SHAR-Q

NEWSLETTER 04/2017

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Storage capacity over virtual neighbourhoods of energy ecosystems

11 PARTNERS

6 COUNTRIES

3 PILOTS

36 MONTHS

4M€ BUDGET

SHAR-Q ID

Title
Horizon 2020 – SHAR-Q project: Storage capacity over virtual neighbourhoods of energy ecosystems

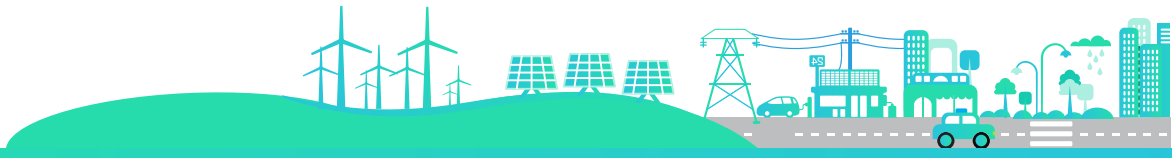
Program
The European Union's Research and Innovation Program Horizon 2020 – LCE-01-2016-2017 Competitive Low-Carbon Energy

Duration
November 2016 – October 2019

Main objective
Establishment of an interoperability network that connects the capacities of the neighbourhooding RES+EES ecosystems into a collaboration framework

Partner countries
Austria, Czech Republic, Germany, Greece, Portugal, Slovakia and Spain

EDITORIAL



Dear readers,

We are pleased to present you the first SHAR-Q Newsletter issue from April 2017. With this document you receive the latest information about the European project SHAR-Q and the development of its tasks. Further, we will keep you up to date about the project partners' activities on projects and initiatives related to SHAR-Q.

In the following issues we will share with you more of our achievements, experiences and lessons learnt from our current research activity and relevant project milestones.

For more information and news about SHAR-Q project, please check our website:

www.sharqproject.eu

We hope you will enjoy reading this first issue of SHAR-Q Newsletter.

Yours sincerely,
The SHAR-Q consortium

CONTACT

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This Project has received funding from the European Union's Horizon 2020 research and innovation Programme under grant agreement No 636427 LCE-01-2016/731285/SHAR-Q

PROJECT PRESENTATION

Motivation

Renewable Energy Sources (RES) are intermittent energy sources that are raising challenges at their integration into power systems. These challenges can be addressed by Electrical Energy Storages (EES) emerging on the market.

The principal assumption of the SHAR-Q concept is that sharing of storage capacities deployed at distributed locations will reduce the EES capacities needed, bringing significant savings on the required storage capacities. This, in turn, will significantly reduce the unit-cost of energy output of the RES+EES ecosystems that are participating on the sharing process.

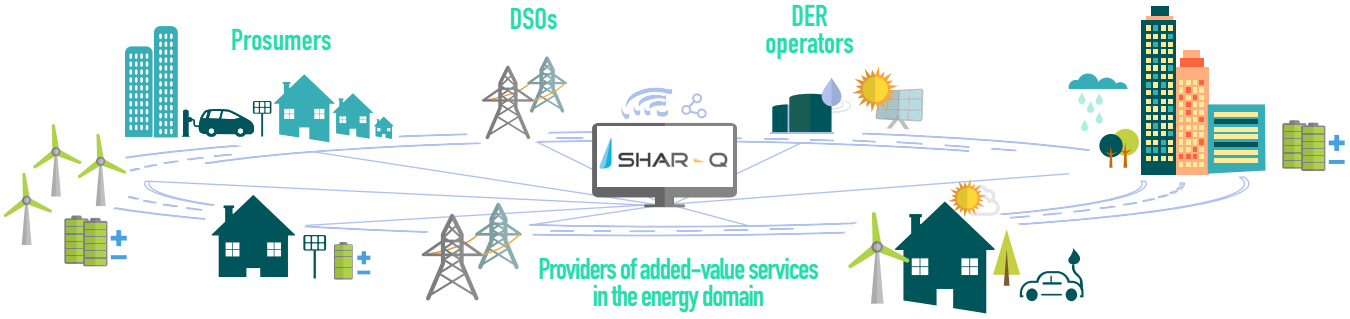
The SHAR-Q Network

The SHAR-Q network is a peer-to peer (P2P) interoperability network that connects neighbourhooding RES + Storage ecosystems in order to create a decentralized collaboration framework that optimizes the storage capacities deployed in the grid.

The optimization of storage capacities deployed in the grid is especially necessary for the small energy sites such as Distributed Energy Resources (DER) and Prosumers - which are the segments targeted by the SHAR-Q bottom-up concept. Consequently, at least Prosumers, Distributed Energy Resources (DERs) operators, (Distributed Service Operators (DSOs) and providers of added-value services in the energy domain will be relevant actors participating in the sharing process.

