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Austrian demonstration

Welcome to the 8th IElectrix newsletter!

We at Wirtschaftsagentur Burgenland Forschungs- und Innovations GmbH are happy to have joined the IElectrix project as leader of the Austrian demonstration activities. These activities are enabled by the close cooperation of the research and innovation company FIB together with the local DSO Netz Burgenland and the Energie Burgenland as energy supplier, whose strategy towards a higher share of renewable energy generation and increase of local self consumption as well as security of supply is in line with the main goals of the IElectrix project.

Teamed up with partners from ATOS, CIRCE, EEE, HYPERTECH, MERIT and SIN, the Austrian demonstration, forming a local energy community with the introduction of a demand response framework, as well as the integration of a BESS and renewable energy generation, has been set up in the last year.

The introduced demand response framework works as a human centric approach, where the comfort level of the participants is taken into account for the analysis of available flexibility and the corresponding control actions applied. This approach delivers added value towards the participants, as they can offer their flexibility towards the local DSO to reduce their energy bill, while the DSO gains additional control options for the grid operation.



Markus Resch
*Leader of Austrian
Demonstration (FIB)*

The other main pillar, as in all other demo sites is the implementation of a Battery Energy Storage System, which not only provides additional control options for the every day grid operation of the DSO, but also contributed towards the local energy community in terms of increase the local self consumption of renewable energy and increase of security of supply.

Communication with all involved stakeholders is considered a key point for the successful implementation and the improvement of the technical solution tested in real life conditions. Therefore, participants are encouraged to provide their feedback on a regular basis towards the Austrian project partners.

We are proud to be part of the IElectrix consortium and are looking forward to the final results all of us achieve during the project, which special focus on the real life demonstration all 4 demo countries have implemented.

Enjoy the reading of the Newsletter and stay tuned for the updates in the final phase of this project.

Indian Smart Utility Week 2022

02 – 04 March 2022

Hybrid event – New Delhi, India

IElectrix was present at the Indian Smart Utility Week (ISUW) 2022. The event ran on a digital platform.

This is the third time the IElectrix project participates in this event which ranks among the top five international events on Smart Grids, Electric Mobility and Smart Cities.

For this edition, IElectrix was involved in different activities including the animation of a dedicated virtual project booth at the European Union Digital Pavilion, the presentation of a technical paper on the installation and commissioning phase of the Indian demonstration and the participation of Enedis, Tata Power-DDL and Geco Global in the 11th EU-India Workshop held on the 3

On the 2nd of March, François Cazals, Schneider Electric Microgrid Application Architect, presented the technical paper “Installation and commissioning of the Indian demonstration in Delhi” and Dr Ganesh Das, Tata-Power-DDL Chief – Strategy, Collaborations, Innovation and R&D showcased the Indian Demonstration context and goals during the session “Discussion with key stakeholders and representatives from the Smart Grid sector in India”.

Finally on the 3rd of March, Pierre-Jacques Le Quellec, IElectrix project Coordinator and Paul Tobin, Geco Global Behavioural scientist took part in EU-India Smart Grid Workshop session « Communities and Social Innovation ».



Figure 1: IElectrix virtual booth



Figure 2: IElectrix project coordinator in the 11th EU-India SG workshop



General Assembly

22nd, 23rd and 24th March 2022 - Online

BRIDGE General Assembly 2022

22 – 24 March 2022

Online event

The Bridge General Assembly 2022 took place online from the 22nd to the 24th of March.

Several parallel sessions were organized to strengthen the collaboration between projects and discuss about future BRIDGE topics.

In order to get an update on the latest activities performed by the BRIDGE Working Groups and Tasks Forces, the IElectrix representatives attended the different related sessions during the BRIDGE GA 2022:

- Business Models
- Data Management
- Customer and Citizen Engagement
- Regulation

The three-day meeting was also the occasion for the participating partners from IElectrix to discover the new projects that joined BRIDGE initiative as well as to get to know the results and lessons learned from the ended projects.

Day 1: 22 nd March	IElectrix participant partners
Plenary 1.1 Presentation of 2021 actions by Working Groups	Enedis E.ON EEE
Plenary 2: New BRIDGE Projects	E.ON EEE Enedis
Plenary 3: ETIP Smart Networks for Energy Transition	E.ON EEE
Plenary 4: Plenary 4: Clean Energy Transition Partnership (CETP) and JPP SES	E.ON EEE
Parallel Session 4.1 – DATA MANAGEMENT WG 1/2	E.ON RWTH Aachen
Day 2: 23 rd March	IElectrix participant partners
FOCUS TOPIC – Digitalisation	E.ON
Parallel Session 1 – Regulation WG	E.ON RWTH Aachen
Parallel Session 2- Storage	
Parallel Session 3 –Consumer & citizen engagement WG	EEE
Parallel Session 5 – Business Models	EEE Enedis
Day 3: 24 th March	IElectrix participant partners
Plenary 5: Presentation of 2021 actions by Task Forces	E.ON EEE
Plenary 6: Ended BRIDGE Projects	E.ON EEE
Plenary 7: International Cooperation	E.ON EEE Enedis
Plenary 8: EIRIE platform	E.ON EEE
Plenary 9: Joint Communication	E.ON EEE
Plenary 10: Concluding the BRIDGE General Assembly	E.ON
Conclusions and Closing	E.ON

