SYNERGY

This project has received funding from the **European Union's Horizon 2020 Research** and **Innovation programme** under Grant Agreement No **872734**

SUSTAINABLE PLACES WORKSHOP

Online, October 29th 2020

BIG Energy Data Value Creation within SYNergetic enERGY-as-a-service Applications through trusted multi-party data sharing over an AI big data analytics marketplace

SYNERGY Project

Luis Viguer / ETRA I+D

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OVERVIEW

Innovation Action, Topic DT-ICT-11-2019

Big data solutions for energy

SYNERGY will introduce a novel framework and reference architecture for a **Big Energy Data Platform** and **AI Analytics Marketplace**, together with big data-enabled domain **specific applications** to help the electricity value chain stakeholders

- Total Budget: 12,7 M€ - Total funding: 9,9 M€
- Start date: 01/01/2020 - End date: 30/06/2023
- 42 Months

THE CONTEXT

The **smart electricity grid era** is pushing sensing, control and data collection at the edge of electricity networks

Significant benefits offered **intra-organization** by AI big data analytics solution

Real value of big data produced along the value chain of the electricity sector **is hidden** in the sharing of such information

Continuously **growing role** of decentralized and distributed assets in the totality of business functions in the electricity sector

Non-discriminatory, transparent and secure data exchanges and synergies between electricity sector stakeholders as **key factor**

OBJECTIVES

1. To deliver a novel **Big Data platform** powered by energy-related data

2. To integrate **existing big data technologies, tools and libraries**, with energy sector legacy systems and ICT-enabled assets and components

3. To deliver an innovative, secure, privacy preserving and IPR respecting multi-party **data exchange and sharing** framework

4. To enable the delivery of **added value services** that satisfy emerging energy sector stakeholders needs

5. To bring forward **novel collaborative business models** driven by big data sharing and analytics services, benefiting the whole value chain of actors relevant to the electricity domain

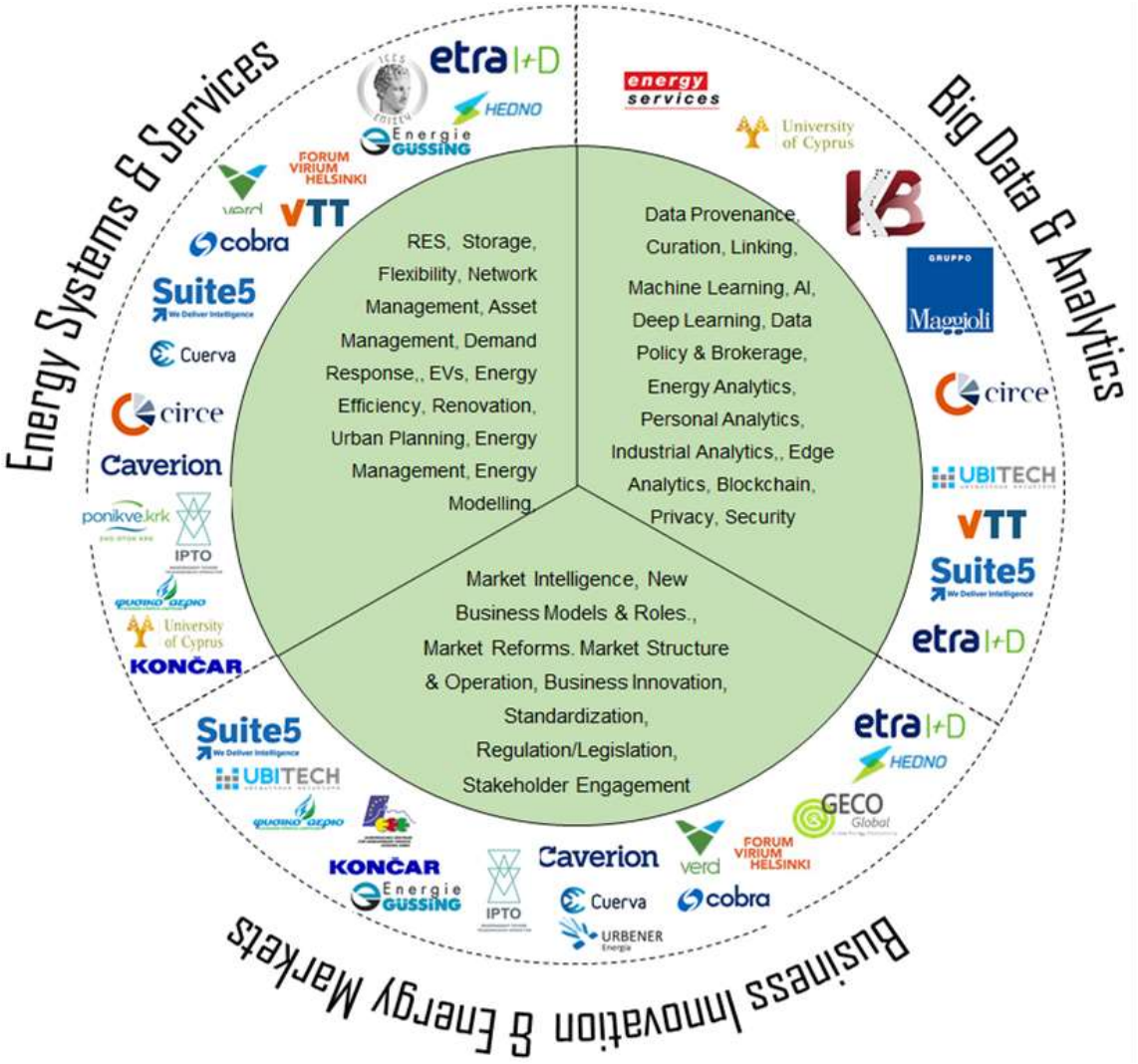
6. To deliver a **reference big data platform architecture** and implementation for the electricity data value chain, validated through a set of representative, large-scale and long-lasting demonstrators

