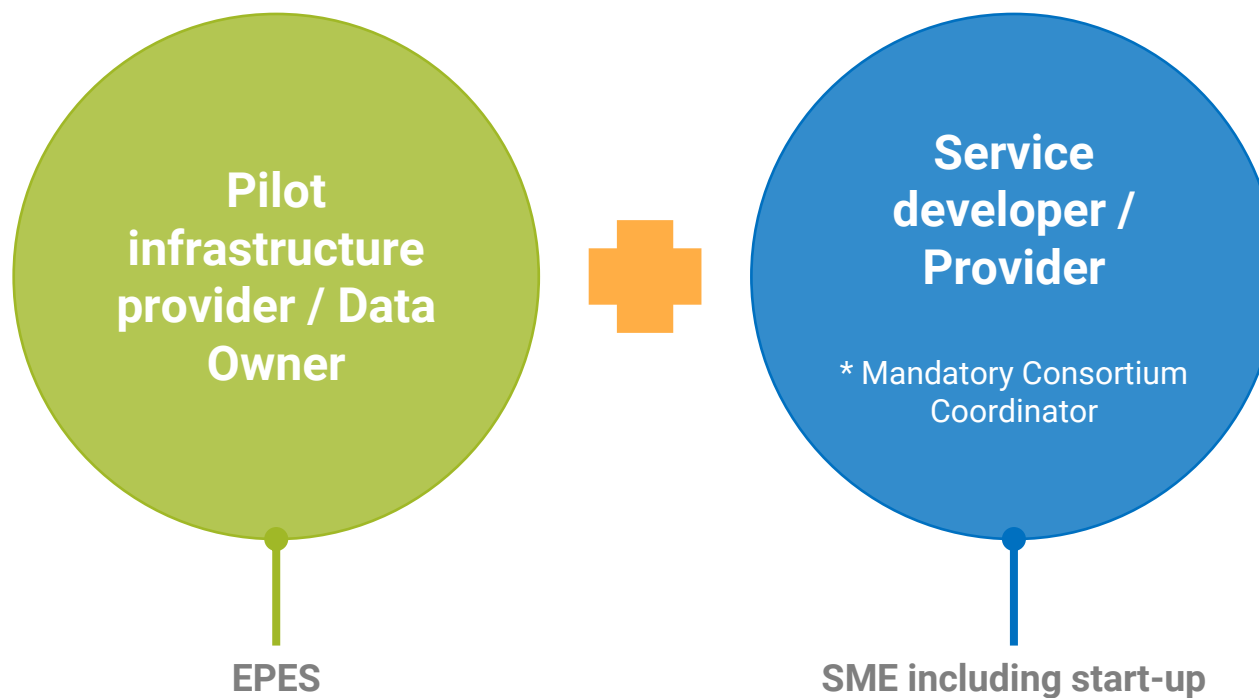
9 MONTHS



## What do we offer?

- I-ENERGY will select up to **15 bottom-up projects** for the Technology Transfer Programme 2
- Starts on **October 10, 2022 at 9:00 (CEST)**, and the deadline for applications is the **December 12, 2022 at 17:00 (CET)**
- **Applications** must be submitted online at: <https://i-energy-2-oc.fundingbox.com/>
- **Scope** of the programme:
  - Developing **new services on top of existing technologies** (Minimum Viable Products). Services for an **energy-related domain** that are being developed and tested within a pilot setting in order to get to a **fully functional stage** with produced **assets** being **published on the AloD platform**.
  - Developments can be based on own, as well as already existing I-ENERGY and other third-party resources available on the [AloD platform](#).
  - Each selected beneficiary consortium will be invited to join the 9-month Technology Transfer Programme 2 (TTP2) and receive a maximum of **100,000 €** for the execution of the experiment
  - The outcome of the Programme will be a system prototype demonstrated in relevant or operational environment (TRL 7-8)

## Eligibility Criteria *Consortium composition*



## Eligibility Criteria

### *Who are we looking for?*

- 2 consortium members (as stated before)
- Tech Transfer Programme 1 (**TTP1**) **participants may apply** to the 2<sup>nd</sup> Open Call, as long as they have created a consortium and expanded the scope of their application from development to piloting (gaining in this case a 15% bonus in total external evaluation score)
- **ELEGIBLE COUNTRIES:**
  - Member States of the EU and its Overseas Countries and Territories (OCT)
  - Associated Countries to H2020
  - United Kingdom and Northern Ireland

## Eligibility Criteria

*What types of activities can be funded?*

### Areas of Experimentation:

- AI applications in energy
- Data governance and data valorization for energy services
- Analytical applications in energy
- Monitoring, energy usage optimization
- Predictive maintenance
- Demand forecast