The solution will be based on an open interoperability gateway with the corresponding open API that connects the smart energy resources operated by different actors into the SHAR-Q collaboration framework. The users will be provided with an ability to manage their contribution to the collaborative energy management models on their own in a way that resembles the social web portals (users can control who they share specific storage capacities with).

Peer to Peer concept



An open and dynamic ecosystem with a potential to eliminate the boundaries of closed energy systems is an ultimate goal of SHAR-Q in order to achieve full interoperability. Virtually connected and transacting end user with the free choice of the technology manufacturer or energy service provider they cooperate with each other and are at the core of usability of the system.

In order to increase the utility of the system, SHAR-Q aims to provide an open platform environment for the development of value-added services that will allow interfaces with EES systems and creation of solutions based on cross-utilization while reducing the cost of solutions development.

The economic incentives provided by an interoperable platform while offering various services to the end users are expected to increase consumer interest in the energy markets participation. Greater participation of small prosumers and RES producers in the energy markets is expected to increase investment in the EES, creating economic value and providing stabilisation of the grid. The resulting outcome is a facilitating platform for and better integration of the RES facilities, market participation and greater infrastructure utility and performance for EVs.

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The viability of the collaborative business models will be proven through added-value services, such as:

- Meteorological services for renewables
- Services for optimal sharing of EES and RES capacities
- Adaptive charging of e-vehicles (EVS) and V2G services

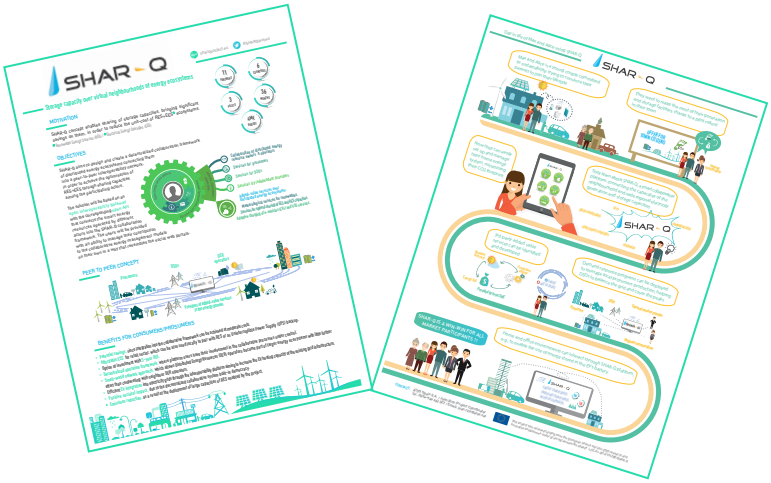
Demonstration pilot sites

The principal goal of the SHAR-Q use-case pilots is the demonstration of the SHAR-Q outcomes in three different environments: shared RES+EES capacities in the context of distributed renewable production (Solar Demonstration Platform, Portugal), shared RES+EES capacities in the context of prosumers' collaboration with the involvement of organisations (ecoEnergyland, Austria) and demonstration of SHAR-Q results at exploitation of the synergy of e-vehicles with RES (Meltemi).

For more information about SHAR-Q project's demonstration pilot sites, please visit our website: www.sharqproject.eu. There you can click on the bubbles shown below and access to more detailed site descriptions.

CHECK THE DISSEMINATION MATERIAL ON THE WEBSITE!

You can find SHAR-Q dissemination material available on website to have a clearer picture of the project. Different brochures and DILOs (Day In Life Of) have been created so far.



