

A total of **31 projects** participated in the first **BRIDGE meetings** of the year, held in Brussels on 17th-19th January in Brussels. The first sessions were focused on the activities of the **BRIDGE Working Groups** (Data Management, Business Models, Regulations and Customer Engagement). Projects assessed their current outputs and agreed next steps for 2017. Conclusions from these sessions were then presented to the project coordinators and EC representatives during the **BRIDGE coordination meeting**. The **main goal** of the **BRIDGE initiative** in 2017 is to **analyse the EC's Clean Energy for All Europeans** package of proposals delivered in November 2016. Projects are working towards identifying the parts of the EC proposals which may need to be amended or supplemented to facilitate the deployment of their demonstrations, in line with the perspectives of the **BRIDGE WGs**. This analysis will be presented at **EUSEW 2017** to show how **BRIDGE projects** contribute to **quicker and more efficient deployment of smart grid and energy storage solutions**.

The **8 latest projects** from the H2020-2016 distribution grids and renewable integration calls have been officially welcomed into the BRIDGE initiative: **inteGRIDy**, **INTEGRID**, **GOFLEX**, **Re-SERVE**, **GRIDSOL**, **INTERFLEX**, **INVADE** and **WiseGrid**. Read more about them below...

Visit the brand new BRIDGE website at www.h2020-bridge.eu!



InteGrid's vision is to **bridge the gap between citizens and technology/solution providers** such as utilities, aggregators, manufacturers and all other agents providing energy services in the Smart Grids arena, hence expanding from DSO distribution and access services to active market facilitation and system optimisation services while ensuring **sustainability, security and quality of supply**. **InteGrid** will develop tools to **enhance data exchange** between market participants to benefit end-consumers, and **encourage new players and services to enter the market**. The consortium includes: DSOs from Portugal, Slovenia and Sweden (EDP Distribuição, Elektroljubljana and Ellevio); Industrial companies (Cybergrid, GE, SAP); Industrial Consumers (Águas de Portugal); a start-up expert in community engagement (SIM); and R&D institutions (INESC TEC, KTH, AIT, Comillas University, CNET and DNV-GL). Follow **InteGrid** on Twitter [@integridproject](https://twitter.com/integridproject) and on [YouTube](https://www.youtube.com/).



GRIDSOL looks at **renewable energy integration** at generation level, aiming for better use of energy assets and greater penetration of renewables through the combination of primary Renewable Energy Sources (RES) and cutting-edge technologies under an **advanced control system**. **GRIDSOL** introduces **Smart Renewable Hubs** for flexible generation based on **firm hybrid power plants**. **GRIDSOL** will mitigate curtailment generation issues whilst improving security of supply and grid stability thanks to firm and flexible generation. The project is developing software for **RES and energy storage modelling** under different demand scenarios, and a **Dynamic Output Manager of Energy (DOME)**, to ensure operation efficiency and grid stability with higher RES penetration. **GRIDSOL** will deliver new business models to assess the techno-economic **benefits** of hybrid power plants versus conventional technologies, highlighting the importance of **flexibility and firmness** to integrate variable RES into electricity markets and grids. The project website is available [here](#).

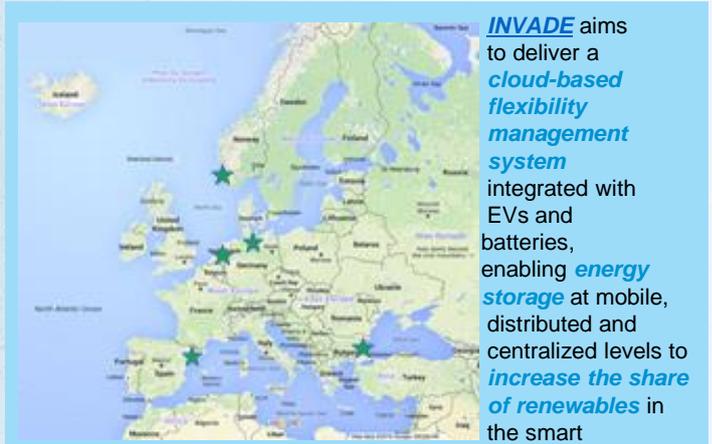
The **GOFLEX** project innovates, integrates, and demonstrates a group of electricity smart-grid technologies for **managing flexibility in energy production and consumption**. **GOFLEX** focuses on active use of distributed sources of flexibility to provide services for grid operators, balance electricity demand and supply, and optimize energy consumption and production at a local level. The demonstration sites for **GOFLEX** are in Cyprus, Switzerland and Germany, and **cover a diverse range of structural and operational distribution grid conditions**. The project kicked-off in November, and is in the process of defining in detail how the various smart-grid technologies work together and how they will be deployed at the demonstration sites.

