Simplifying smart: We will make the world safe, connected, intelligent and convenient with new digital solutions, business models and ways of working. We will transform the Finnish industry to be competitive in the global markets and the Finnish society to be functional for its citizens.
DIGITALISATION STRATEGY

SUB-THEMES/PROGRAMS

GOALS

KNOW-HOW

1. NEW SPACE
   2. INT. INDUSTRY
   3. SMART MOBILITY
   4. TRUST
   5. AI
   6. CONNECTIVITY

PROGRAM PORTFOLIO

GOAL IS TO MAKE THE WORLD

FINNISH KNOW-HOW BASE

AI
IOT
CONNECTIVITY
SECURITY
AR & VR & MR

SAFE
CONNECTED
INTELLIGENT
CONVENIENT

FINNISH KNOW-HOW-BASE

AI
IOT
CONNECTIVITY
SECURITY
AR & VR & MR

BLOG IS TO MAKE THE WORLD
Future of Energy Roadmap

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

Top Transformational 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
Ecosystems, test platforms, Pilots and demonstrations

- Market design
- Smart charging of EV
- Smart homes and PV
- System management and design
- Microgrids
- Energy communities
- Aggregator
- Controllable loads and energy efficiency
- System management and design
- Storage
- Balancing
- Distribution automation
- Power to gas
- Advanced monitoring
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
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 game-changer 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

- 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
Test Platforms
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 Platform

– Unique location, Åland Islands
Comprehensive 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
• 0.5% of Finnish GDP, electricity consumption, population etc.

Electricity supply [GWh] – Total 288 GWh

- Wind power 20%
- Import Sweden 70%
- Import Finland 6%
- Oil 4%
- Biomass <1%

Electricity use in Åland in 2015

- Households 45%
- Public sector 16%
- Services 23%
- Agriculture 6%
- Manufacturing 10%
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
Artificial Intelligence

Finland to be positioned as a frontrunner in AI applications.

Faster deployment of AI in all fields of society.

Innovations and Capabilities

Supporting companies increasing their capability to develop AI solutions.

Frontrunner in everyday applications.

Developing new business models

Changes in Society

How AI will change work and worklife.

Ethics of AI.

Legal framework and running of welfare society.

Platform Economy

Data as a fuel for future solutions.

Finnish strengths as a superpower for data and analytics.

Data ownership and MyData.
DIGITAL SOLUTIONS ARE ESSENTIAL EVERYWHERE – COLLABORATION OVER INDUSTRIAL BORDERS NEEDED!