SLOVENIAN DEMO

Congestion management & Voltage control in LV grid

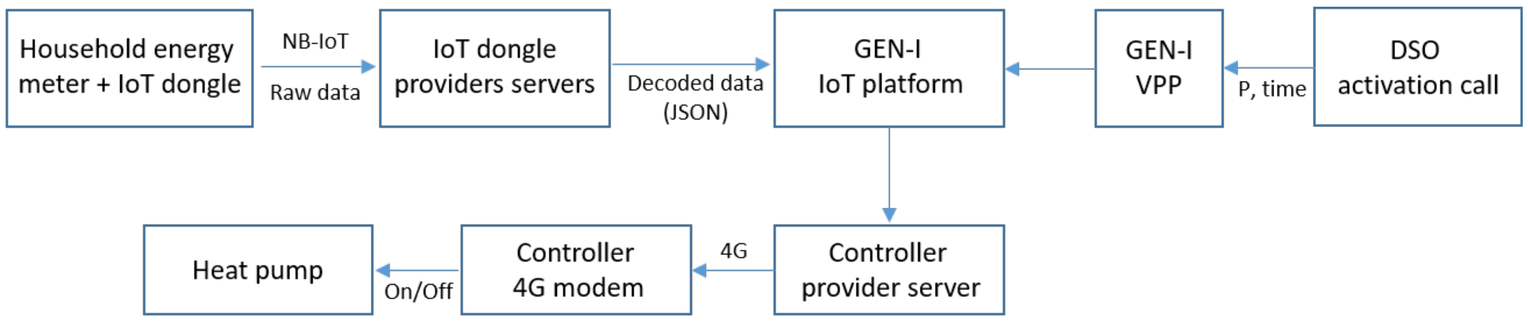
Problem Statement

A large number of loads and generation can create congestion and voltage problems at MV/LV transformer substations.

In this demo, Slovenian FSP and DSOs have demonstrated that improvement of a network condition is possible using smart grid approaches.

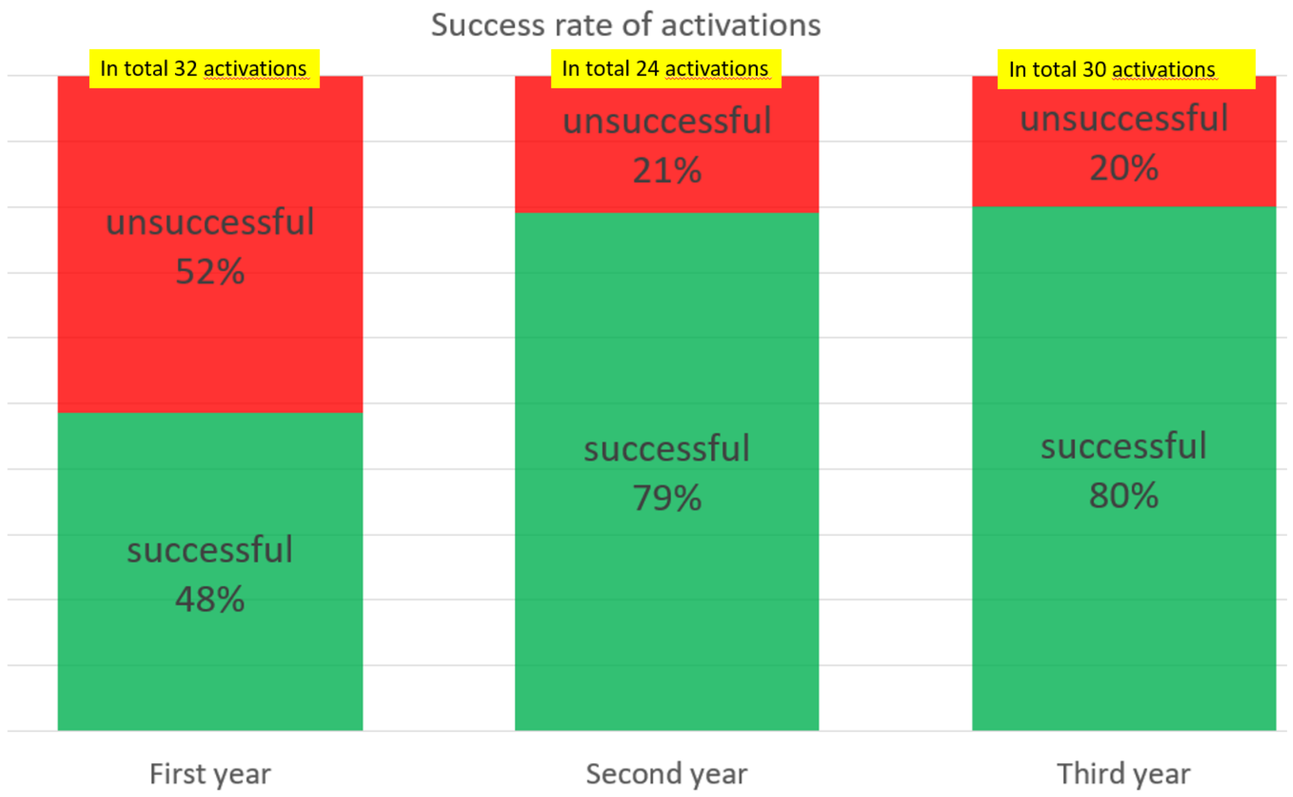
Demo's Innovation

The main innovation is DSO integration with FSPs, which enabled an automatic activation process and reduced the time between activation order and delivery.



Results and Lessons Learned

- 30 customers acquired at over three different locations, utilizing flexibility from heat pumps, PVs and batteries
- Developed market platform utilizing an automated activation process via integration with FSPs
- Demo demonstrated observable changes in the load and voltage measured on the transformer substations during activations
- With additional customers acquired in the second and third year, the success rate increased



Main Challenges

• Customer engagement for sufficient participation across individual transformer substations

• Development of a platform for managing the fleet of devices and transmitting requests for activation and measurements

• Development of a market for new services for DSOs

• Development of flexibility market platform for DSOs

• Automating the entire activation process from DSO to FSP to end consumer

Recommendations

- DSOs should create a common point of contact for communication with FSPs (similar to TSOs)
- The rules for settlement should be clear and simple
- The activation process should be automated with no additional effort on customer side

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 957739