### Challenges

- AI for networks assets predictive maintenance
- AI for network loads and demand forecasting towards efficient operational planning
- AI for energy demand and supply prediction
- AI for energy storage management decisions
- AI for integrated TSOs/ DSOs asset management
- AI-based consumption and flexibility prediction
- AI services for Solar Energy and Photovoltaic Applications
- AI for Electric Vehicles
- AI for trading in energy communities
- AI for energy efficiency investments and decision support systems
- AI for improved energy performance
- AI for energy savings and contracts
- AI for fighting climate change and transform environmental impact of business
- Applications of reinforcement learning in energy systems
- Open innovation
- Energy efficiency and energy optimization in the Public Sector

## Eligibility Criteria *Ideal Project*

The **ideal project** represents a use case for developing **new services on top of existing technologies** (Minimum Viable Products). **Services** for one of the indicated **cross-sectorial challenges in the 6 energy-related domains** that are being developed and **tested within a pilot** setting in order to get to a fully functional stage with produced assets to be fully **published on Europe's AI-on-Demand platform (AloD)** for the purpose of **enriching its AI resources and tools catalogue for Energy**.

### Example 1

An Italian **start-up** has developed an **AI service for detecting demand and supply patterns** and has published this service on AloD experiments. The start-up **collaborates with a public agency** that has **installed smart meters on its buildings**. It uses the **data** from the public agency, in order to **validate** and enhance the **existing AI models** as well as further **extend its service** offering with more **value-added services** (flexibility prediction, optimizing building operations, etc.). The AI solution is assessed for its trustworthiness and environmental impact. The models, documentation, training set and application are **published back on the AloD platform**.

### Example 2

A **small IT company** from Greece finds a **service for energy demand forecasting** on AloD platform. It **uses it and extends its application** in a **manufacturing plant that provides smart metering for the energy consumption**. The IT company uses the **data to validate and extend the service** with a view to **increase the energy efficiency in the factory** and lower the costs and environmental impact. The AI solution is assessed for its trustworthiness and environmental impact. The models, documentation, training set and application are **published back on the AloD platform**.

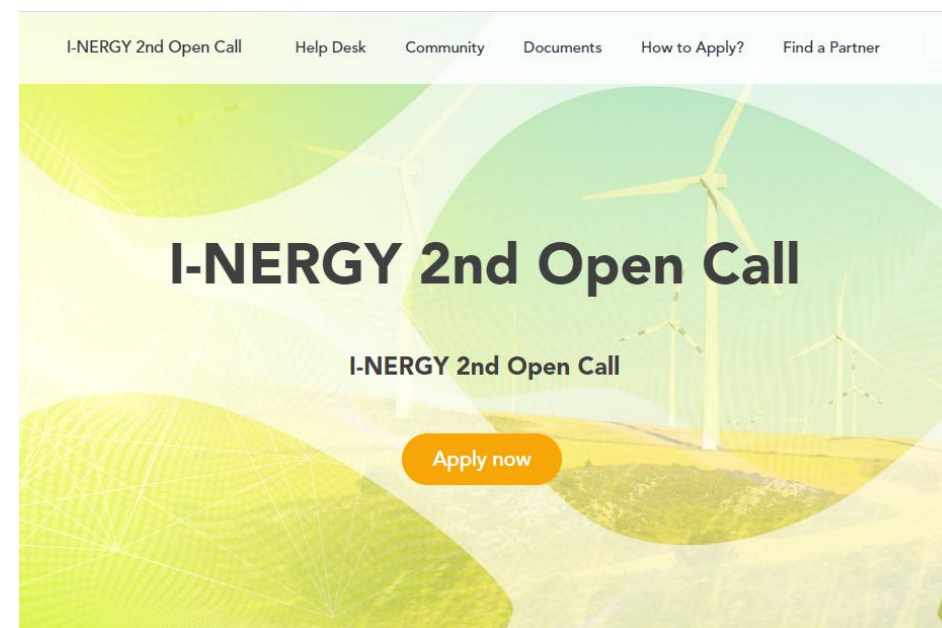
# I-ENERGY Second Open Call

## Eligibility Criteria *How to apply?*

### Eligibility requirements with which you have to comply:

- To have a **clear European Dimension**
- **Be on time:** make the submission before the deadline
- **Be exhaustive:** answer all sections in the form
- **Less is more:** you can submit only 1 proposal (if more than one proposal is identified, only the last one will be evaluated)
- Proposal must be written in **English** language
- **Every question deserves your attention** – all mandatory sections must be filled in. Make sure that data provided is true and complete
- **Potential conflict of interest** will be considered with one or more I-ENERGY Consortium partners
- **Healthy finances** and a **clean sheet** are a must
- **It is *your* proposal:** your project should be based on your original work

