



TECES, Slovenian Innovation Cluster

*holder & coordinator of
key Slovenian strategic partnerships and projects*

TECES, Energy Cluster

Strategic Research Innovation Partnership **Smart Buildings and Home** including Wood Chain
Slovenian **Energy** and **Environment** Partnership in **Defence** (Si EnE)



About

- **innovation cluster founded** in 2001 by Slovenian electro industry companies and public research organisations to foster research, development and technological cooperation
- one of the **first innovation measures** of the Slovenian government to strengthen cooperation, competencies and technologies in the fields of **energy efficient conversion/use** and **energy-efficient solutions**.
- **started** as a R&D technological centre for electric drives, **today** cluster organisation

Organisation

- Legal status: private (non-profit) entity
- business status: **cluster organization** (founders and members)

Roles (leading / coordinating / partner)

- leader of several Slovenian **strategic partnerships** and strategic **demo pilot** projects
- more than **60 product development projects** for industrial partners (until 2017)
- more than **50 joint RD or demonstration pilot projects**
- different EU interregional projects.

Status - nowadays

- one of the leading Slovenian clusters
- one of the key actors in the implementation of the Slovenian Smart Specialisation Strategy (RIS3)
- the first Slovenian cluster awarded with "Cluster Management Excellence Label SILVER" – June 2018



Member of



LEADER OF SEVERAL SLOVENIAN STRATEGIC PARTNERSHIPS



TECES, Energy Cluster

- **Since 2001** – established by companies and research organizations → one of the leading Slovenian clusters
- **47 members:** leading Slovenian companies and research organisations from electronic & electro-industry, energy sector, providers and users of green technologies and energy efficient solutions.
- **Focus:** Electric Devices & Components, Power Electronic Converters & Systems, Electric Drives, Mechatronic Systems, Household Appliances & Systems, HVACR Components & Systems, Energy Generation, Energy Storage & Conversion, Energy Management Systems, Energy Flexibility Smart Grids, Micro Grids, emobility, charging infrastructure, Interoperability, Connectivity...



Strategic Research Innovation Partnership Smart Buildings and Home including Wood Chain (SRIP PSiDL)

- **Since 2017** - established by three clusters → **TECES has been the leader** and coordinator.
- **87 members:** leading Slovenian companies and research organisations from electronic & electro-industry, energy sector, ICT, construction sector, wood and furniture sector...
- one of the nine key national long-term partnerships to support implementation of the **Slovenian Smart Specialisation Strategy**.
- **Focus:** smart, sustainable and nearly zero energy buildings, smart devices and systems, (energy) building management, digitalisation, digital tweens, BIM, energy flexibility ready smart building, user-adapted ambience, smart community connectivity, wood & advanced construction products...



Slovenian Energy and Environment Partnership in Defence (Si EnE) - NEW !!!

- **Since July 2020** - established by Slovenian Ministry of Defence (Si MoD) and TECES → **TECES has been** the leader and coordinator
- **primary objective:** to increase research, development and technology cooperation with partners from EU Member States and the NATO Alliance in the international defence programmes of SI MoD, European Defence Agency (EDA) and NATO Alliance.
- **Focus:** aims to address energy and environmental challenges in defence programmes in a strategic and comprehensive manner (energy, energy management, hydrogen, fuels cells, deployable critical infrastructure, smart camp energy systems, HVACR, interior, building construction and NZEB..)

... more than ...

