interconnect

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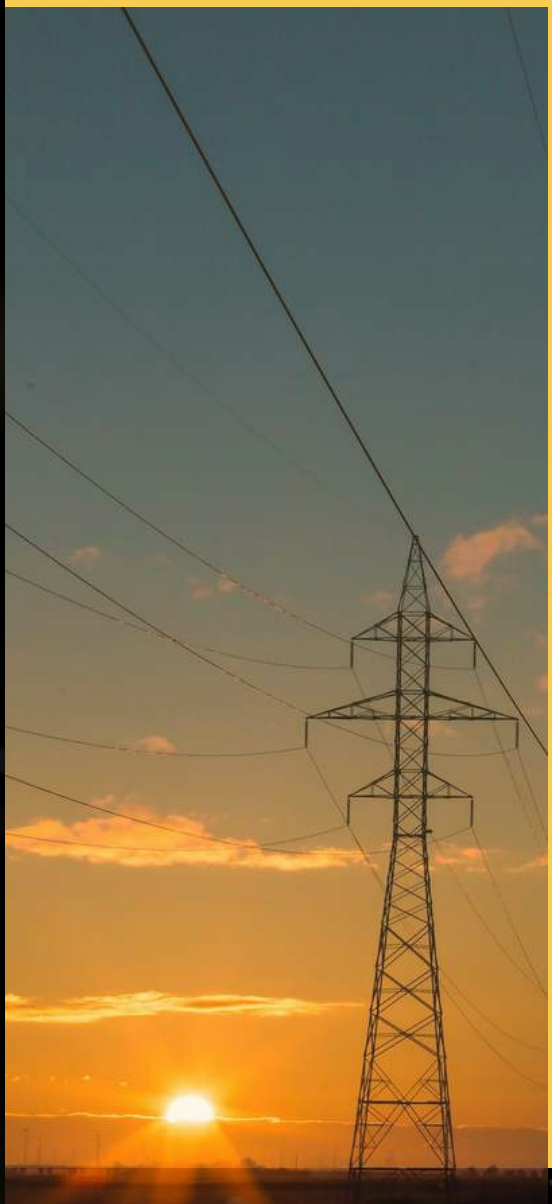


The EU funded InterConnect project, which gathers 50 European entities from the Energy and Internet-of-Things value chain, is focused on developing and demonstrating advanced solutions for connecting and converging digital homes and buildings to guarantee a cleaner, secure and affordable electrical system.

Following the adoption of the Digitalising the energy system EU action plan, the InterConnect project has set as a new goal to contribute to the development of a Common European Reference Framework (CERF) for energy saving applications that allow them to make voluntary reductions in their energy consumption and help them in reducing their energy costs.

The core developments carried out by InterConnect, namely the Interoperable Recommender, the Semantic Interoperability Framework and the Distribution System Operator Interface, which are already publicly available, will be used to demonstrate the ability to interconnect consumers, grid stakeholders, technology enablers, devices and service providers to realize differentiating Energy Applications.

The InterConnect project will further expand the development and real-life testing of the CERF for energy saving applications by its cascaded funding mechanism

A first generation of energy saving applications will be tested within the scope of the InterConnect project, in a contained environment in at least 3 EU member states in which existing InterConnect pilots are running. Additional EU member states are being included via the cascaded funding where companies that are familiar with the topic and are already developing energy saving applications will demonstrate their solutions in additional geographies.

2
Results

Interoperable recommender

The Interoperable Recommender is a data-driven solution aimed at enabling the participation of consumers in enhancing the resilience of the European energy infrastructure.

This novel service harnesses the potential of innovative algorithms and leverages the publicly accessible ENTSO-E Transparency Platform to assess country-specific vulnerabilities related to loss of load and generation curtailment.

