
team
FINLAND
Smart Energy Programme
Pia Salokoski
Smart Energy

Smart Energy Programme

- Smart Energy - Joint Programme between Tekes and Finpro
- 2017-2021
- Connectivity and integration are driving new energy technologies, industry structures and business models with sustainability at the core

Future of Energy Roadmap

- Energy Storage
- Smart Metering
- Electric Mobility
- Distributed Energy

Top Trans-formational Markets

- Digital and Flexible Grids
- Prosumer to Pro-user
- Evs as a Grid Asset
- Industrial Efficiency and Control

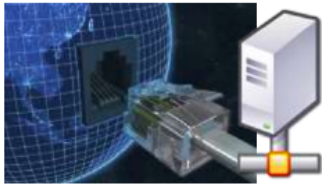
Top 10 Converging Factors Defining the Future of Energy

- Internet of Things
- Market De-Centralisation
- Carbon Reduction
- New Business Models
- E-Mobility
- Energy Efficiency
- Water Stress
- Circular Economy
- Smart Cities
- Big Data

Market design

Smart charging of EV

Smart homes and PV



System management and design

Microgrids
Energy communities

Ecosystems, test platforms, Pilots and demonstrations

Balancing

Distribution automation

Storage

Power to gas

Advanced monitoring

Aggregator

Controllable loads and energy efficiency

Smart Energy

Objectives of the programme

- Support Finlands' aim to grow into a forerunner and test bed of smart energy solutions
- Invest in the development of ecosystems and creating new possibilities for the Finnish energy efficiency, clean and smart energy systems and related products and services
- Utilize the Mission Innovation Initiative in networking Finnish cleantech companies and research facilities
- Support digitalisation of the energy field
- Attract International investments in Finland

Target groups

Large and midcap companies

Small and medium sized enterprises

Startups

Research organisations

Programme roadmap

2017

- Plans, goals and business models for smart energy platform economy
- From singular solutions to integrated entireties
- Key projects started

2018-2020

- Internationally appealing testbeds
- Technologies of energy internet
- New service business models and infra
- Ecosystems spreading to international operators

2021-2025

- Finland as a leading operator in global intelligent energy systems
- New business models aiming for the energy internet
- Finland is a gamechanger in the new energy business

Effectivity goals

- Intelligently guided SEM utilizable testbeds that appeal to international actors
- Functional ecosystems and networks supporting the growth of export
- IIF

Services of the Smart Energy programme

EU Set Plan
Mission Innovation
IEA Agreements

- R&D financing, EU financing
- Ecosystem financing
- Networks, co-operation between enterprises
- Research bases
- Future and Market Watch
- International communication and influencing

- Growth financing package for SME and midcap enterprises to support and accelerate international growth
- Market information, targeted interview-based analyses
- Adding sales and marketing possibilities in target market
- Pilot and demo financing
- Development banks and UN financing

- NIY financing
- Financing of internationalization and growth
- Trips to target market
- B2B meeting
- Financing possibilities of investments to target market
- Market research and marketing material
- Trainings, pitching, value proposition, internationalization
- Marketing communications

