SENSIBLE

STORAGE ENABLED SUSTAINABLE ENERGY FOR BUILDINGS AND COMMUNITIES

Demonstration of efficient integration of storage devices (electro-chemical, electromechanical, thermal) and energy vectors (electricity, gas) by advanced building energy management and grid operation ICT (i.e. smart grid management and demand response).

Collaborating Companies or Organisations

Indra´s Role

The project SENSIBLE will demonstrate that the EU 2030 targets can be achieved on a local level by the intelligent integration of existing small-scale storage technologies into the local power distribution grid as well as into houses and commercial or industrial buildings. The SENSIBLE project will demonstrate the intelligent integration of a wide range of available small-scale storage technologies, i.e.

ELECTRO-CHEMICAL STORAGE DEVICES (BATTERIES, SUPERCAPS), ELECTRO-MECHANICAL STORAGE DEVICES (FLYWHEELS), AND THERMAL STORAGE DEVICES (HEAT AND COLD STORAGE DEVICES; HEATING, VENTILATION AND AIR-CONDITIONING (HVAC) SYSTEMS WHICH, TOGETHER WITH THE BUILDING STRUCTURE, FORM A THERMAL STORAGE DEVICE.).

An important aspect of the project is about how to connect the local storage capacity with the energy markets in a way that results in sustainable business models for small scale storage deployment, especially in buildings and communities.

Indra will carry out this integration through an innovative ICT platform providing distributed communications, acquisition and processing capacities to the power grid based on the novel concept of "Real Time Distributed Services. This platform will provide an easy connectivity and low latency data exchangeability capacity to all existing legacy systems and new elements (storage controllers, micro-grids energy managers, DSO management tools, market management tools) by means of weakly coupled interfaces.

Universities and Technological Centers

Technologies used

RT integration platform providing:

Integration of eXtreme Transaction Processing PItform (XTPP) technology to gain distributed intelligence in decentralized bi-directional grid architectures. Easy connectivity and low latency data exchangeability capacity to all existing legacy systems and new elements (storage controllers, microgrids energy managers, DSO management tools, market management tools) by means of weakly coupled interfaces. Interoperability based on the use of subscription-publication and request-response services.

More information

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