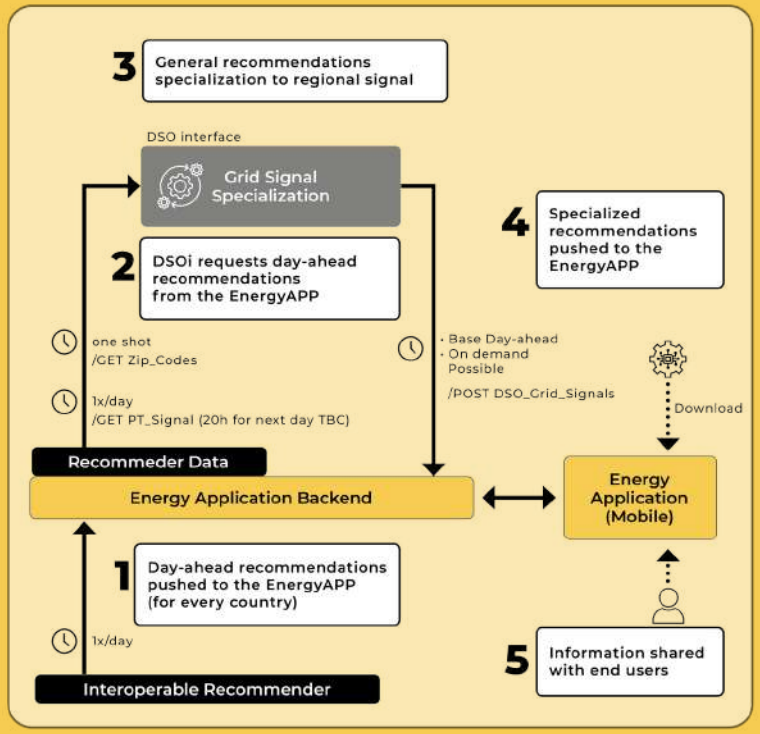
The main goal is to enable energy applications to empower European citizens with actionable recommendations on a national level, encouraging adaptive energy consumption during periods of expected system vulnerability.

The service provides day-ahead hourly recommendations, tailored to meet the unique needs of each country while accounting for interconnections within the broader European network.

DSO Interface as the specialiser

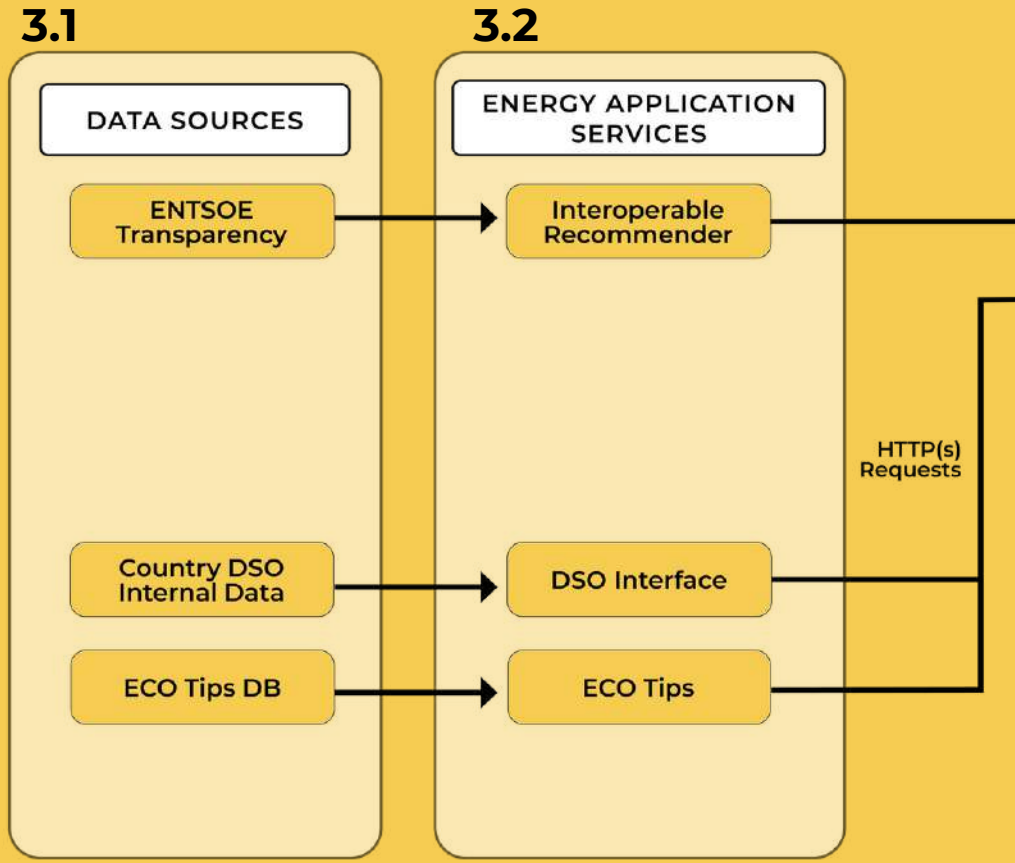
DSO Interface is a cloud-based platform to access a set of services that uses flexibility services in a distributed approach and increases observability of the low voltage grid, ensuring access to new standardized flexibility products provided by smart homes, buildings, and communities in new marketplaces through a fully interoperable and replicable interface.