Figure 3: IElectrix participation



Inauguration of the Indian demonstration Shakti

24 March 2022

Online event

In March, the European partners of the Indian demo came to Delhi to complete the commissioning phase of the project. During two weeks, Enedis, Schneider Electric and Odit-e worked closely with TPDDL to finalise the IT architecture of the system and to test the proper communication among the equipment of the demo.

Finally, the sequence of operations which includes the transition from on-grid to islanded mode was tested and operational.

On the afternoon of Thursday 24th of March 2022, the demo was officially inaugurated. For this special occasion, the project partners were honoured by the presence of H.E. Mr. Ugo Astuto, EU Ambassador to India, Mr. Krishan Pal, Hon'ble Minister of State for Power and Minister of State for Heavy Industries, Government of India, Mr. Jean-Baptiste Djebbari, Hon'ble French Minister of Transport and representative of the French Presidency of the European Union Council 2022 and H.E. Mr Emmanuel Lenain, French Ambassador to India.

The event started with the broadcast of the Shakti promotional video, then the special guests delivered speeches focuses on the Indian energy transition, the related key role of smart grid and the importance of the EU-India collaboration.

Site visits were organised to explain the functioning of the microgrid solution to all the participants followed by an event group performance presented by the school students.



IElectrix demonstrators

HELGA

Demo in Hungary led by E.on EED

IElectrix Hungarian team started working on the last report related to the results of the two demonstrations, which will be submitted in July. For this report field tests, measurements and simulations were carried out in order to show the performance of the battery and direct load control system. In the meantime, IT developments were continued for better control strategy of the battery and advanced direct load control system. Also public monitoring system will support in the dissemination of Hungarian project HELGA and leads energy users towards mindful sustainability at the time of energy transition. Looking forward to disseminate the project results in conferences during next period.

Strom Güssing

*Demo in Austria led by FIB
(Wirtschaftsagentur Burgenland
Forschungs und Innovations GmbH)*

As the deployment and integration phase ended and the overall solution provided for the Austrian has been detailed in the implementation demo report, the Austrian Demo is entering the Use Case demonstration phase. This phase concludes with the intensive testing of the overall technical solution including the BESS and the participants equipped with Smart Home devices for their integration into the Demand Response framework. Once the tests have successfully been executed, the results will be documented in the last deliverable directly related to the Austrian Demo in September.

Moew.e

Demo in Germany led by E.DIS

E.DIS team is preparing the last report of the Moew.e demonstration. This report, which is the result of collaboration of E.DIS with two project partners CIRCE and RTWH University, will be submitted in the end of June. It contains highly interesting findings about the impact of the battery in the distribution grid. All of these findings are proven either by measurements or simulations. Besides technical details, this report will contain interesting economical insights, which can be used as a basis to compare conventional grid reinforcement measures with ancillary services provided by BESS. Furthermore German IElectrix team developed an innovative business model, that will be described in the next newsletter.

SHAKTI

Demo in India led by Enedis

In March, Enedis, Schneider electric and Socomec came to Delhi to finalise the commissioning phase of the Shakti demo. During two weeks the technical team worked with the local partner Tata Power-DDL to test they tested the proper communication among the equipment of the demo. Also the different sequences of operation to switch from on-grid to islanded mode were successfully tested. On 23th of March, the Indian demo has been inaugurated in presence of H.E Mr. Ugo Astuto, EU Ambassador to India, Shri Krishan Pal Gurjar, Minister of State of Power and Heavy Industries and Jean-Baptiste Djebbari, French Minister of Transport and representative of the French Presidency of the European Union Council 2022.

Focus: Regulatory barriers for the implementation of use cases

Regulatory barriers for the implementation of IElectrix use cases

The solutions tested in the project demonstrators rely on groundbreaking solutions such as the use of battery storage systems to support distribution grid operation, or the development of local energy communities oriented towards local self-consumption of renewable energy. As any innovation, they are likely to collide with existing regulation.

Undoubtedly, the dispositions included in the Clean Energy Package on topics such as storage ownership, distribution grid planning, use of flexibility by DSOs, self-consumption, or local energy communities (including both citizen and renewable energy communities), represent a step in the right direction towards overcoming existing barriers.

