# Newsletter #2 – September 2020




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# Editorial

## Technical overview

It is my pleasure to welcome you to the second newsletter of our IElectrix project.

As Technical Director I am responsible to oversee all the technical coordination and management linking with the Project Coordinator, the General Work Package Leaders, the Demo Leaders, and the Technical Committee.

Together with the Technical Committee, we are looking to exploit the complementariness between the use cases while keeping the objectives and specificities of each demonstration ring-fenced.

We are aiming to align the different demonstrators in their individual regulatory environments on common technical and procedural standards to make our solutions as standardised and replicable as possible.

| Beneficiary | High-Level/ Business Use Case | Technical Use Cases | | | |
|---|---|---|---|---|---|
| | | CVM | DR | NS | NS with DRR |
| IN - TATA Power | Maximize the quantity of local consumption of RES | x | | | |
| IN - TATA Power | Boost the consumption of local energy with an adapted energy community Demand Response of consumers | | x | | |
| IN - TATA Power | Improve the resilience of the local energy system thanks to the islanding capability of the microgrid in case of an outage occurring within the area | | | x | |
| AT - Energie Guessing | Maximize the quantity of local consumption of RES generation thanks to Forecasting and scheduling of DER within the Integrated Local Energy System | x | | | |
| AT - Energie Guessing | Personalized, human-centric and contract-safeguarding participation in explicit demand response programmes, on the basis of context-aware flexibility profiles | | x | | |
| AT - Energie Guessing | Improve the resilience of the local energy system, thanks to the distributed voltage control in case of an outage occurring on the overlaying grid | x | | | |
| DE - EDIS | Evaluation of business case and benefits of integrating mobile battery systems into networks that would otherwise require reinforcement | x | | x | |
| HU- EED | Evaluation of business case and benefits of integrating mobile battery systems into networks that would otherwise require reinforcement | x | | | |
| HU- EED | Evaluation of the possible flexibility within the network, the operation of the current DLC system and the implications on customer behaviors and the potential benefits of more sophisticated load control | | | | x |

**Sven Tischer**
*Technical Director (E.ON)*

I would like to provide you with a brief overview of our demos and their technical use cases:

The German demo “moew.e” works on network stability through resilience and congestion as well as voltage management.
The Hungarian demo “HELGA” focuses on congestion and voltage management in addition to network stability with DR Redispatch (former DSM) (based on current regulation scheme).
The Austrian demo focus “Strom Güssing” is on congestion and voltage management as well as demand response.
The Indian demo “Shakti” concentrates on congestion and voltage management, demand response and network stability through resilience.

I hope you enjoy reading our newsletter, which in this edition covers an overview of the dissemination work that we are doing at different events and some selected highlights from our demo sites.

In this difficult time, stay healthy and take care of yourself and your loved ones.

Best wishes,


# InnoGrid 2020+

**18 and 30 June 2020**
**Digital event**

*This year, due to the Covid-19 emergency crisis, physical conferences had to be turned into virtual events. In June, IElectrix participated in the 2020 edition of InnoGrid, with 400 participants attending the online session.*

IElectrix took part in the 2020 edition of InnoGrid on Thursday, 18 June 2020. InnoGrid is the annual event on European innovation in electricity networks co-organized by ENTSO-E and E.DSO. This year's webinar highlighted the fact that System Operators are even more committed and determined to continue working to support the energy transition, especially during this pandemic.

During this event, the project teamed up with three other Horizon2020 projects for a joint session on "Grids for Renewables" to discuss how DSOs and Smart Grids can help enabling the integration of renewables.

Pierre-Jacques Le Quellec, as Project Coordinator, presented an overview of the IElectrix project along with the demonstrations in Europe and India. Then IElectrix Technical Director Sven Tischer from E.ON focused on the two HELGA demonstration sites in Hungary. He showed that Smart Grids can help enabling the integration of renewables into the distribution network faster and cheaper through the help of batteries. He also pointed out that DSOs can support the development of energy communities by allowing customers to use locally generated energy.