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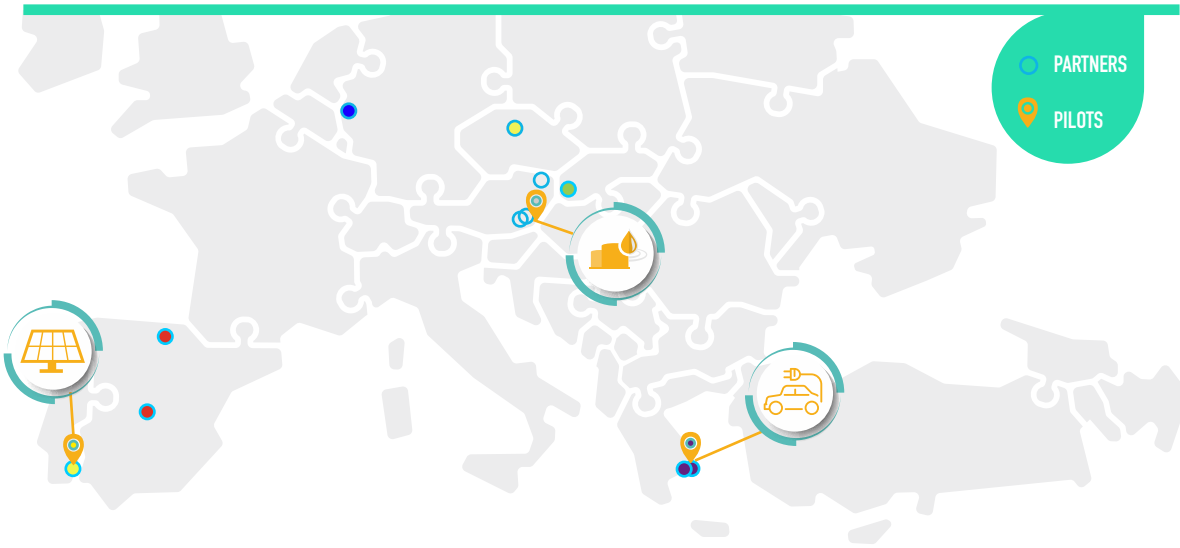
PROJECT PARTNERS

SHAR-Q project is coordinated by the Spanish partner Atos Spain together with 10 other renowned European partners from the fields of renewable energies, ITs and research. The SHAR-Q's consortium provides a well-balanced combination of knowledge and expertise from the mix of different types of partner organizations. Therefore, it is well prepared to tackle the project's main objective in establishing an interoperability network that connects the capacities of the neighbourhooding RES+EES ecosystems into a collaboration framework.

- ATOS Spain
- bAvenir
- UBIMET
- ENERCOUTIM
- EEE
- Basque Energy Cluster
- RWTH Aachen
- ICCS
- HEDNO
- Energie Güssing
- ATOS CZ



Introduction to partners

Atos Spain is a leader in digital services and is focused on business technology that powers progress and helps organizations to create their firm of future. In SHAR-Q project, there are two different Atos branches involved. Atos Spain brings to the project the expertise of the Energy Sector as a key player in the European research landscape.

Atos CZ has broad knowledge of electricity industry evolutionary changes in last few years. ATOSCZ uses its knowledge of energy market participants and so prepare the main delivery content regarding benefits for the energy market participants and end consumers/prosumers. In hand with content, SHAR-Q services and privacy/security part will be precisely defined based on skills acquired from previous projects.

BAVENIR is an SME with proven expertise in field of project management, solution/enterprise architecture, strategic consulting and software implementation. In SHAR-Q project, bAvenir will be in charge of implementation of the SHAR-Q collaboration platform.

UBIMET GmbH is among the top three largest weather companies in Europe. In the project, UBIMET will provide high precision weather data, solar irradiation and wind data for Demand Response Management in microgrids. Consumer behaviour and its relation to weather will be assessed with UBI pinpoint accurate now and forecasts.

ENERCOUTIM is a solar energy association that promotes rural economic and social development through the optimization of local resources, supporting multidisciplinary and technology-based projects in the areas of clean energy, sustainability and energy efficiency. In SHAR-Q project, ENERCOUTIM will be in charge of the implementation of Solar Lab pilot.

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The European Center for Renewable Energy Güssing Ltd. (EEE), serves as central coordinator for the "Model Güssing" project and the numerous sub-tasks involved, in order to facilitate the dissemination of experience in the field of renewable energy sources. In SHAR-Q project, the EEE will be the link to the ecoEnergyland demonstration pilot.

The Basque Energy Cluster (CLUSTER DE ENERGÍA) integrates the leading companies in the value chain of the energy sector of the Basque Country. In the project, the Cluster will bring added value to the project through its expertise in power grids. It will also be in charge of disseminating project results to maximize the impact of the project, to engage key industry stakeholders and identify potential business opportunities.

RWTH Aachen University fosters innovative energy research with a strong link with industry in an interdisciplinary approach. In SHAR-Q project, the RWTH will bring its expertise to boost the development of the SHAR-Q interoperability network.

The Institute of Communication and Computer Systems (ICCS) is a private law body associated with the NTUA which carries research and development activities in the fields of telecommunication systems and computer systems. In SHAR-Q project, the EES Laboratory of the ICCS will add its great experience in the field of electromobility to the Meltemi pilot demonstration.

ENERGIE GÜSSING is the operator of the local national power grid and is committed to supply approximately 3500 customers with electrical power. Energie Güssing will provide the necessary infrastructure of the national power grid, the software and hardware environment for testing and integration of SHAR-Q pilot site, ecoEnergyland.