7. Promote the **adoption of the SYNERGY solution** as a next-generation Big Data Platform for data sharing-based EaaS applications

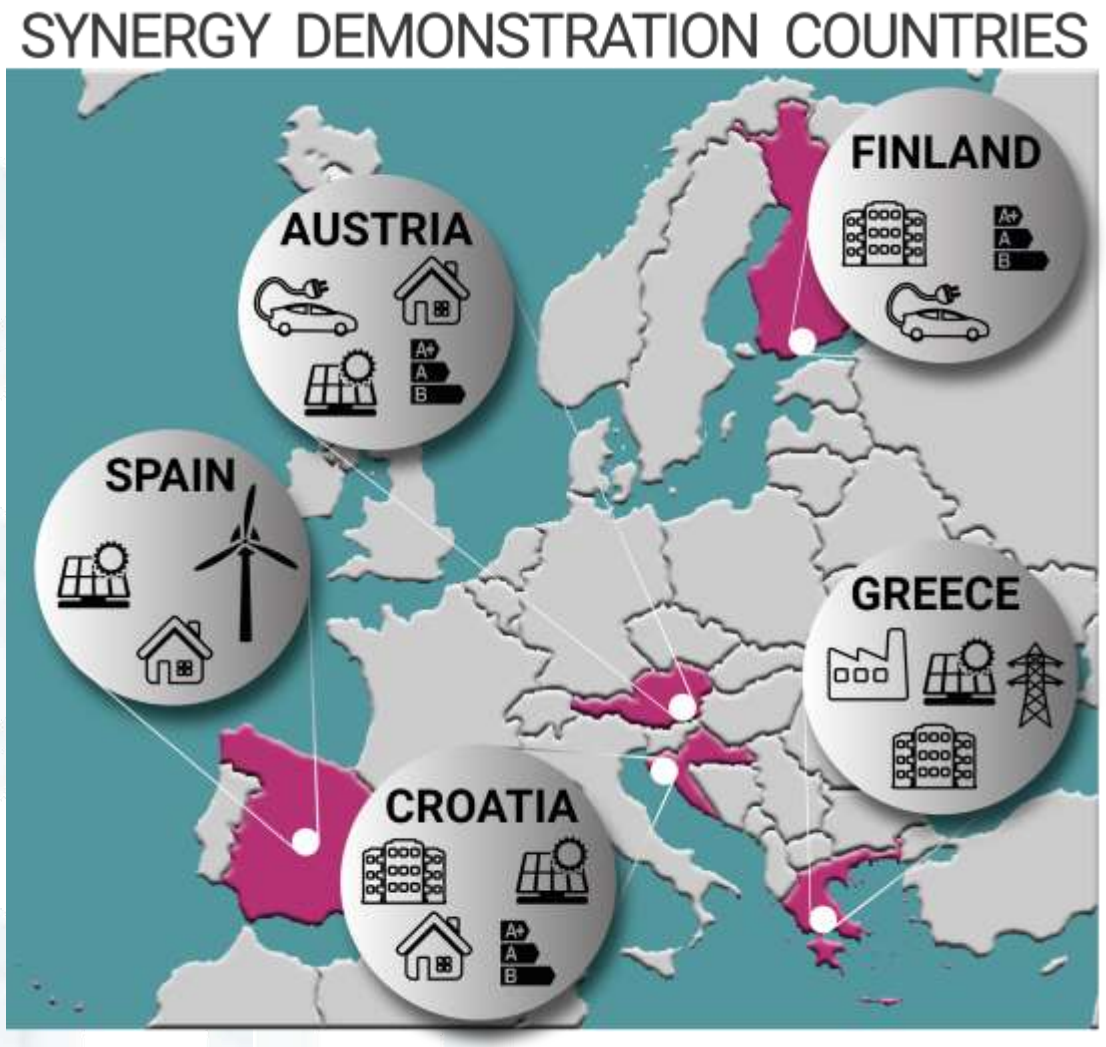
CONSORTIUM

24 partners from **9 EU countries**

…covering the overall value chain of the project: **applied research**, **big data & analytics providers**, **energy services practitioners**, along with **business stakeholders** and **demo/industrial** partners