# EU Sustainable Energy Week 2020

## 22 – 26 June 2020
## Digital event

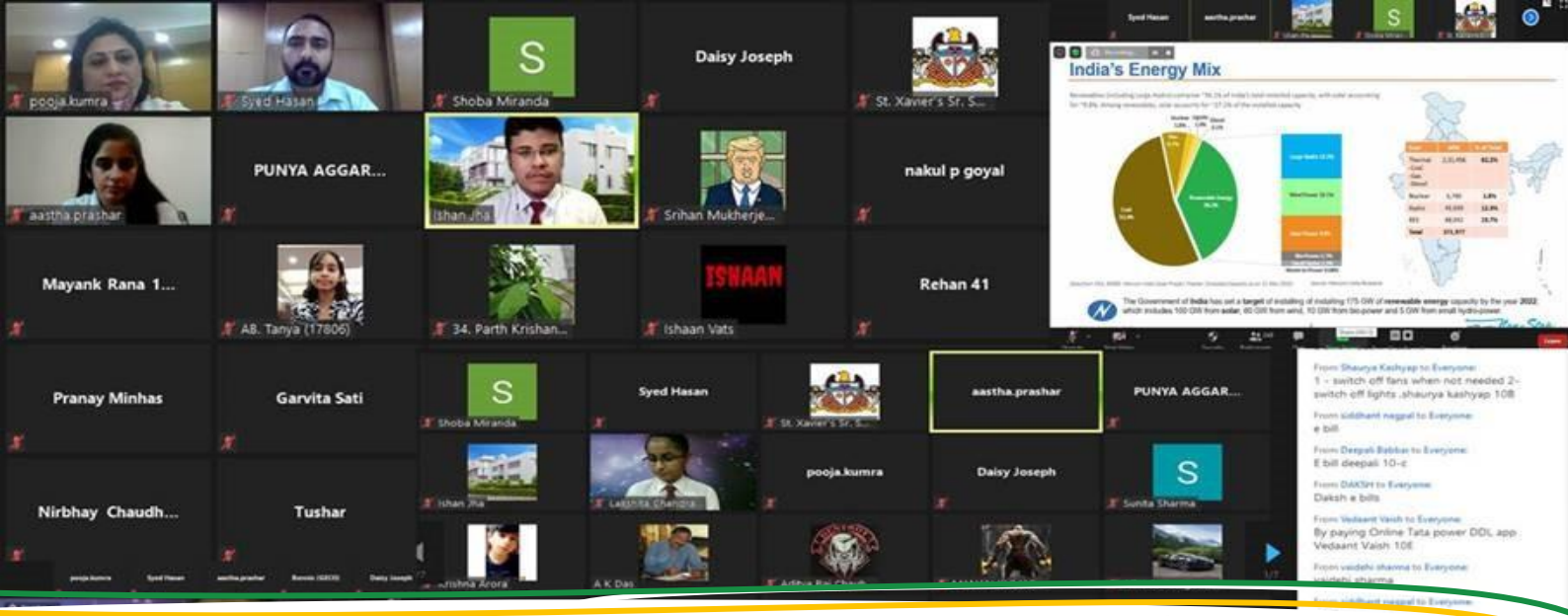
*Due to the Covid-19 emergency crisis, this year's physical conferences had to be turned into virtual events. In June, IElectrix also took part in the EU Sustainable Energy Week 2020, with 997 participants attending the online session.*

IElectrix was present at the EU Sustainable Energy Week (EUSEW) 2020, which virtually took place from 22 to 26 June 2020. The EUSEW is the biggest annual conference dedicated to renewables and efficient energy use in Europe, organised by the European Commission. This year's digital event focused on the theme "Beyond the crisis: clean energy for green recovery and growth".

On Thursday, 25 June 2020, IElectrix joined other H2020 projects for a session on "Smart Grids and flexibility markets: status of demonstrators and effect of Covid-19 on the demo operation and results", organized by the Regulation Working Group of the BRIDGE initiative and part of the Policy Conference.

Project Coordinator Pierre-Jacques Le Quellec gave a presentation on the challenges encountered by the Indian demonstrator SHAKTI during the sanitary crisis. As leader of this demonstration, Enedis is in continued and direct collaboration with Tata Power DDL, IElectrix partner in India. From communication tools dysfunctions to activity slowdown from suppliers and inability to go on demo site due to the Covid-induced lockdown, the crisis affected the advancement of the project as well as communication between partners. Countermeasures were adopted to mitigate as much as possible the effects. Pierre-Jacques Le Quellec also indicated how the Covid-19 crisis and future ones could impact the energy transition in India in the coming years, as well as lessons learned for next projects involving non-European partners.