87 
MEMBERS

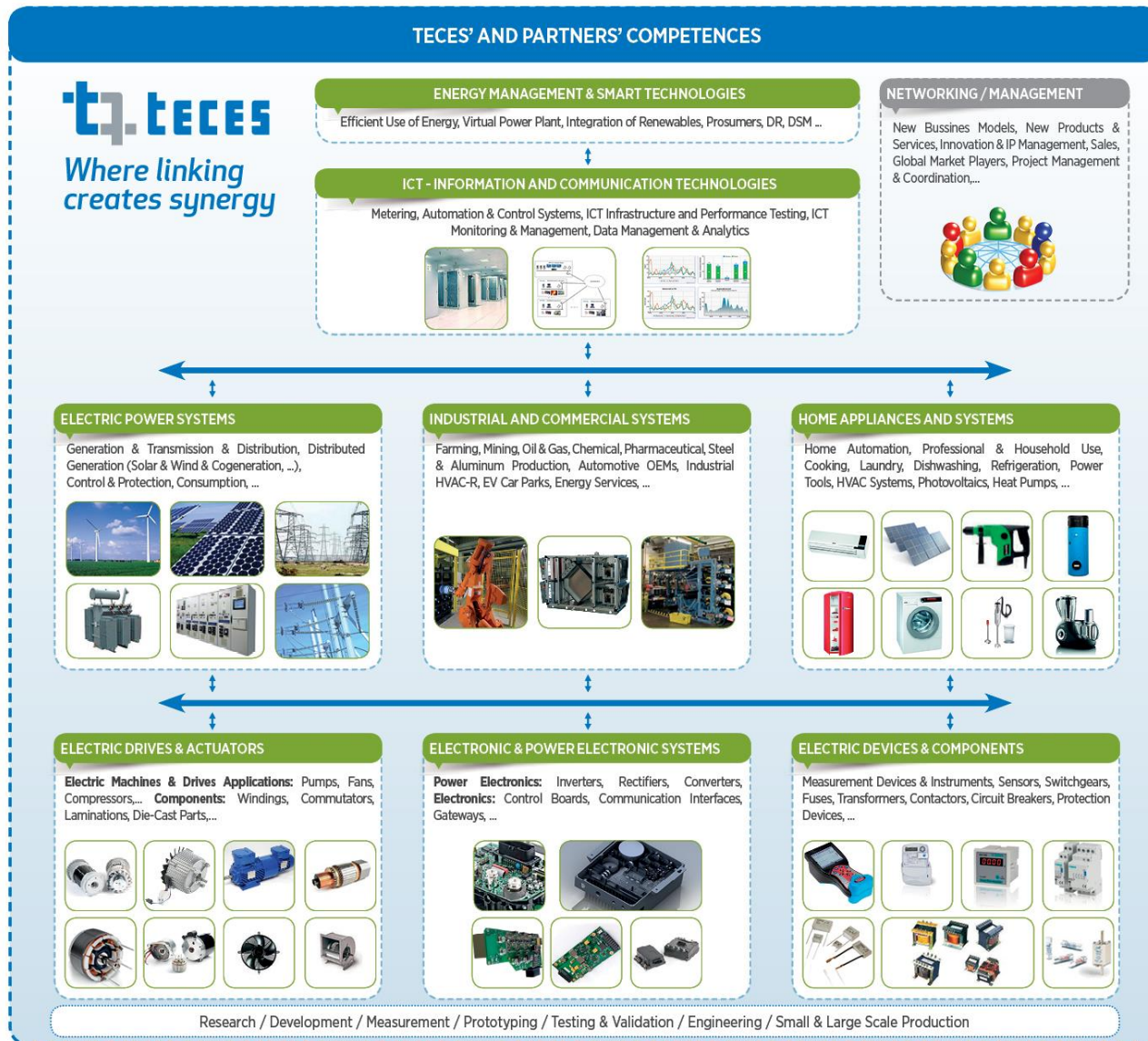
37.327 
EMPLOYEES

9.89 **BLN** 
REVENUE 2018



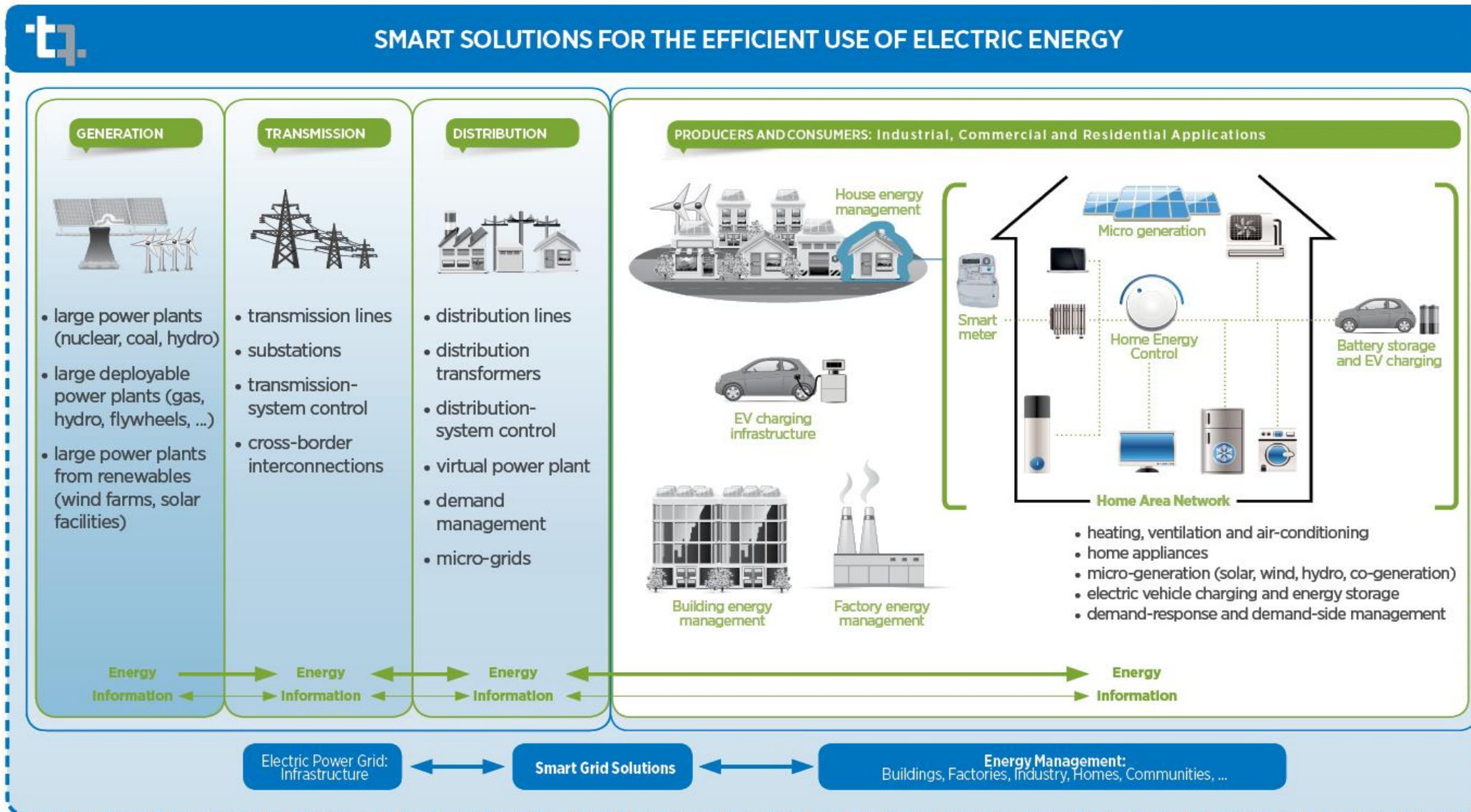
**MEMBERS
TECES
SRIP PSIDL**





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Electronic and electro-industry, energy sector, electricity system operators, system integrators, technology providers, providers and users of green technologies and energy efficient solutions



Efficient Energy Conversion & Usage / Energy Efficient Electrical Devices & Systems /
Smart Grids, Micro Grids, Smart Communities, Smart & Green Buildings and Homes

BUILDING SUPPLY AND MANAGEMENT INCLUDING CONNECTIVITY WITH SMART COMMUNITIES

Energy production, storage and use, including water and waste management

- Devices and systems for heating, cooling, ventilation and air conditioning
- Energy production and storage
- District energy systems
- Water and waste management systems

Integral building management

- Devices and systems for building energy management
- Solutions and systems for energy management and energy flexibility trading
- Systems for smart building interconnections with communities
- Devices and systems for building, interior, surveillance and security management

INTERIOR ELEMENTS

Light and lighting solutions

Home (domestic) appliances

- Major Domestic Appliances
- Small Domestic Appliances
- Consumer electronics

Interior furniture

SMART NEARLY ZERO ENERGY BUILDINGS

Modular and mobile living units

On-site rapid construction systems

Wooden buildings

Classic massive buildings

Building design and interior design services

CONSTRUCTION OF BUILDINGS

Multi-functional elements and systems for building envelope

Wooden doors, windows and wooden panelling (Supporting) structural elements

Special, protective, finishing materials, elements and systems

Forest, wood and wood-based composites





- newly established partnership in August 2020
- under the auspices of the **Ministry of Defense** of the Republic Slovenia and **TECES, Slovenian Energy Cluster**



