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Newsletter #4

What's new in the InterFlex sphere?

Editorial: Some words from Peter Sigenstam, head of grid Strategy&Business Development, Eon Energy Networks

Website for EV Customer: Enexis has created a website for its EV customers. They will have a possibility to get the latest information on their participation in the project. The website is also used as a portal for aggregators to monitor and to act on flexibility requests from the DSO.

First project participants: Avacon has equipped its first customers with the metering and control system in the region of Lüneburg. This is the starting signal for the German demo for the installation process with the goal of 200 installations.

E.ON island test: E.ON has during early 2018 tested two different islanding sequences on the Simris village network, under both unfavourable and favourable conditions.

PASLIER Enora



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement n°731289

Peter Sigenstam

The European Union and its member states have committed to finding solutions for introducing more renewable energy into the grid. At the same time, emphasis is placed on giving citizens the opportunity to actively engage in the energy transition.

This is precisely what Interflex and E.ON's Local Energy Systems is all about. The village of Simris is the site of Sweden's first Local Energy System based exclusively on renewable energy. During trial periods the electricity usage of this little local community will become entirely carbon neutral thanks to wind power, solar panels, a powerful battery, and a backup generator that runs on renewable fuels.



E.ON's Local Energy System allows the village to become completely self-sustaining in renewable energy, capable of going into island mode and disconnecting from the grid. Right now, we are taking a new and very exciting step. Advanced management- and control engineering technology will be used to manage heat pumps and water heaters in the consumers' homes to store renewable energy and help balance the system. The interest and the enthusiasm from the community has been heart-warming. I hope you will enjoy taking part of our journey so far. The future is local, green and digital!

Peter Sigenstam

**Head of Grid Strategy&Business Development, EON Energy Networks
Sweden**

ENEXIS' INTERNET PLATFORM FOR EV CUSTOMERS

After the definition and developing stage of the flex market defined in the Dutch demonstrator's use case 3, the Interflex team in the Netherlands has started to build the different systems that are needed to make this flex market work. At this stage, contracts have been signed with the subcontractors Jedlix, Sympower and CroonWoltererenDros. To inform the public, stakeholders and the people of Enexis, TNO and Elaad a website has been launched under www.interflexstrijp.nl/ On this website, we want to provide information about the status of the project in the Netherlands. The customers on EV will have the possibility to get the latest information on their participation in the project. The website is also used as a portal for aggregators to monitor and to act on flexibility requests from the DSO.

The webpage is accessible from the H2020 Interflex <https://interflex-h2020.com/> home page but also directly. Some of the information is only in Dutch today but we try to translate as much as possible.



Official photo of the participants signing the Interflex subcontractors contracts in Eindhoven Strijp-S.

Photo by Michelle Janssen.

FIRST PROJECT PARTICIPANTS FOR AVACON!

A first big step, a first great success! First households were successfully equipped with the new metering and control system of Avacon.

Along with the installation, first official participants were welcomed in the German Demo of InterFlex. The system consists of a digital meter, a smart meter gateway and a control box, which makes small scale flexibilities accessible and controllable for the DSO.



The aim of the project is to develop a central software solution, called Smart Grid Hub, as extension of the grid control center. With the SGH DSOs in Germany will be able to leverage privately owned flexibility and control it via a smart meter infrastructure. It operates within the smart meter framework set out by the national agency of cyber security and offers superior security, reliability and scalability across Germany. Once the SGH is fully operational Avacon can begin testing use cases to increase the share of renewables in its networks and optimize quality of supply.

SUCCESSFUL ISLANDING TESTS IN SIMRIS DURING 2 WEEKS

E.ON has during early 2018 tested two different islanding sequences on the Simris village network, in Sweden, under both unfavourable and favourable conditions. The overall objective was to run the microgrid in island mode 24/7 for one week. We're reporting here on two successful islanding sequences which have been of reduced duration, due to issues with the battery system.

The following tests have been performed:

- "Islanding was performed during one week in mid-March, from Monday through Friday between 8am and 4pm, under unfavourable weather conditions with cold temperatures resulting in high electric consumption by Simris' inhabitants coupled with low irradiation and wind speeds", says Alexandre Blondot, responsible for microgrid operation in the Local Energy System (LES) project in Simris.

Out of the 40 planned hours, the LES managed to stay in island mode for 34 hours and 50 minutes. The reason for the discrepancy was late starts or early stops due to low power production. No impact on the customer was observed as the microgrid was reconnected to the main grid automatically whenever the battery state of charge reached the preset lower threshold at 25% state-of-charge.

Before starting the second island mode the battery was recharged manually.

- "During a second test week in mid-April, from Monday through Friday from 8am to 8pm, comparable experiments were performed under more favourable conditions with higher temperatures, resulting on a globally lower village consumption, coupled with higher irradiation and wind speeds", says Alexandre.

Out of the 60 planned hours, the LES was in island mode for 61 hours and 26 minutes. No impact on the customer was observed. The transition from and to island mode has been performed seamlessly. It has been observed that the frequency and voltage levels have been more stable in island mode than in non-islanded mode.

Conclusions:

- The microgrid is behaving as expected, it works very well and has an even better electricity quality than the mainland grid
- The Microgrid has shown its readiness to cope with both favourable and unfavourable conditions

Next steps aim at testing demand side response which includes the active participating household assets and islanding during an extended period 24/7.



The month of June is going to be eventful!

During June, InterFlex will be present at different events. Here is the list of where you will find us:

June 5 th and 6 th :	Smart Energies expo, Paris
June 5 th to 4 th :	European Sustainable Energy Week, Brussels
June 7 th and 8 th	CIREC, Ljubljana
June 11 th to 15 th	World Conf. on Photovoltaic Energy Conversion - WCPEC, Hawaiï
June 12 th to 15 th	IEEE International Symposium on Industrial Electronics, Cairns
June 26 th to 29 th	IEEE PES & IAS Power Africa, Cape Town



Make over for InterFlex website!

The project website makeover has allowed us to integrate more content. You can now find detailed descriptions of all innovation streams, download EU project deliverables, and learn more about the project partner's activities. Enriched menus and search tools will facilitate your navigation, and help you to find what you are looking for!

Want to have a look?  <https://interflex-h2020.com/>

Thank you very much for your interest in our project!

This is the end of our 4th Newsletter!

Next one in two months!

Do not forget to visit our website:

<http://interflex-h2020.com/>

And to stay tuned by following us on twitter:

https://twitter.com/InterFlex_H2020



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