Hellenic Electricity Distribution Network Operator S.A. (HEDNO) was established in April 2012 and is responsible for the operation, maintenance and development of the power distribution network in Greece in order to ensure transparent and non-discriminatory access of network users. HEDNO is the fifth Distribution Company in EU in terms of number of consumers and prosumers with 7.4 million customers, with a total length of network lines of 236,000km.

PROJECT NEWS

01/11/2016 | SHAR-Q project, a European project that will develop innovative technology for the electricity networks of the future, has been officially launched.

The project, coordinated by Atos, started on the 1st of November 2016. For 3 years, 11 partners will cooperate to optimize storage energy systems and their integration into the grid.

28/03/2017 | Visit to ecoEnergyland pilot site in Güssing

At the end of 2016, SHAR-Q project successfully started into its first year with a partner meeting in Madrid, Spain. After few months of initial project work, it arrived the time to visit the project's pilot sites firsthand which are Solar Lab (Portugal), ecoEnergyland (Austria) and Meltemi (Greece). Therefore, on the 28th of March a first visit toecoEnergyland in Güssing was leaded by Enercoutim, as it is the partner in charge of the Work Package concerning pilot sites.

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PROJECT NEWS

Several project partners such as ATOS, Bavenir, EEE, Enercoutim, Energie Güssing and Ubimet participated on the meeting leading to an excellent exchange of ideas and experiences and to great results.

The workshop was divided in two main sessions. The first session was dedicated to present ecoEnergyland and to discuss the most suitable pilot setting to assist the SHAR-Q project. In brief, theecoEnergyland is an association consisting of 18 municipalities partnered for the project named 'Climate&Energy Model-region'. On the other hand, the second part was mostly directed to decide how to proceed in the project, taking both project partners' and stakeholders' view into account.

EEE (the European Center for Renewable Energy of Güssing) was an excellent host, organising a site visit to Strem municipality where the team had the opportunity to visit two biomass facilities (one of them used for district heating) and a nearby solar production facility, guided by the mayor of Strem.

30-31/03/2017 | SHAR-Q project visit to the University of Athens and Meltemi pilot

Within two days of intensive collaboration and several internal workshops SHAR-Q partners exchanged knowledge in algorithms which are key for SHAR-Q platform, had discussions on the architecture and other concepts of the project and analised different P2P implementation scenarios.

In order to do that, they had meetings with the SmartRue Research team of the Electrical & Computer Engineering School at the Technical University of Athens, also organised an internal workshop at HEDNO headquarters and visited Meltemi campus, which is the project pilot site that represents the exploitation of the synergies of electric vehicles with renewable energy sources (Meltemi pilot description), among others.

Additionally, during the internal meetings they also had an exchange of views about the DILO (Day in the Life of) describing a prosumer case for SHAR-Q created for the project (DILO 1). This document is an approach to facilitate stakeholders understanding of the nature of the project and it is expected that another two DILOs will be generated to cover every angle of SHAR-Q.

Check these and more SHAR-Q stories in
http://www.sharqproject.eu/project-news

STAKEHOLDERS ADVISORY BOARD (SAB)

The SHAR-Q research and innovation activities will be driven by the opinion of stakeholders involved in the SHAR-Q Stakeholder Advisory Board. Their feedback will be carefully monitored throughout the project duration since they are relevant and committed market and non-market players of various exchange views and stand points. Currently, although there are already many members on the SHAR-Q SAB, we are still seeking people interested in becoming part of the board in order to finish building it.

NEXT STEPS AND EVENTS

M6 plenary meeting in Bilbao

On the 3rd of May, the first SHAR-Q partner meeting is going to take place in Bilbao, hosted by partner Cluster de Energía. The meeting will serve as an opportunity to get an overview of the progresses so far and to plan further steps and tasks of the project. Therefore, it will be a formal update on all Work Packages within the project. Another main purpose of the meeting is to prepare the final details for the stakeholder workshop that will be held also in Bilbao next day, on the 4th of May.

Stakeholder workshop in Bilbao

Co-located to the 'M6 plenary meeting', SHAR-Q partners are organizing the first project workshop directed to stakeholders. A representative number of SAB member will be attending. The event will take place on the Mercure Hotel of Bilbao on the 4th of May. Within the workshop, members of the consortium will present the details of the project and its objectives. The main aim of the meeting is receiving stakeholders' views on the approach developed so far as well as on the business potential of SHAR-Q.

We hope that you enjoyed our 1st SHAR-Q Newsletter and already look forward to the next editions.

Sincerely,
The SHAR-Q Consortium

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