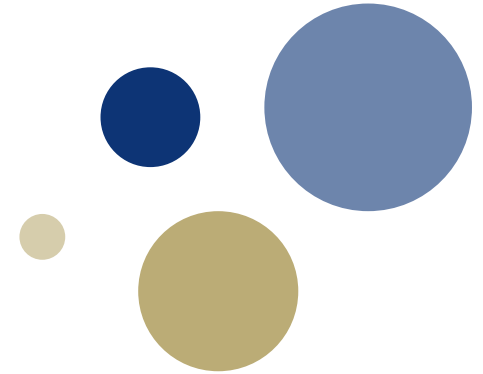




Norwegian University of
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D 4.1.1 Analysis of IoT Sec Ecosystem

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Noll

Defined groups of Stakeholders



1. Production of energy
2. TSO
3. DSO

4. Security companies
5. Software development
6. Consulting

7. Manufacturers of “smart meter value chain”

8. Legislative
9. Research

8. Prosumers\ Customers

Legislative

- Government
 - Norwegian Water Resources and Energy Directorate (NVE)
 - Norsk Elektrisk komite (NEK)
- Consumer advisory
 - Forbrukerrådet
- Company unions
 - Energi Norge
 - Nettalliansen
 - KS Bedrift Energi
 - Sol Energi Klyngen
 - Unite companies producing solar power for better cooperation
- Private organizations
 - Rasjonell Elektrisk Nettvirksomhet AS (REN AS)



KS Bedrift Energi

Being a company union organization, they aim to keep their members updated (notify and train) with all relevant information

Input

- monitor regulations coming from NVE\ NEK

Process

- Analysis
- Engage consultancy companies to perform trainings
- Issue information leaflets

As they are unable to organize those training alone, SGSC is welcome to help.

Forbrukerrådet



Consumer advisor company

Department of digital service will work on advising customers, who get Smart Meter installed

Goal

- To have a set of guidelines for the consumers, containing advices on:
 - Privacy protection
 - Right for uninterrupted power supply

Method

- Engage field experts, possibly SGSC to develop necessary guidelines.
- Communicate guidelines to **consumers** and to **industry**
- Do not expect themselves to become experts in this field

Security companies

- Kraft CERT
- Security companies
- Security Control mechanisms for homes



CERT for energy sector, created by Statnett, Statkraft and Hafslund. Primary goal is Incident Handling advices and actions.

Regulative authorities

Exchanges information and follows guidelines from NorCERT->, National Security Authority (NSM)->Royal Norwegian Ministry of Defence.

Activities

Regularly accumulates (from members and external organizations) and analyzes data regarding vulnerabilities.

- Advices for vulnerabilities removal
- Processes any data, regarding possible treats
 - Asses severity of treat. Offer defense action to members
- Assists when member of power sector has incident ongoing
 - Advices. For ex. regarding logging
 - Complete Incident Response (subj. to agreement)
- Organization of Incident Handling trainings and courses



One of the largest providers of Information Security services in Nordic countries (120 consultants)

Security services

- threat research
- advanced targeted attack detection
- incident response
- ethical hacking services

Current target

- Supply DSOs with a robust network sensor integrated into IDS/IPS systems

Epos consulting



The company:

- 4 top experts in energy niche consultancy.

Activities:

- Employees are engaged as “field experts” into projects related to design, development or maintenance of smart grids.
- Broad cooperation with energy solution providers

Customers

- Power generation, TSOs and DSOs (major customers)

Regulations

- NVE
- Energi Norge (because many customers are members of EN)

Epos consulting

Security concern during consultancy:

- Most of the ongoing project are demo- / pilot projects, where security is not in focus
- In principle expect from providers of ICT solutions to be responsible for security and be synchronized with updates coming from NVE

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Legislative

Regulative

Recommendations

- Forbrukerrådet

Company union

- Energi Norge
- Nettalliansen
- KS Bedrift

Private

- REN

Datatilsynet

Datatilsynet

NVE

Requirements:

- Privacy of customers
- Security of AMS
- Incident Handling

DSO

- Privacy of customers
- Security of AMS
- Incident Handling
- AMS operation
- Smart Grids

SGSC

Input:

- Formal regulations

Output:

- Advisory
- Consultancy

Security

- Kraft CERT
- Security Companies
 - Expertise in Security

Consultancy

- Field expertise in Energy

Research

SGC (Trondheim)

Research and lab. activities

advices for quality and efficiency

monitor