WiseGRID (Wide-scale demonstration of Integrated Solutions and business models for European smartGRID) will provide a set of solutions and technologies to increase the **smartness, stability and security** of an open, consumer-centric European energy grid. The project will combine enhanced use of **storage technologies**, highly increased share of **RES** and integration of charging infrastructure to promote **large-scale deployment of electric vehicles**.

inteGRIDy aims to integrate cutting-edge technologies, solutions and mechanisms into a scalable **Cross-Functional Platform** of replicable solutions which connects existing energy networks to diverse stakeholders, with enhanced observability of both generation and consumption profiles. **inteGRIDy** will facilitate **optimal and dynamic operation of the Distribution Grid**, maintaining grid stability, and coordination of distributed energy resources, Virtual Power Plants and innovative collaborative storage schemes with a continuously **increased share of renewable energy**. Innovations are built upon:

- **Integration** of existing smart-metering/automation systems.
- **Novel modelling and profiling mechanisms** allowing the creation of network topology and DR models, together with battery cycling and charging profiles.
- Predictive algorithms enabling **dynamic scenario-based simulation** and **multi-level forecasting** for managing real-time demand and supply of energy and optimised decision making.
- **Visual** analytics and end-user applications.
- A **security access control framework** (data protection).
- Innovative **business models** involving DR strategies and allowing new entrants.

The project plans to deploy **10 pilot and demonstration sites** throughout EU.



INVADE aims to deliver a **cloud-based flexibility management system** integrated with EVs and batteries, enabling **energy storage** at mobile, distributed and centralized levels to **increase the share of renewables** in the smart

distribution grid. The project integrates the following components: flexibility management system, energy storage technologies, EVs, and novel business models. It combines these components with **advanced ICT cloud-based technologies** to deliver the **INVADE platform**. The project will integrate the platform with existing infrastructure and systems at pilot sites in Bulgaria, Germany, Spain, Norway and the Netherlands. **Novel business models** and extensive exploitation activities will be key in **maximizing profits** for a full chain of stakeholders, and **optimizing social welfare**, while contributing to **standardization and regulation** policies for the European energy market. Meaningful integration of the transport sector will be demonstrated by the pilots in Norway and the Netherlands – countries with the highest penetration of EVs worldwide.

The **InterFlex** Smart Grid project, led by Enedis, was officially launched on 1st January 2017. The kick-off ceremony took place at the Allianz Riviera stadium in Nice, France, on 26th January. Within this three-year project, the 20 partners will explore new ways to use various forms of **flexibility** with the aim of **optimizing the electric power system on a local scale**. The project will have six demonstration sites in five countries, which will work together to carry out **interoperability, replicability and cost benefit analyses**. Located in and around Nice, the French demonstrator, led by Enedis, will carry out experiments on **automatic islanding, energy storage systems** and various types of **electrical flexibilities**. In addition to technology development, the French demonstrator aims to set up **business models** for electrical flexibility. Engie, EDF, GRDF, GE and Socomec are all working on this French demonstrator.



The **RE-SERVE** project **tackles the urgent need** to find ways to stabilise energy systems with up to 100% RES to generate stable and sustainable “RE-SERVEs” of energy supply. **RE-SERVE** focuses on several key challenges:

- **Management** of largely decentralised energy systems,
- **Harmonisation** of network codes on at least European level
- **Communication** infrastructure for near-real-time services combined with high reliability

RE-SERVE addresses these challenges by developing **new solutions based on 5G technology** to assist energy providers in these areas:

- **Voltage and frequency balancing** of the power grid
- Increasing **RE sources**
- Defining **network codes** and **ancillary services**
- **Regulatory, legal and business models** issues for renewables

RE-SERVE results will be validated by:

- **Live** trials and test beds
- Preparation of a pan-European **simulation lab** for future support by spin-off organization
- Continuous **interaction** with a broad range of **stakeholders**
- **Validation** of spin-off plans with stakeholders

EMPOWER is making progress with the **pilot deployment** of the **ICT platform** designed and built to ensure operation of **local energy markets** according to the **business models** identified and developed in the first stages of the project. The project recently organised a **symposium** on “**Local energy markets: dream or facts**”, with John Hodemaekers, Chairman Executive Board of USEF (Universal Smart Energy Framework) as guest speaker, at **ETSEIB-UPC: X International Conference on Energy Innovation** in Barcelona in January 2017. More than 100 people attended the event.