DSOi: Interactions



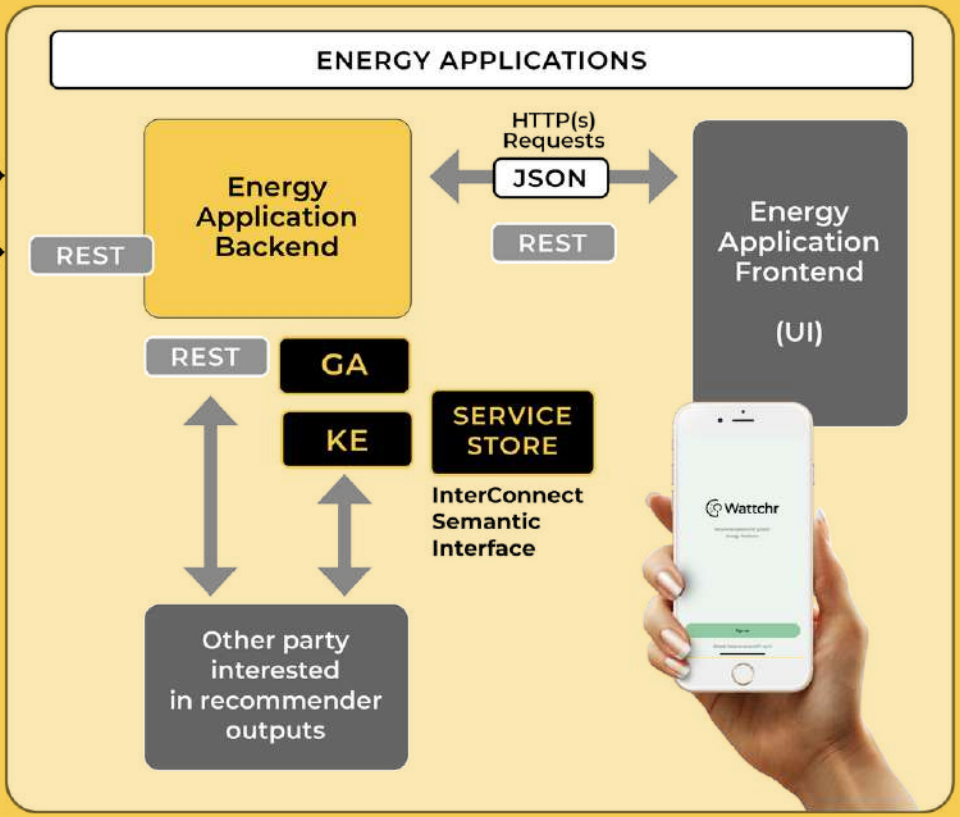
3
Energy Applications Ecosystem
Integration and visual interface

3.1 A mix of public and DSO specific data sources are used by **3.2** a series of core services to the Energy application, where the interoperable recommender generates country recommendations, that can be specialized in each region with DSO data through the DSO interface. Eco tips educate the end user towards a sustainable energy use.
3.3 The Energy Application back and frontend system, orchestrates the delivery of information via the semantic interfaces fo the SIF to mobile applications and third-parties to compose new services.



NOTE: There will be a single instantiation of the recommender for the entire demonstration as it provides recommendations for all the countries in each execution. A single instantiation will be used to provide recommendations for all countries.