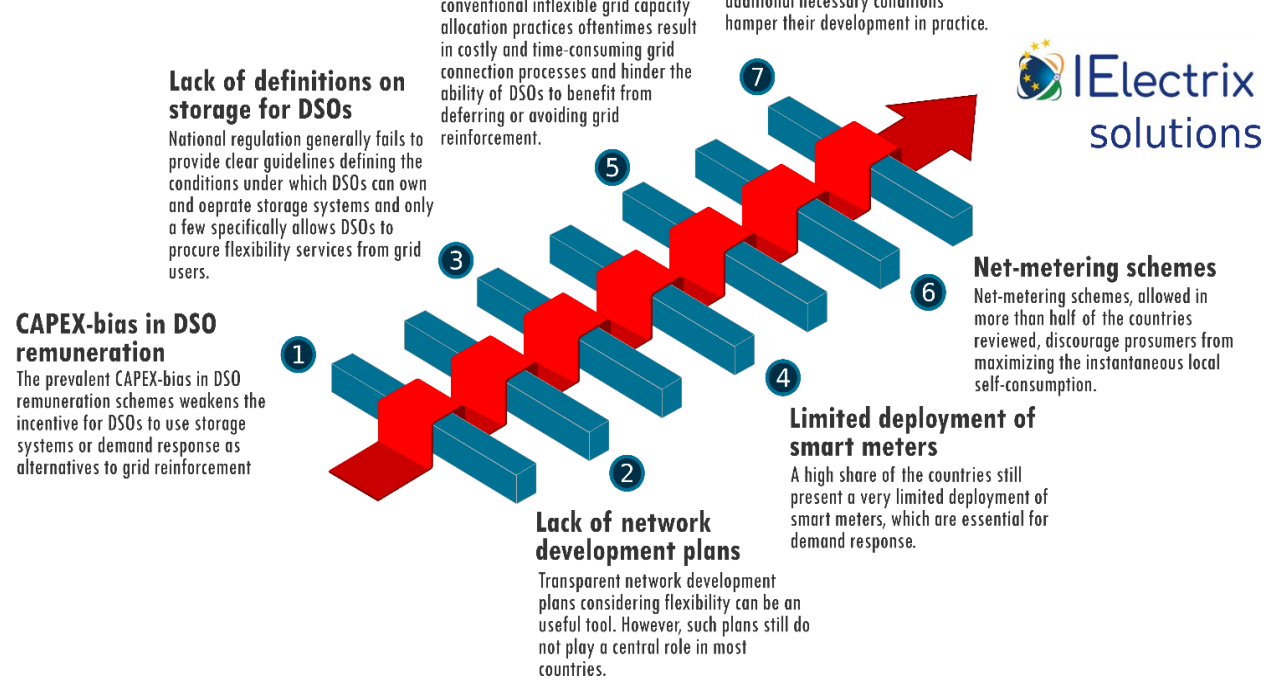
However, transposing the Directives is one thing, but putting that regulation into full operation is a very different and challenging one. On the one hand, transposition can take significant time and, on the other hand, Directives leave several topics open for further definitions to be done at the level of Member States. Therefore, attaining a fully-fledged fit-for purpose regulation also depends on the capability of Member States, including both policy makers and national regulatory authorities to reach a conclusion with regards to open topics in a timely and efficient way. The potential delay in transposing and implementing the Clean Energy Package also creates regulatory uncertainty, which is itself a barrier.

Acknowledging this fact, IElectrix has reviewed and analysed existing regulation in up to seven countries aiming to identify specific potential regulatory barriers to the implementation and diffusion of the project solutions. These countries include the four demo countries (Austria, Germany, Hungary and India) as well as three replication countries (France, Sweden and Greece). The topics assessed include: DSO economic regulation, incentives for innovation, new roles of DSOs, grid access and connection, smart metering, retail tariff regulation, self-generation, and local energy communities.

As a result of this evaluation a set of regulatory barriers to the implementation of the IElectrix solutions have been identified. The relevance of these barriers for each country and use case has been assessed too, showing that no country and use case is completely free of regulatory barriers. The most relevant barriers identified are illustrated in the figure below. These are mostly related to:

- i. Insufficient incentives for DSOs to rely on demand response or storage systems to alleviate grid constraints and avoid or defer grid reinforcement
- ii. Missing regulation enabling DSOs to actually use such flexibilities either through direct ownership, bilateral contracts or market-based procurement
- iii. Self-generation schemes that fail to incentivize prosumers to maximize the instantaneous local self-consumption of renewable electricity or inadequate regulation for the development of collective self-generation and energy communities

Main regulatory barriers for the full adoption of IElectrix solutions



Before the end of the project, IElectrix will propose a set of recommendations to overcome the aforementioned barriers advancing in the implementation of the Clean Energy Package and paving the way to a more decarbonized and decentralized power system.



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