



Energy storage and aggregation project NETfficient concludes

The EU-funded Innovation Action Project NETfficient is now concluding. For 4 years 13 partners from 7 countries have worked together to pilot a future-proofed energy system within the grid of the German Island of Borkum. The essence of NETfficient was to develop high-end energy storage and management solutions, operated as virtual power plant (VPP).

Forty private homes, five larger buildings, part of Borkum's streetlighting system and the water temperature management of Borkum Aquarium have been equipped with PV and storage solutions, ranging from Li-ion batteries, ultracapacitors and second-life electric vehicle batteries to hydrogen storage and low-temperature water storage. In addition, a 1 MW / 500 kWh utility scale hybrid energy storage system (consisting of Li-ion batteries and ultracapacitors) was piloted within the medium voltage network. These systems are all connected to the Energy Management Platform (a Distributed Energy Management System, DERMS), which stands at the heart of NETfficient. This platform automatically manages distributed generation and storage to optimize local energy use and also to provide energy services to the grid.

The various visits to Borkum throughout the project were an enriching experience for partners, being allowed into the homes and lives of the islanders, learning of their interests and concerns first hand. It meant experiencing a responsive island community with an enlightened understanding of the challenges of energy and climate change, fully committed the island's target to become climate neutral and emission free by 2030.

The project was technically complex and required close coordination of the different contributions of partners, who mostly had not known each other previously. Being part of the NETfficient project has permitted the partners from across Europe (universities, research organisations, industry and small / medium size enterprises) to amalgamate their respective expertise in energy storage, energy management and power conversion technologies, power electronics and software. Several partners were able to advance the technology readiness level (TRL) of their components and to improve the offers to their customers. For a number of them the project provided a route to new contracts or projects.

Coordinating Partner Ayesa Advanced Technologies SA (Spain) states:

“NETFFICIENT has been a key project in AYESA's innovation strategy. It has allowed the company to develop new energy solutions with excellent market potential, and establish strong collaborative relationships with European partners in the energy and storage value chain. We thank all the NETFFICIENT partners for their hard work on this ambitious project, and for their collaborative spirit to achieve project objectives and impact.”

Key finding from the project have been summarized in the NETfficient Handbook available in January 2019 – order your copy at netfficient.project@gmail.com

You can also find out more on our project website at www.netfficient-project.eu.



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NETfficient
Storage for Life

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NETfficient is coordinated by Ayesa Advanced Technologies S.A. in cooperation with 12 partners: Center for Advanced Studies, Research and Development in Sardinia; Department of Electrical and Electronic Engineering of the University of Cagliari; Fraunhofer Institute for Solar Energy Systems ISE; PowerTech Systems; Schneider Electric GmbH; Steinbeis-Europa-Zentrum; Swerea IVF (from ; Vandenborre Energy Systems NV; Williams Advanced Engineering; Wirtschaftsbetriebe der Stadt Borkum GmbH; Zigor Research&Development and follower-partner Ayuntamiento de Santander City Council's Information and Communications Department. The project is co-funded by the EU Horizon 2020 research and innovation programme, Project No. 646463.