3.3



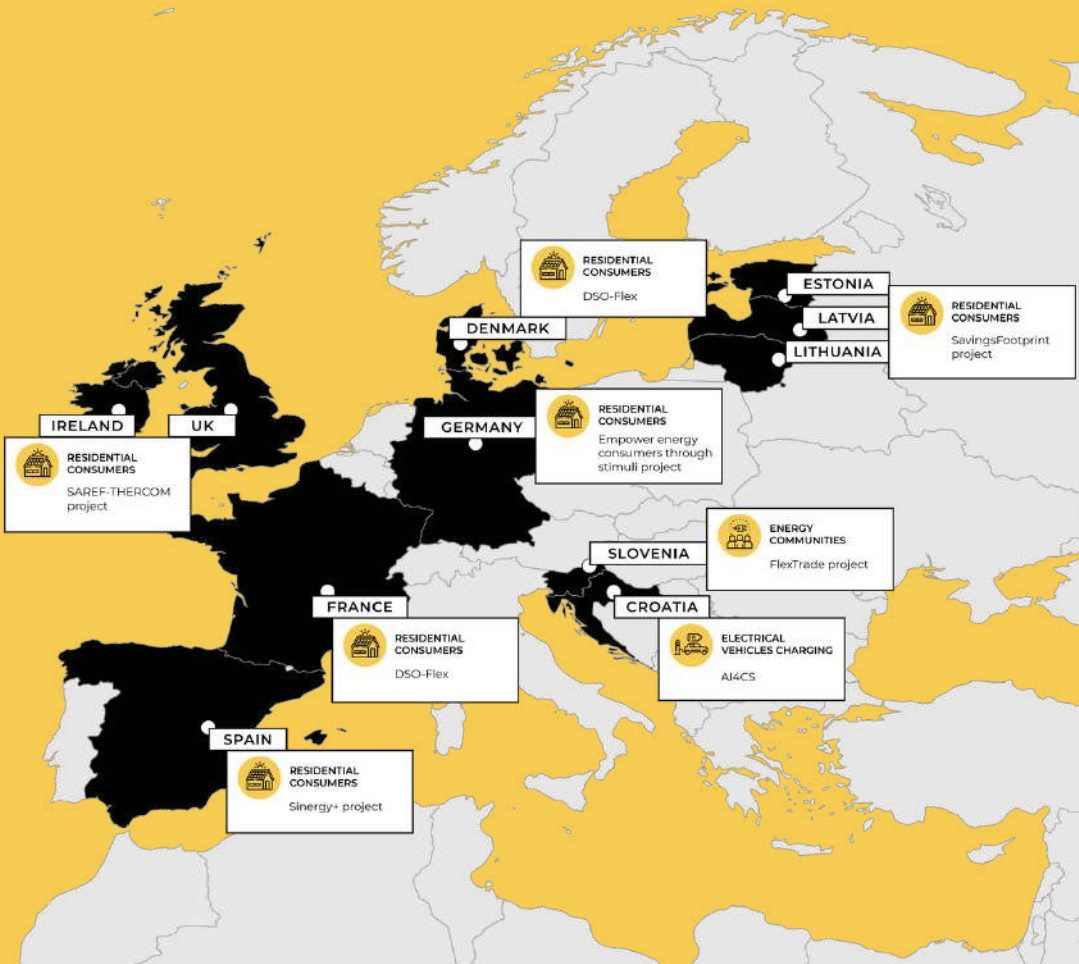
The Energy Applications Backend provides a central layer of authentication and uniformizes the communications with other interested parties

4

Demonstrators of Energy Applications

Second Open Call Support Program

7 projects were selected for the development and integration of their solutions. A total of **32** proposals were received for this call: **28** passed the first eligibility check, **18** were scored above threshold, **10** were selected for the first stage of the support programme, and **3** proposals were included in the reserve list.



The 7 projects

Let's get to know the 7 proposals selected to proceed to the entire support program and receive the full grant of up to EUR 100,000.00.

Regarding the projects developing solutions aimed at residential consumers, we begin with the "Sinergy+" project, Simon Holding's bet for promoting more sustainable habits. The solution will be tested in Spain, taking advantage of the SIF and SAREF ontologies to improve their existing IoT solution (iO) installed in more than 5,300 homes.

"DSO-Flex" project will test in Denmark and France a solution based on digital twins for distribution grids. Linc ApS wants to enhances community engagement with CERF to optimise energy demand.

In the Baltic states, R8 Energy OU proposes the "SavingsFootprint" project. The aim? To develop an app that meets the needs of residential energy consumers, enabling them to consume efficiently, pay less for energy, and reduce greenhouse gas emissions.

"Empower energy consumers through stimuli", by Easy Smart Grid GmbH, will implement, in Germany, a solution to mobilize existing end-customer energy flexibility potential as very low cost "virtual batteries", guided by stimuli.

In the United Kingdom of Great Britain and Northern Ireland, the "SAREF-THERCOM" project, by V-LAB, will work towards aligning THERCOM, an intuitive thermal comfort controller, with SAREF-based ontology, establishing a common language and framework for exchanging energy data.

There's one proposal aimed at Electric Vehicle Charging. The "AI4CS – AI for Charging Stations", of Local Ai, is aiming to demonstrate the live utilization of EV Charging Network data to provide the end user with recommendations about their upcoming charging session. The testing will happen in Croatia.

Finally, in Slovenia, "Flextrade" wants to enhance the IoT-DRACO platform for real-time active monitoring and control of data-driven energy communities.

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