The next EUSEW will take place in June 2021. IElectrix plans to participate in it to share the progress made on the demonstrations by then.




# IElectrix Project "SHAKTI"- Community Engagement Initiative

## 8 September 2020
## Digital event

*The engagement with stakeholders is an integral part of community engagement initiatives under the IElectrix Project's pilot site "SHAKTI".*

With an objective of successful implementation of the IElectrix project, as a community engagement initiative, it was envisaged to engage students, school authorities, and other relevant stakeholders to create the behavioural acceptability for IElectrix by educating them on the importance of this project and involve them for better implementation and execution. Stakeholders' feedback also inform on strategic service design recommendations and business models.

In continuation to the engagement plan implementation designed by Tata Power-DDL and GECO Global, a second round of event was organised in the form of webinar on 8 September 2020 at St. Xavier School, Delhi, in which around 350 students of standard VIII$^{th}$ to X$^{th}$ actively participated. Informative session was shared as per below details, followed by an interactive Q&A session where students clarified their queries related to electricity.

The technical session dealt with topics about electricity generation, transmission and distribution; impact of conventional energy sources on the environment; implementation of green technologies; brief about the IElectrix project. Another session was about Electrical Safety, Energy Conservation and Enhancing Digital usage by utilising Tata Power-DDLs digital platforms.

Students were thrilled to take part in this webinar, where they learned information in practical aspects related to electricity. Moreover, teachers were excited to see the active participation of students.

Tata Power-DDL, in consultation with GECO Global, intends to engage students in further initiatives based on the learning imparted. Students will be invited to share their personal sustainability initiatives via small videos, images and drawings with messages pertaining to Energy Conservation, Global Warming and fighting Climate Change. These students will be certified as *Energy Warriors* and will support Tata Power-DDL in future community engagement initiatives under the IElectrix Project.


# CIRED 2020 Berlin Workshop

## 22 – 23 Septembre 2020
## Digital event

*IElectrix was present at the virtual edition of the CIRED 2020 Berlin Workshop on 22-23 September 2020.*

This event focused on the implementation of flexibility in the Distribution System. IElectrix representatives presented two technical papers during the virtual ePoster session and exchanged points of views with a few visitors.

Schneider Electric presented a paper related to the Indian demonstration, entitled "Flexibility platform and associated role of future DSOs within IElectrix SHAKTI pilot project". This paper focuses on possible business models and regulatory frameworks, the role of the future DSOs and the role of prosumers and local energy communities. The aim is to combine a new organisation of DSOs with the involvement of consumers.

E.DIS presented a paper related to the German demonstration, entitled "Mobile Energy with E.DIS (Moew.e) pilot project within IElectrix". This one addresses innovative solutions to face the challenge to integrate a large capacity of RES into the German distribution network, which implies costly network reinforcements. The paper focuses on the development of a mobile storage system with a "plug and play" interface in order to postpone grid reinforcements.

Each paper was supported by an ePoster and visitors had the opportunity to vote for the posters.

You can follow these links to access the papers' abstracts on the CIRED website:
Link to Shakti's abstract
Link to Moewe's abstract

# IElectrix demonstrators: Highlights

## Strom Güssing

*Demo in Austria led by Energie Güssing*

To understand the local stakeholder perspective and attitudes towards the adoption of renewable energy generation, Local Energy Communities, customers participation in Demand Response schemes, as well as Battery Energy Storage System integration, in-depth interviews were conducted by EEE and GECO. From these interviews, two engagement strategies for integrating IElectrix initiatives in Güssing are planned:

- An advertisement campaign to increase knowledge and awareness of IElectrix related activities.
- A market research initiative to understand local customer attitudes, behaviours and motivations related to the adoption of renewable energy.