IIF

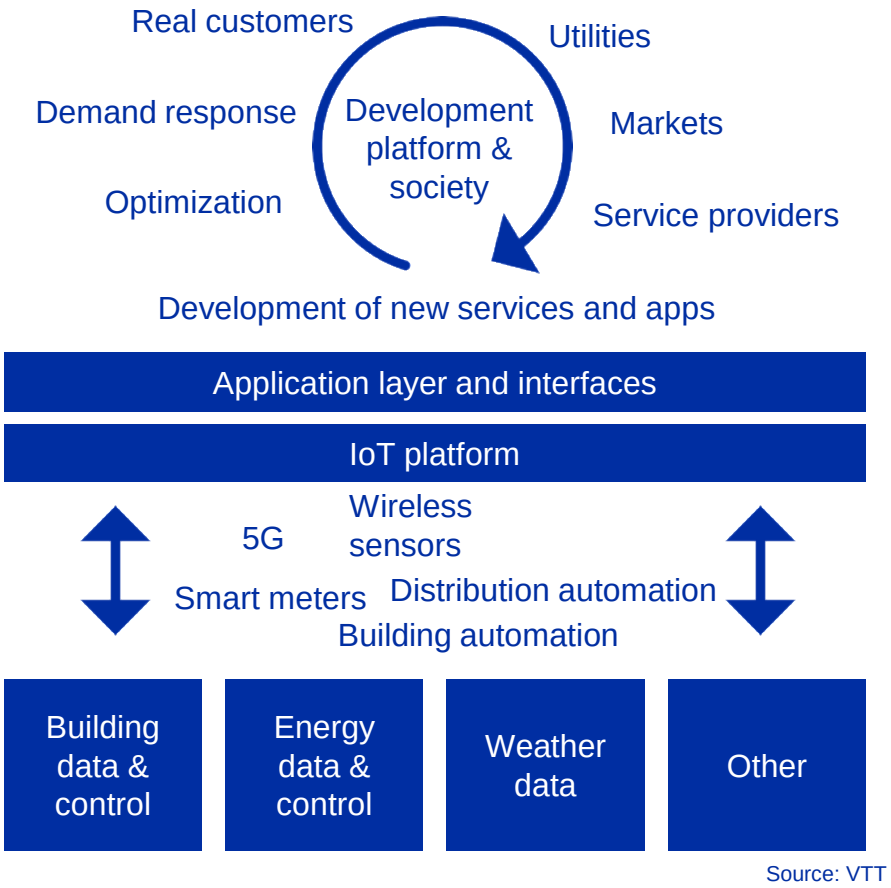

Test Platforms
Smart Energy

Otaniemi Smart Energy Platform

Piloting new energy services in Otaniemi

- Focus areas
  - Energy data for new applications and services
  - Energy efficient and renewable Otaniemi
  - Real-time monitorable and controllable area

- Objectives
  - Internationally recognised pilot side
  - Showcase for Finnish competences
  - Living lab with real customers involved
  - Ecosystem lasting and developing over time



Source: VTT

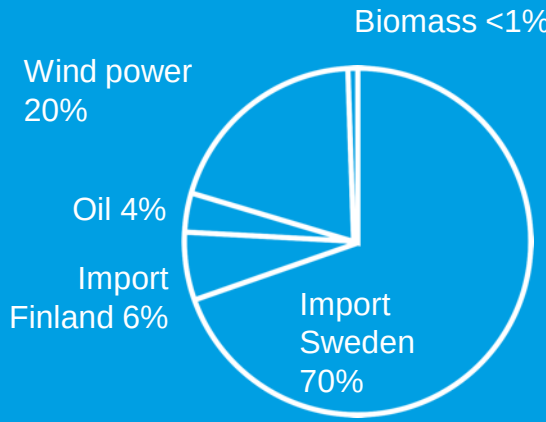
Smart Energy

Smart Energy Platform

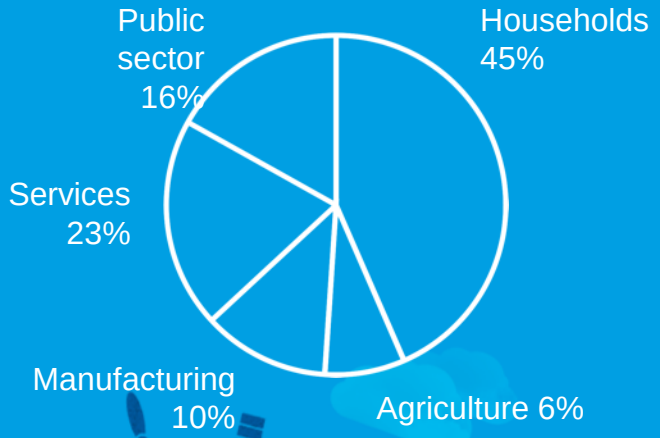
– Unique location, Åland islands
Comprehansive but small enough

- Excellent wind and solar conditions
- 80% of electricity imported
- Self-governed
- Full society of 30 000 citizens
- Readiness up to 125 % RES_e
- 0.5% of Finnish GDP, electricity consumption, population etc.

