Enhancing the role of the building sector in the energy transition

BEYOND provides a Big Data platform & a set of AI technologies that enable the realization of datadriven optimization functions valuable for energy actors.



These actors can run analytics & simulations with the data coming from smart buildings with the scope to improve buildings' energy consumption, and create new revenue streams.

### **Contact us**



info@beyondh2020.eu



beyond-h2020.eu





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**BEYOND Project — H2020** 



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#### **Our team**





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## BIG DATA & AI DRIVING ENERGY



# BEYOND's results

The core result of BEYOND is the **Big Data platform,** leveraging the significant potentials offered by the technological advancement of the big data technologies, towards enabling **building-energy data value chain stakeholders** (e.g., energy suppliers/retailers, city authorities, Aggregators, Building Operators/Managers, etc.).

Through the platform, they can utilize its intuitive data driven services towards: a) **improving and optimizing** their building (portfolio) operational processes, b) realizing and introducing **new novel services** into their portfolio, as an addition to the business services they already offer.

Along with the Big Data platform, an AI analytics toolkit that allows the execution of analytics towards intelligent real-time automated control of building assets developed.

#### **BEYOND Platform**



The Big Data Management Platform and the AI analytics toolkit allow the delivery of data coming from smart buildings with the scope to assist energy actors in utilizing the data to get useful insights and reap financial benefits.

The Platform provides some core functionalities for its users:

- Data Collection that allows users to upload and store the data.
- Data Exploration that enables users search for data asset of their interest.
- Data Retrieval, where users can retrieve the data assets they own.
- Data Analytics enabling users to design and execute data analytics functions.
- Data Trading, through which users can share and purchase data assets.

## End-users tools



Impact Assessmer Tool for energy Policy Making at Urban Level



District Heating Network planning and Infrastructure Sizing Tool



Distribution Grid Planning and Infrastructure Sizing Tool



Renovation
Optimisation
Decision Support
Tool



Building Digital Twins Environment for Energy Performance Optimisation, Selfconsumption Maximisation and Predective Maintence



Building Portfolio Management Optimization Tool



Personalized Energy Analytics for Guidance on Energy Performance Optimisation and Human-Centric Control Automation



Energy
Performance and
Smart Readiness
Certification Tool



Flexibility-based VPP Configurator and DR Strategy Optimisation Tool