## HELGA

*Demo in Hungary led by E.on EED*

Kick-off of community participation activities

- E.ON EED and GECO interviewed 20 local stakeholders to identify the potential barriers and drivers in relation to the LEC acceptance of the services deployed in the area and inform on the first pilot engagement and communication targets

- A market research initiative is soon to be launched to identify the primary customer profiles for current and future DLC offerings and provide strategic content / service / communication design recommendations for each profile

## Moew.e

*Demo in Germany led by E.DIS*

The starting signal has been given: The battery storage with (MV/LV) transformer substation was delivered, connected and ceremonially put into operation on 24/09/2020, to great media response. Participants of the event were, besides the board members of E.DIS AG and WEMAG, also representatives of E.ON Innovation and representatives of the state government of Mecklenburg-Western Pomerania. In the last few months, all the work and the entire organization concentrated on the "Go live", the battery storage.

## SHAKTI

*Demo in India led by Enedis*

We are pleased to announce the achievement of two important milestones for Shakti demonstration:

- The purchasing of the Energy Storage Management System/Smart Network Asset (SNA)

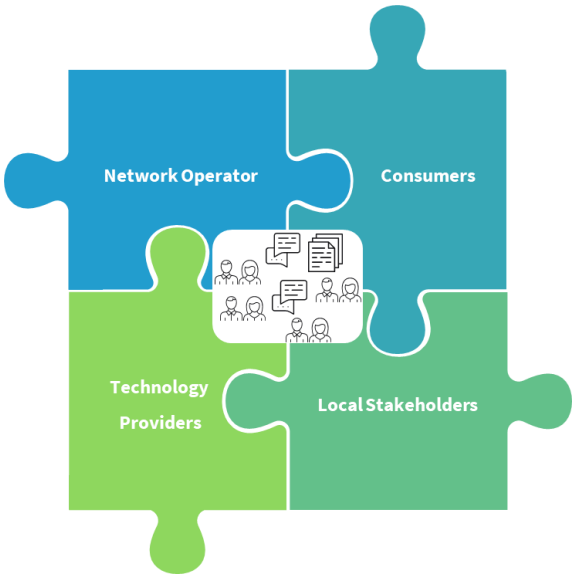

- The launch of the manufacturing phase of the smart devices that will constitute the Urban Micro-grid along with the SNA

# Focus: Community engagement

## Building community support and engagement in the IElectrix demonstrations

The deployment of micro-grid solutions is still today often introduced following an inverted pathway that sees the technology and systems considerations prioritised, with stakeholder engagement only considered as a potential next step. This approach often results in low acceptability even of technologies and services that can have a positive local impact.

In contrast, IElectrix challenges this status quo approach by actively working to incorporate the human factor and the local context (e.g. key stakeholders, motivations, relationships, power structure, legacy, drivers and barriers) in the design and deployment of the services tested.

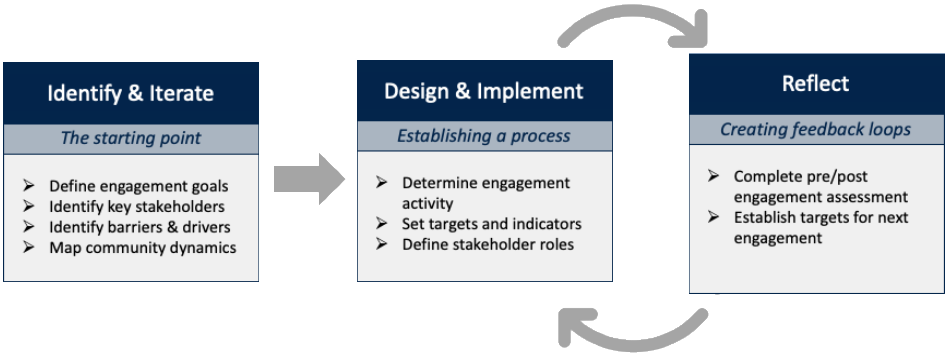



Through engaging the local communities from the start, more effective and holistic strategies that consider not only the project's goals, but also those of the local communities, can be developed thereby maximising social acceptance and ultimately the impact of the deployed technology and potential of the surrounding business models.

Geco Global, as responsible for the engagement strategies in each of the 4 demonstrations, has designed and implemented a model to facilitate the exchanges between local stakeholders, network operators and technology providers, and to map their unique conditions, challenges, needs and motivations.

