



# BATERIAS 2030

## Energy communities

### The role of digital platforms

Energy communities are key towards the development of a more sustainable cities and to the decarbonization of energy systems. Within the urban area, energy communities promote the sharing of decentralized renewable energy generation within public, commercial and residential buildings and public streets.

Integrating energy storage and load flexibility to the energy community mix will allow improving the community self-sufficiency. Together with adequate digital tools the energy community can manage its total energy consumption from the grid, considering economical, environment and technical constraints, while at the same time enabling local energy sharing between members.

BATERIAS2030, brings together dstsolar, INESC TEC, CeNTI, INL, INESC MN, LNEG, innovation point, watt.is, EFACEC on the development of new digital devices, tools and platforms for the monitoring, control and management of renewable energy communities.

energy communities  
energy management  
platforms

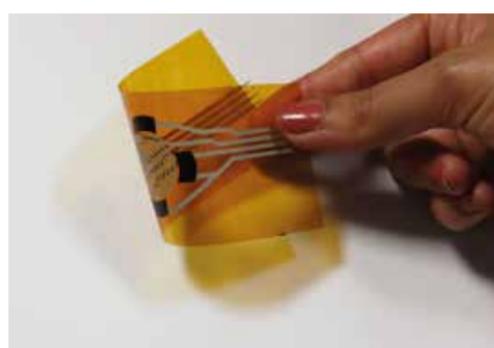
smart BMS for the  
next generation of  
Li batteries



environmental and  
electrical sensors

The solutions developed within the project range from sensors, Battery Energy Management Systems (BMS) to microgrid and energy communities' energy management platforms. The main innovations proposed within the project include:

- Development of compact and low-cost solar radiation and air flow sensors for meteorological stations;
- Development of high voltage and current sensors for DC and AC applications;
- Smart BMS, presenting a distributed and modular architecture with local processing capabilities, enabling easy configuration and expansion to an unlimited number of cells/modules in series in the battery pack;
- Interoperable monitoring and control platforms compatible with commercial and prototypes developed within the project generation and energy storage solutions;
- Digital services for load, generation and flexibility forecasting & disaggregation, providing key information for the microgrid and energy community management applications developed within the project.



The technologies developed were tested considering the partners laboratorial capacities. The energy management platform will be demonstrated in the project Living Lab at Braga



Dashboard of the Energy Community Management Platform