REPUBLIC OF SLOVENIA
MINISTRY OF DEFENCE



- primarily **aims** to address **energy** and **environmental challenges** in Defence
- areas: the **electrical** and **electronics** industry, the **energy, wood** and **furniture** industry, the **automotive** industry, **construction**, the **metal** and **non-metal materials** industry, **information** and **communication technologies, logistics** and other fields
- **searching for collaboration withing defence programs** of the European Defence Agency (EDA) and NATO



Integral building management and energy efficient solutions

- We are establishing and strengthening development and business-oriented strategic partnerships (supply chains) of manufacturers and providers of technological solutions (components and devices), system integrators, service providers (energy flexibility services,...) at the top of the chain and users of these services.



Smart buildings and home and energy supply of smart cities and communities

- We connect and coordinate providers of energy efficient, environmentally and user-friendly and interoperable solutions for smart homes and buildings in connection with the energy supply of smart cities and communities.
- Umbrella coordination of SRIP Smart buildings and home further reinforce the strategic importance of the area of operation in relation to other stakeholders in the field.



Comprehensive support for human resources development

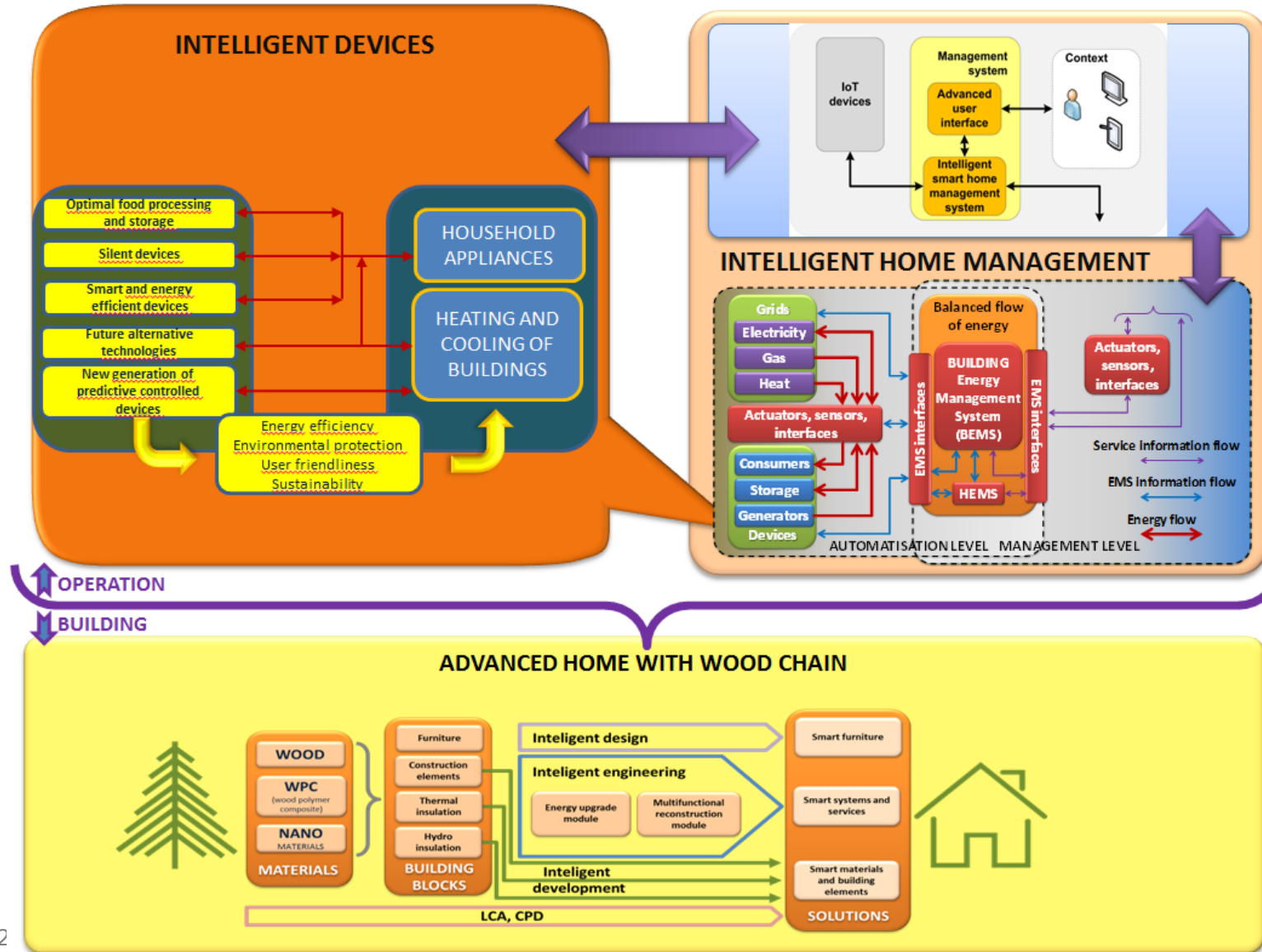
Through comprehensive continuous coordination and implementation of activities in support of future human resources development, we help to solve human resource challenges of our members.