Electricity supply [GWh] – Total 288 GWh



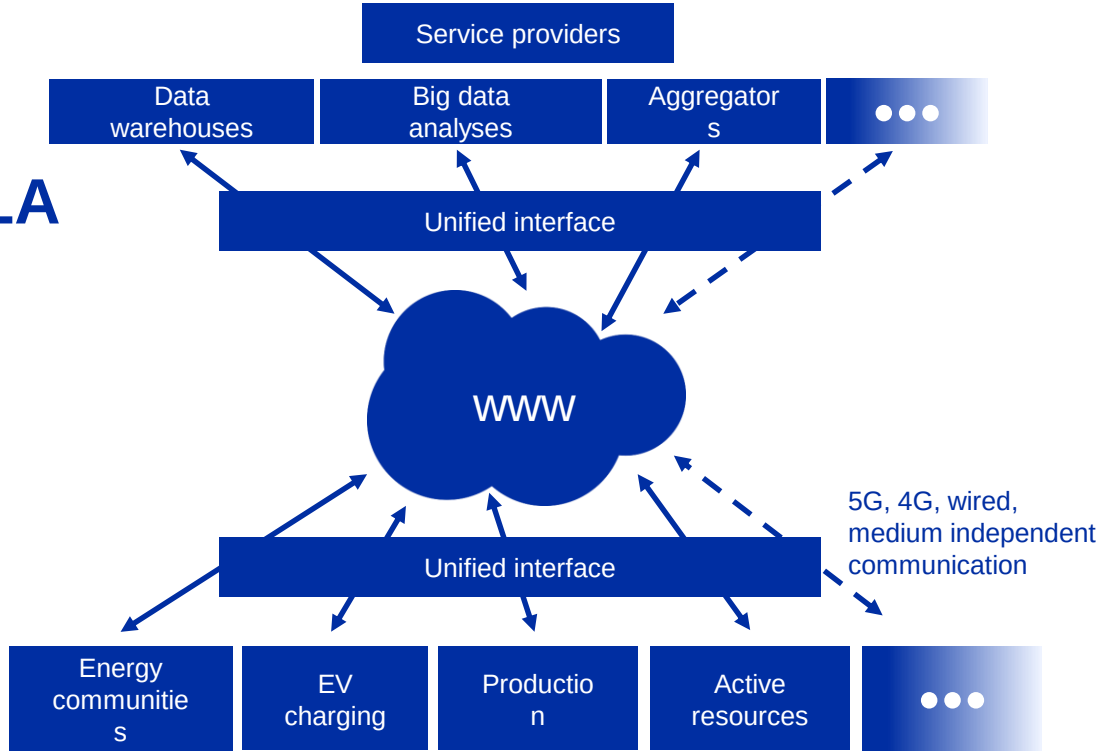
Electricity use in Åland in 2015



Smart Energy

Integrated business platform of distributed energy resources – HEILA

- Research partners: Tampere University of Technology (TUT), Lappeenranta University of Technology (LUT) and VTT
- Aim of the project is to create internationally notable comprehensive platform for development of future energy systems from technical and business point of view based on the laboratories and simulation resources of research partners and real life pilot environments



Smart energy connection

5G
ULTRA-FAST EDGE

LOW-LATENCY
REALTIME

Super IoT
CONNECTED
DEVICES

INTEROPERABILITY
SENSING BASED
OPS

Data AI
SMART OPERATION

INSIGHT FROM
DATA
SITUATION
CONTEXT

RADIO **IOT** **ANALYTICS**


team
FINLAND
Get funding
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Smart Energy

Thank you!

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