



# PRESS RELEASE

1st year recap!

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## the PARMENIDES project's pilots

PARMENIDES tackles energy system challenges with interoperable solutions, centered on Hybrid Energy Storage Systems. A key advancement is the "PARMENIDES Energy Community Ontology" (PECO), optimizing energy flows for local utilization. PECO's development is well underway, with publication slated for autumn 2024.

The ICT framework, developed in the project's first year, ensures interoperability, dependability, and security for diverse use cases. Components include a Grid Capacity Management System, Monitoring Devices, Smart Meters, and an Information System, bolstered by the Energy Management System (EMS4HESS). Flexibility management is a focus, with development to conclude by 2024, followed by field trials in Austria and Sweden.

In the first project year, eight energy community use cases were identified, ranging from passive involvement to full automation. These scenarios vary in automation levels, optimization functionalities, and flexibility approaches. Pilots are underway in Sweden (KTH Royal Institute of Technology, Stockholm) and Austria (Energienetze Steiermark GmbH).



The Swedish pilot, conducted at KTH in a multi-apartment building, evaluates resident flexibility potential. Through EMS4HESS, it showcases electrical and thermal storage flexibility at various time scales, considering technology constraints, user preferences, and behavior. Direct engagement with users and building data enables feedback on flexibility strategies and digital tools.



The Austrian pilot, spanning two municipalities within Energienetze Steiermark GmbH's grid, prioritizes distribution grid requirements. It considers local feed-in, storage, and load conditions to adhere to grid constraints. The EMS4HESS calculates optimal HESS set-points, incorporating diverse optimization objectives.