- RD and demo pilot: **Home24h - Smart home of the future for comfortable and healthy living and working environment**
- TECES initiated & coordinated and led project proposal, still coordinating → <http://home24h.si/> | duration: 2019 – 2022 | 16 mio € project

The smart home of tomorrow, for a comfortable and healthy living and working environment

This project brings together individual, recently developed and technologically advanced, yet complementary, solutions of 12 Slovenian companies in a completely new and integrated solution that will enable the construction of a sustainable, smart, interconnected, user-friendly, advanced and healthy living environment.

- RD and demo pilot: **IQ-HOME - intelligent home of the new generation designed on smart appliances and wood**
- duration: 2016 – 2019 | 10 mio € project
- TECES was involved & coordinated & led part of project proposal & execution (topics: intelligent device & intelligent home management)



- demo pilot: „Demand Response Peak Shaving_Project Management“, subproject of SLOVENIAN – JAPANESE NEDO SMART GRIDS AND SMART COMMUNITIES PROJECT
- duration: 2017 – 2020 | 30 mio € project (NEDO project)
- Slovenian - Japanese project NEDO, is a three-year smart grid project, whose principal partners are Japan's new energy and industrial technology development organisation (NEDO) and its authorised contractor Hitachi, and the Slovenian grid operator ELES. The subproject „Demand Response Peak Shaving_Project Management“, with the marketing title „MOVE CONSUMPTION“, was focused in implementation of technology solutions for management of electricity consumption in households, to enable electricity consumers to actively manage their energy consumption and save money on electricity bills.
- TECES was involved in a subproject MOVE CONSUMPTION, and responsible for involvement of more than 800 consumers into the project.