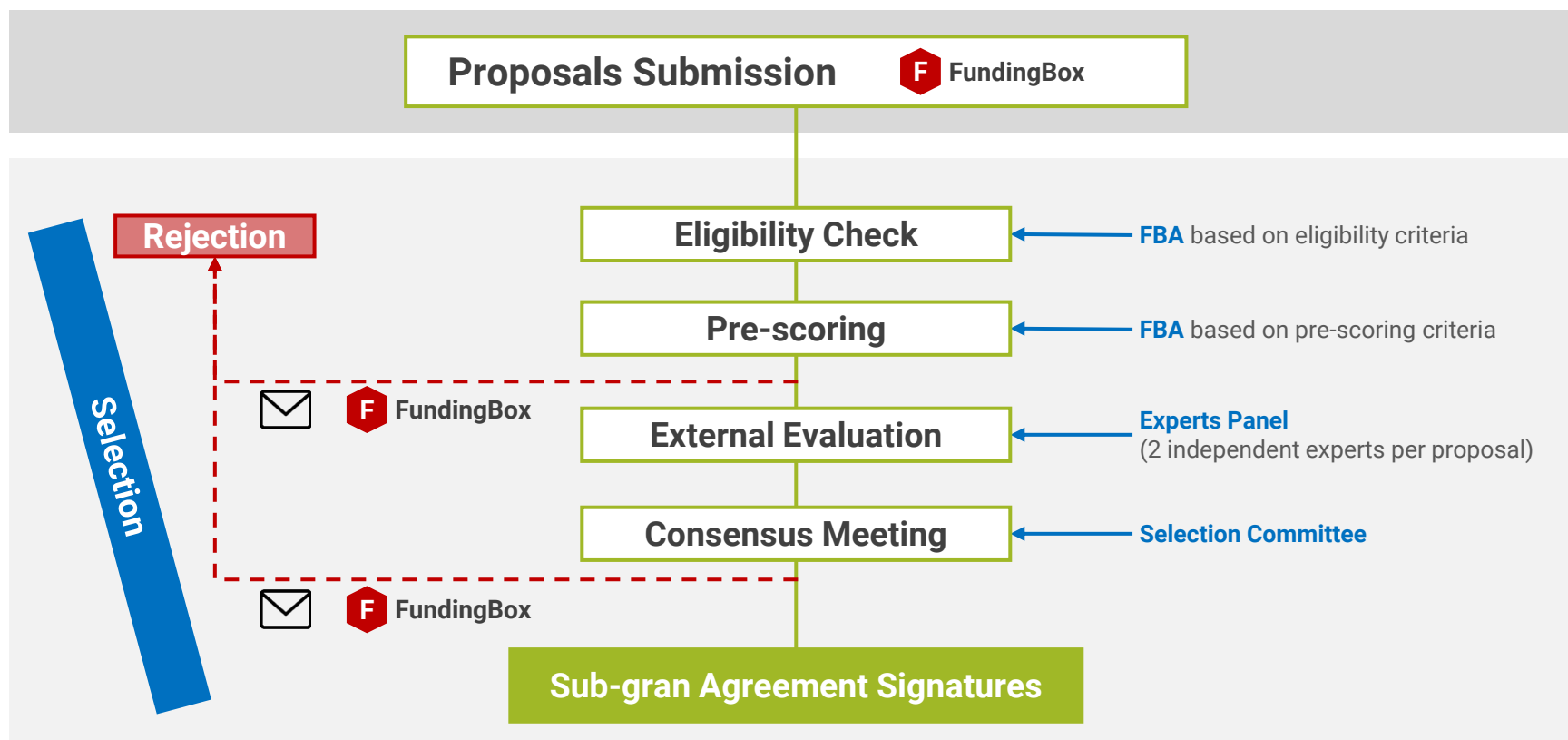
<https://i-energy-2-oc.fundingbox.com/>





# I-ENERGY Second Open Call

## How will we evaluate your proposal?



# I-ENERGY Second Open Call

## Webinar 1



**I-ENERGY 2nd  
Open Call  
WEBINAR 1**

Join our webinar! Do not miss your chance to learn  
about how to apply best to our last open call!

 **THURSDAY**  
17/11/2022  **11:00 AM CET**

**Registration:** <https://forms.gle/gxXVn11JRjbLCaFo9>



**Thank you!**

**CARTIF team**

**CARTIF**

 @inergy\_h2020

 I-ENERGY Project

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