As a result of this deeper understanding of the social and cultural context of the demonstration environment, the IElectrix team is then empowered to provide local solutions to local problems.

The IElectrix engagement model is characterized by three broad phases: 'identify and iterate', 'design and implement', and 'reflect'. Together, these steps create a customizable framework that facilitates the collection, analysis, and application of community stakeholders and demonstration leaders insights towards the broader project's goals. Feedback loops ensure the resulting strategies are updated if need be.

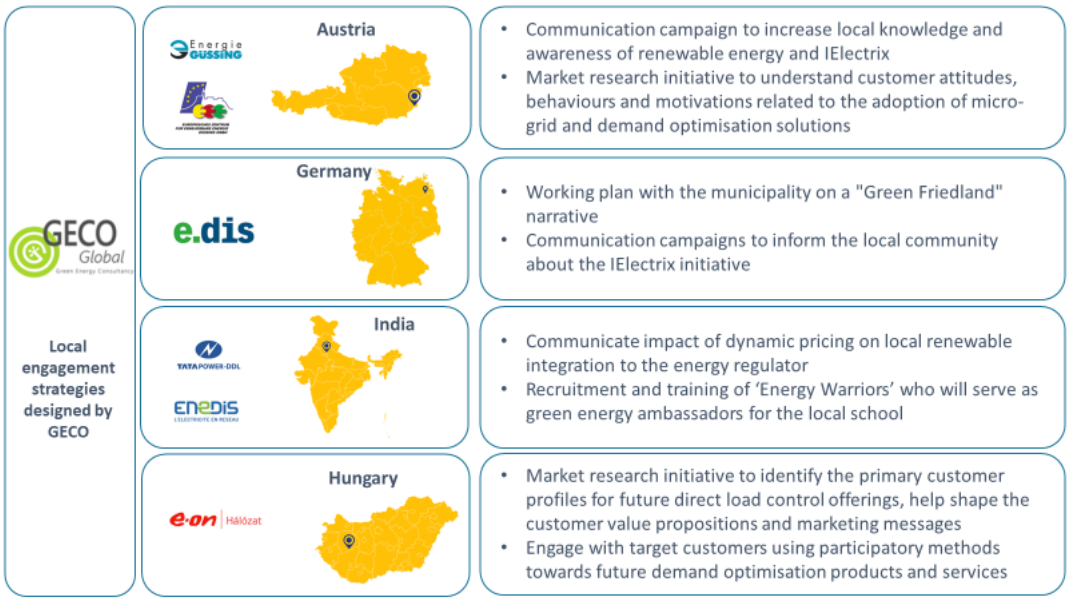



Although negatively impacted by the epidemic, the 'Identify and iterate' phase has now been successfully completed for all pilots and engagement goals identified via a series of participative community engagements (e.g. workshops, site visits, interviews) involving key local stakeholders, demonstration partners and Geco Global. Pilot contexts have proven unique and so have demonstration-specific goals; therefore, exact engagement strategies will differ across pilots. Overall, they will look to support local communities and demonstration partners in two main ways:

**1. Awareness – engagement – communication – adoption**: Help build the community's visions and plans for the area's clean energy transition (or build upon existing) in a way that involves a broad spectrum of all relevant stakeholders and communicate on how the IElectrix technology can contribute to these plans. Appropriate targeted messages, communication campaigns and activities will be organised to build broad local support for the project and the solutions tested.

**2. Consumer research – stakeholder feedback – user-centric technology – business modelling**: First-hand feedback from pilot participants, local stakeholders and industry experts will be collected via agile participative engagement methods (e.g. user testing, co-creation, focus groups, information sessions) to feed into technology and service design so that associated future business models meet real market needs and expectations.

The figure below shows a summary of a few selected engagement activities to be implemented by the demonstration leaders and Geco Global in each of the demonstration sites:




A key outcome of these activities will be to bring together stakeholders not traditionally perceived to be aligned to each other using a range of participatory and co-design methods that improve citizen participation in energy projects. Ultimately, besides smoothing pilot operations, we believe this will lead to the creation of novel user-centric solutions with meaningful benefits to the community and to the energy system and thus enhance acceptance and adoption of micro-grid and demand optimisation solutions in the pilot communities well beyond the project's lifetime.

IElectrix

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