The **ELSA** project held its **mid-term conference** on 27th October 2016. Stakeholders from the automotive, building, and energy sectors, as well as other interested parties, had the opportunity to visit the **ELSA prototype**, installed at the Bouygues Challenger building. The **ELSA second-life battery energy storage system** has now been deployed at three of its six pilot sites. At Gateshead College in Sunderland and in the Ampère Building in Paris, the **ELSA** system is being used at building level to **increase self-consumption**, as well as to **provide services to the grid**. At the pilot site in Kempten, the focus is on maximizing the city district’s **self-supply** with PV electricity, and **mitigating** difference of PV power and electricity demand fluctuations. In the pictured transformer station, six second life batteries (from Renault Kangoo electric vehicles) have been installed, with a total capacity of up to 95 kWh.



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Within **NETfficient**, different **storage technologies** will be installed and tested during the pilot period starting in 2017. At the **NETfficient** partner meeting in Freiburg in January 2017, the consortium finalised the design and development of the **Energy Management Software** and tools for its **ICT Systems** – one of the most essential parts of all five **Use Cases** (UC) and, a pre-requisite for their implementation and demonstration. The consortium also welcomed its new project partner ZIGOR Research & Development. During the pilot period, some homes and buildings will be equipped with the **Hybrid Energy Storage System (HESS)**. HESS

Li-Ion batteries and ultracapacitors which extend the battery lifetime. This technology will be demonstrated within three of the five UC scenarios: UC 1 (Grid Substation), UC 2 (40 Homes) and UC 3 (five Buildings). **NETfficient** wishes to increase the number of members on its **Advisory Board**. For more information, please click [here](#) to get in touch.

The results of the two-year **ENERGISE** project were presented at the Final **Dissemination Workshop on Communications Infrastructure Strategies for Smart Grid Applications**, which took place at DG Connect in Brussels in March 2017. Over the two days, more than 80 representatives from the telecommunications and energy industries, national regulatory bodies and research institutions from all over Europe came together to discuss the future cooperation modes of **ICT infrastructure for smart grids**. The workshop offered a unique opportunity for networking between the energy and telecommunications sectors, which so far have remained mostly separate, allowing them to develop their respective **strategies on smart grids** in parallel. Additional information and all results are available on the [ENERGISE website](#).



The second **FLEXICIENCY** Advisory Board meeting was held on 29th March 2017. During the meeting, attended by many project stakeholders representing different players in the energy market (DSOs, TSOs, Regulators, Energy Retailers, Research Centers, Associations, etc.), the project representatives gave a brief overview of the project, focussing on the main achievements so far. Following a presentation on the most recent developments on **'EU Market Place'** – the **virtual ICT environment** which aims to catalyze the interactions between relevant stakeholders in an open and standardised way in order to encourage **cross-border** and **cross-player** access to innovative energy services – the stakeholders were asked to provide feedback and comments on the platform. [Subscribe](#) to the Newsletter to keep updated!

The Oud-Heverlee demo of **integration of small-scale storage** in a residential setting is one of six such pilot within the **STORY** project. One of the buildings is a highly-advanced net zero energy building, now ready for its first full Summer of storing solar energy in the 24,000L thermal storage device connected to 12m² of solar vacuum boilers. The hybrid PV bridges thermal and electrical production and serves to regenerate the geothermal system while providing **flexibility for grid assistance** and **reduction of grid energy demand** in Winter. The building has 46 kWh of static electrical storage and there are two electrical vehicles. Initial data show that reaching the objectives of having **70% of thermal demand** covered by solar thermal energy and over **60% of total energy demand**, including mobility, covered by energy generated on-site, will be feasible. Four additional residential buildings have now been equipped with each a different kind of home battery. The age or education of the inhabitants does not seem to be a defining factor in how they perceive this battery integration demo; **all participants have become much more conscious about the production and consumption of energy.**

Since the beginning of 2017, **NOBEL GRID** has been piloting **demand-response** services at Lancaster Cohousing, bringing **smart energy solutions** to more than 40 homes and 15 business tenants. From 20th–22nd February 2017, the consortium partners visited the site in the UK as part of their **4th General Meeting**. “Smart energy gives people more control over the way they use energy and hopefully reduces their bills.” explained Matt Fawcett, Technical Lead at Nobel Grid of Carbon Co-op. “In **Lancaster Cohousing** the householders and tenants will be able to see on their phones, tablets or mobile devices exactly how much energy they are using at any moment but also see how much **renewable energy** is being Produced on-site by the photovoltaic panels, biomass boiler and the hydro-electric generation they have”.



