



Security in Internet-of-Things for Smart Grids

From research to business

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A strong partnership between Norwegian re-search institutes, Norwegian industry and international partners focusing on:

- building a robust cluster of research on security in IoT for Smart Grids
- targeting industrial Smart Grid Security Centre

The IoTSec - Security in IoT for Smart Grids initiative was established in 2015 to promote the development of a safe and secure Internet-of-Things (IoT)-enabled smart power grid infrastructure. IoTSec addresses the basic needs for a reliable and efficient uninterrupted power network with dynamic system configuration and security properties. It addresses in addition the needs of businesses and end users of additional IoT services. By exploring use cases for value-added services IoTSec intends to design the building blocks for future services that consider the necessary security and privacy preconditions of successfully deployed large-scale services. IoTSec will apply the research in the envisaged Security Centre for Smart Grids, co-located with the Norwegian Centre of Excellence (NCE) Smart Energy Markets, industry cluster hosted by Smart Innovation Østfold.

IoTSec concept

- Research cluster in Security in Internet of Things (IoT) for Smart Grids
- industrially applied by members of the NCE Smart Energy Markets
- 5 years project – 3 million \$ (25 million NOK) funding from Norwegian Research Council
- 10 founding partners and 18 partners total
- Platform for new research and business ideas
- Aiming at cluster of 60 professionals: professors/senior researchers, PhD/post-docs and master students

Founding partners:

UiO, UNIK, NR, Simula, Gjøvik University College, Smart Innovation Østfold, eSmart Systems, Fredrikstad Energi, EB Nett and Movation

Expected outcome

- Robust research community
 - after 2 years 7 international projects
 - PhD education
 - Aiming at 15 ongoing PhDs in the research community
- International involvement
 - workshops with international partners
 - 1 conference
- Industrial impact
 - year 1: outline of security centre for Smart Grid
 - year 2: first security models applied
 - year 3: Smart Grid Security Centre founded, hosted by NCE Smart Energy Markets

Security Centre

The Smart Grid Security Centre, located at NCE Smart Energy Markets in Halden, Norway, will be established in a top class visualization environment hosted by Smart Simulation AS including large-screen multi-channel projection, media servers and light and sound systems.

Combining top research with Norway's finest visualization equipment and talents Smart Grid Security Centre will offer:

- Security analyses of existing smart grid infrastructure and technologies
- Simulations of cyber-attacks
- Security systems of protecting smart grid against cyber-attacks
- Matchmaking arena for research organizations and industry