DEMONSTRATORS



5 large-scale demonstrators in
5 EU Member states

involving

… diverse actors and data sources

… heterogeneous energy systems/ assets

…and spanning heterogeneous climatic, demographic and cultural characteristics

To facilitate replicability, scale-up and eventual market launch

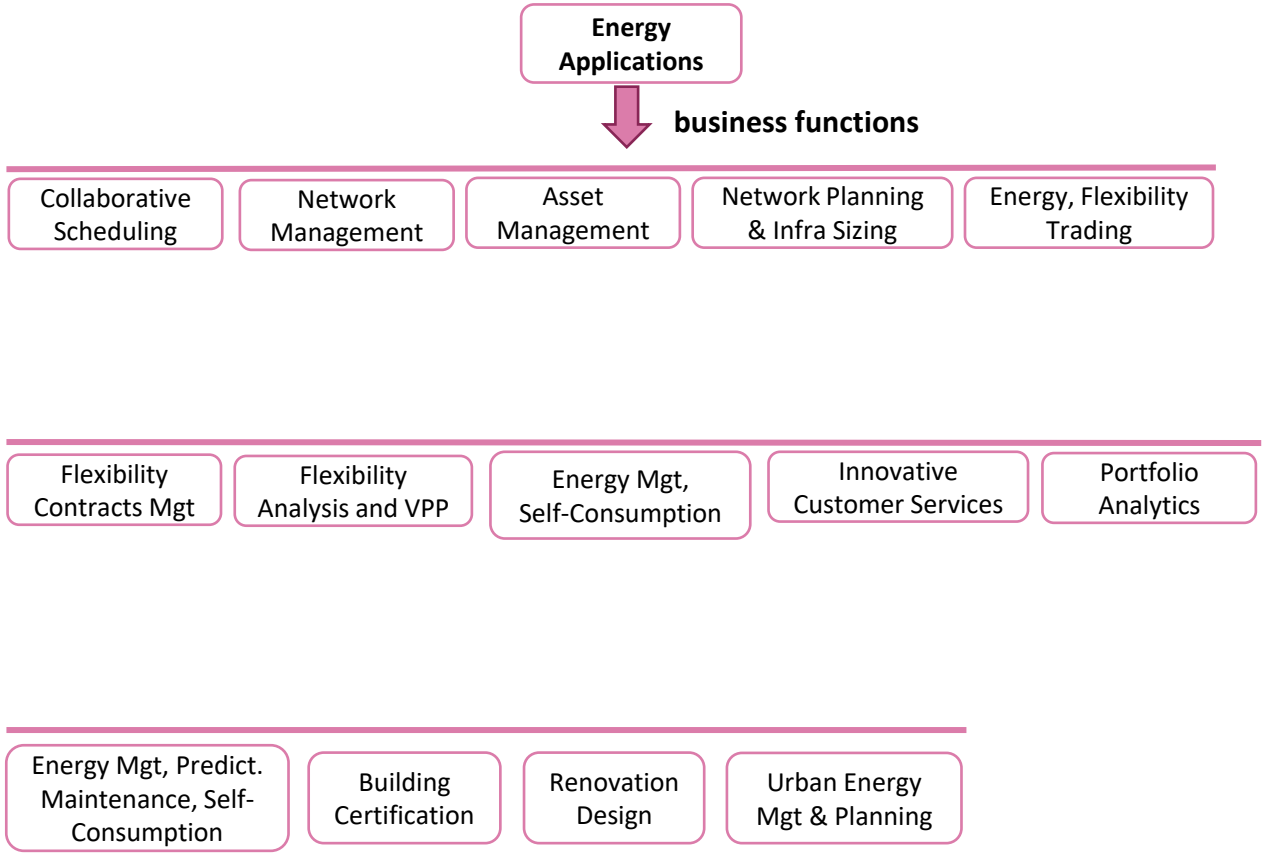
THE TOOLS

3 tool suites including innovative apps and services for a variety of electricity sector stakeholders

Advanced Grid-level Analytics for Optimized Network and Asset Management Services and Applications

Portfolio-level Analytics for Energy-as-a-Service (EaaS) Applications for Electricity Retailers and Aggregators

Building/ District-level Analytics for Optimized Energy Performance Management



DATA IN SYNERGY

Data Tier 1: Primary Energy Sector Data → (smart) metering data, PV inverter data, storage data, EV data, Building Energy Management Systems Data, Electricity Retailers customer data, power grid data (including data for failures and interruptions, visual and IR imagery of network assets, GIS data, SCADA data, scheduling data, maintenance data).

Data Tier 2: Extra-Energy Data → weather data, energy & flexibility market data, appliance data, IoT sensorial data from building premises, building renovation and construction material data, occupancy data, contractual data (for demand response), urban transportation data, environmental quality data and relevant historical information

NOVEL SYNERGY ASPECTS

SUSTAINABLE PLACES

- Trusted data sharing
- End-to-end data security
- Advanced access control
- Real data privacy
- Effortless data linking
- Intuitive data exploration
- Secure experimentation playgrounds
- A bundle of personal/ industrial/ edge baseline analytics

Any questions or comments

Thank you!

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