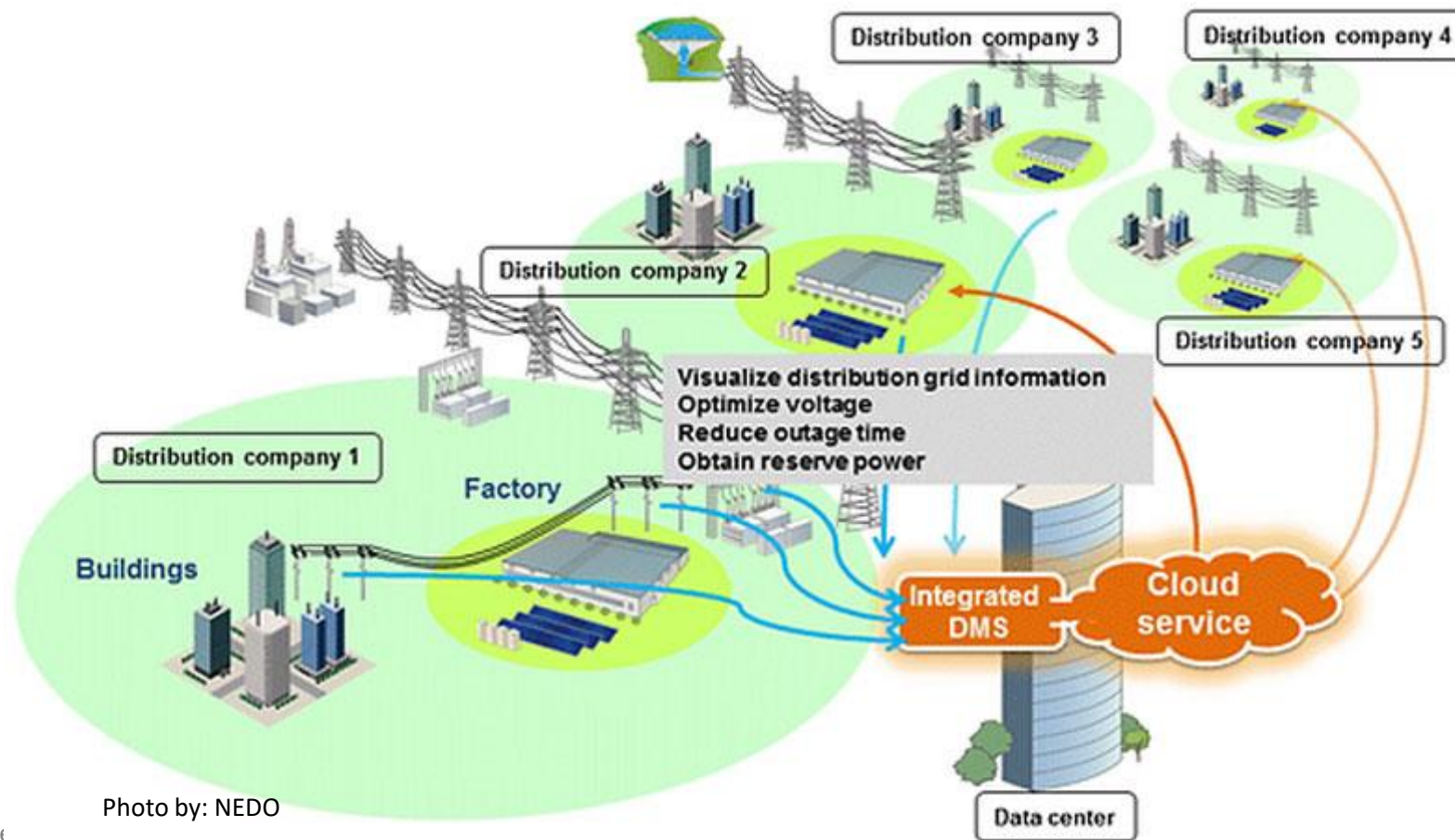


Photo by: NEDO

Smart Specialisation Strategy

- as one of the **key actors in the implementation of the Slovenian Smart Specialisation Strategy (S3)** - close connections to government, ministries and national body, responsible for the management of the smart specialisation strategy,
- interested in **interregional projects** with the focus on **Smart Specialisation Strategy in EU regions/countries** (implementation, evaluation, monitoring, knowledge & experience exchange).
- open for global **cross-sectoral collaboration** and are **looking for potential partners and projects under S3 topics** to apply to different EU programmes and calls (probably new 2021 -2027: A smarter Europe by promoting innovative and smart economic transformation).

Cluster Collaborations

- As an **innovation cluster**, having **almost 20 years of experience in managing and coordinating different strategic research partnership**, we are interested in **interregional projects** with the focus on **cluster collaboration, knowledge exchange, improving cluster strategies, services, business model, transformation, internationalisation...**,
- especially if proposals relate to energy, energy efficient solutions, digitalisation, smart grids, smart buildings, smart devices, industry 4.0... and global cross-sectoral collaboration.
- We are looking for potential partners and projects under **cluster collaboration topics** to apply to different EU programmes and calls.

Energy and Environment Challenges & Green Deal

- as one of the **key Slovenian cluster**, connecting different stakeholders, research and public organisations, companies from **electronic and electro-industry, energy sector, providers and users of green technologies and energy efficient solutions...**
- interested in **collaboration and projects** with the focus on **energy efficient solutions, energy and environment challenges** (green technologies, energy, energy efficient solutions, digitalisation, smart grids, smart buildings, energy management, smart devices & systems, HVAC, industry 4.0, AI, IoT, ...) and **cross-sectoral collaboration**.
- we are looking for potential partners and projects under **energy & green technologies & environment & energy efficient topics** to apply for different **research & development & technology & innovation** programmes and calls.

**If you have any other topic
interested for you,
please do not hesitate to call us.
Thank you.**

TECES

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