The **MIGRATE Stakeholder Workshop** will take place in Brussels on 6th April 2017. This workshop is your opportunity to have your say on how MIGRATE should interact with your community (industry, consumers, etc.). **MIGRATE** develops **innovative solutions** for a secure transition towards network operation with massive power electronics integration, and also plans to propose **recommendations** on how grid connection rules should evolve to enable **implementation** of the innovations developed. Stakeholders will be involved to make sure that the proposed deployment of solutions and grid code evolutions will be technically and economically realistic. **Be a part of the community – click here to register!**

The **SmarterEMC2** partners have devoted enormous efforts over the last six months to recruiting participants and deploying the necessary infrastructure for the implementation of the **real-life demonstrations**. For the **Demand Response** pilot in Greece, Intracom Telecom has installed more than 230 smart meters in LV residential customers' properties. In Turkey, Aydem Elektrik (local DSO) has already equipped more than 170 commercial and industrial customers' properties with a light indicator, controlled via a relay, in their smart meter panel. In Italy, Thales Italia has set up, and will operate, a pilot in the region of Ortona, in cooperation with Odoardo Zecca – a local DSO with more than 20,000 customers. **The whole set SmarterEMC2 pilots will be up and running before Summer 2017.**



Between December 2016 and March 2017, the **Factory Acceptance Tests** of the **TILOS Prototype Battery Storage System** were successfully carried out at the Younicos test centre in Berlin. The prototype storage system, bringing together the FZSonick NaNiCl₂ batteries and the IDT battery inverter, has advanced features that support multiple functions, and also enable both stand-alone and grid-connected operation of the Tilos island microgrid. Other **important project milestones** reached in the recent months include the installation of the **Microgrid SCADA** on the island of Tilos, setting up the **communications** between the SCADA and existing measuring equipment, shipping 150 **Smart Metering & DSM Panels** to Tilos and launching their rollout on the island, and a **seminar** conducted by WWF to inform the local habitants on the installation and use of the Smart Meter & DSM Panel.



Within **RealValue**, **Smart Electric Thermal Storage (SETS)** devices and **Gateways** have been installed in 50 properties in Latvia, over 100 in Germany, and over 200 in Ireland, with phase II of recruitment well underway. Bi-directional testing of the **communications** is ongoing, and the Gateways are now pushing **data** to the project's **IT cloud infrastructure**. Participants in Germany can now control their heating systems using the **RealValue App**, and the App for Ireland and Latvia is gradually being rolled out. Testing of the **aggregator for load-shifting** is ongoing in the lab and selected homes in the field; all properties will be **demand-response ready** by the 2017/18 heating season. The **end-to-end RealValue solution** and **integration with the EirGrid Control Centre** (Irish TSO) was demonstrated to the European Commission at the 1st Review Meeting in Dublin in February 2017. Check out the project' latest video clips on **YouTube!** Watch out for RealValue at the **'Electrification of the European Economy' EURELECTRIC Conference** in Brussels in April, and the **EURELECTRIC Annual Conference** in Lisbon in June.



SmartNet has published its **three first technical deliverables** which address the following fundamental questions:

- Which ancillary services could be provided by DER by the year 2030 (D1.1)
- What TSO-DSO coordination schemes could be relevant to be compared in terms of market efficiency (D1.3)
- What are the requirements from the ICT point of view (D3.1)

Click [here](#) to read more.

The creation of the **simulation platform** that will be used to compare the different coordination schemes for the three selected countries (Italy, Spain and Denmark) should be completed by mid-summer 2017.

Meanwhile the **deployment of the three physical pilots** is progressing well: the specifications have been defined, and by mid-2017 installation at the three sites will begin. In February, the consortium met with the Advisory Board to discuss **ICT requirements and aggregation strategies** – read more [here](#).



The four **UPGRID demonstrators** are now in operation and providing useful data; the conclusions will be presented by the end of the year – read more [here](#). UPGRID participated in **European Utility Week** in November 2016, giving a presentation on **'UPGRID, proven solutions for operating present and future LV networks'**, and contributing to a session panel – read more [here](#). UPGRID will present the project's conclusions at CIRE2017, InnoGrid2020+ and European Utility Week 2017, among other events. The project had a successful **3rd General Assembly** in London in February 2017. Read the **UPGRID Newsletter** for updates, and [contact us](#) to subscribe!



Any PLACE, FLEXMETER, Flex4Grid, FutureFlow, integrgrid, inteGRIDy, InterFLEX, INVADe, MIGRATE, NAIADES, NETfficient, Nobel Grid, P2P-smarTest, PROMOTION, RealValue, SmartNet, RESERVE, STORE&GO, STORY, Sensible, SmarterEMC2, UPGRID, WISEGRID