

# Shopping center Sello

Smart building connected to smart grids

ETIP SNET, October 3, 2018

Anssi Laaksonen, Project director, Siemens  
Osakeyhtiö

**Perfect places video**

# Sello

## The smartest shopping mall in Europe

**SIEMENS**  
*Ingenuity for life*



**Increase energy efficiency**



**Customer satisfaction**



**Increase building value**



**26,000,000 visitors**



**Increase sustainability**



**Reduce cost**

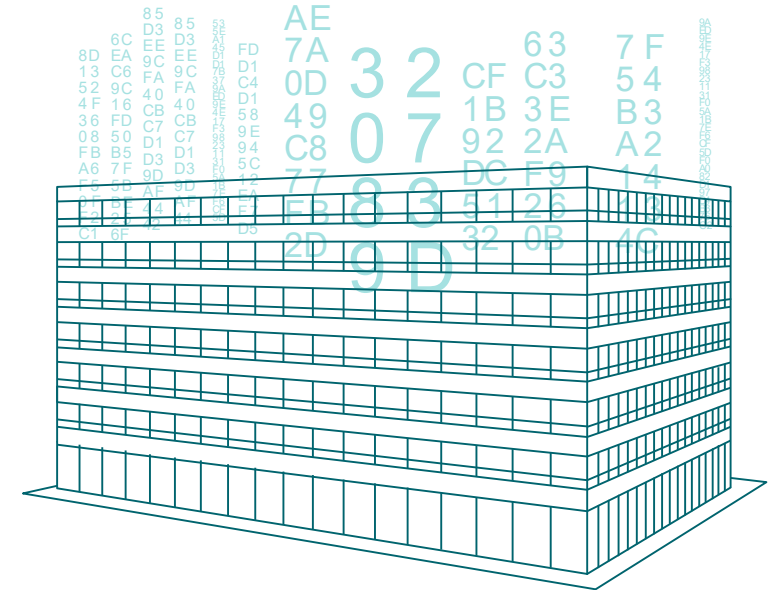
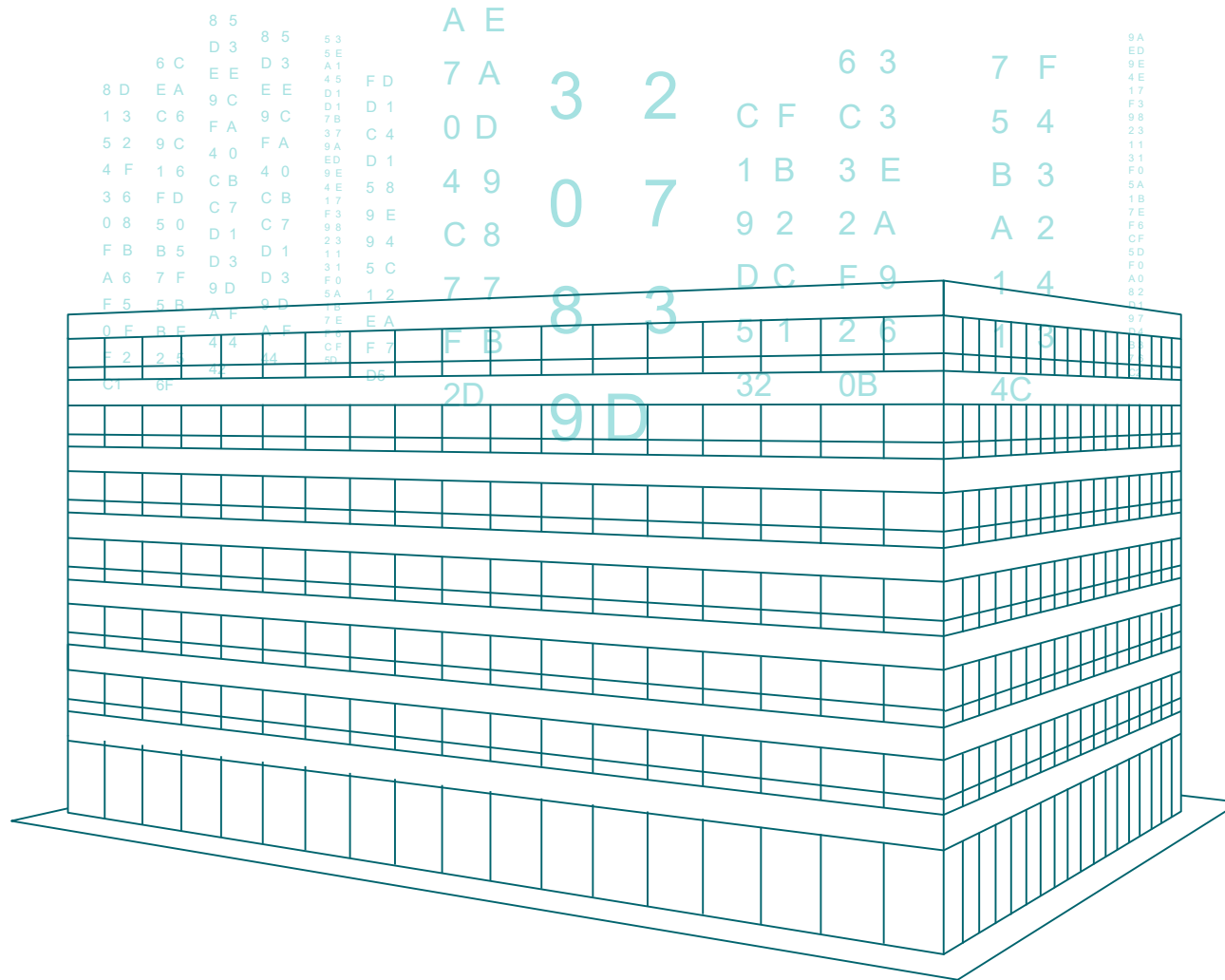


**Lead EB Platinum certification**

# Siemens Building technology builds perfect places

## Digital buildings are connected to smart grids

**SIEMENS**  
*Ingenuity for life*





## Sello Shopping Mall

The project was a door opener to the new market

€ 2 million investment aid

**SIEMENS**  
*Ingenuity for life*

## Turnkey expertise from Siemens

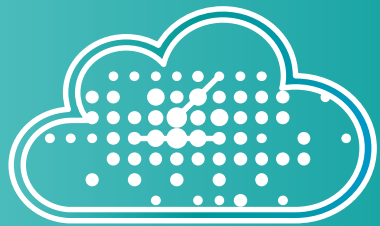
- The largest shopping mall in Finland
- 100.000 m2 of shopping space
- 26 Million visitors per year
- 170 Shops
- LEED Platinum



- Understanding of new earning models
- Solutions to benefit from compensation from reserve markets
- Solutions for automatic purchase and selling of electricity as well as controlling of consumption.
- Diversified know-how: building automation, microgrids, connectivity, platforms, digital solutions, energy storages, smart metering, local production, financing



- Energy efficiency
- Optimization of peak loads
- Own electricity production
- Totally new income from reserve markets

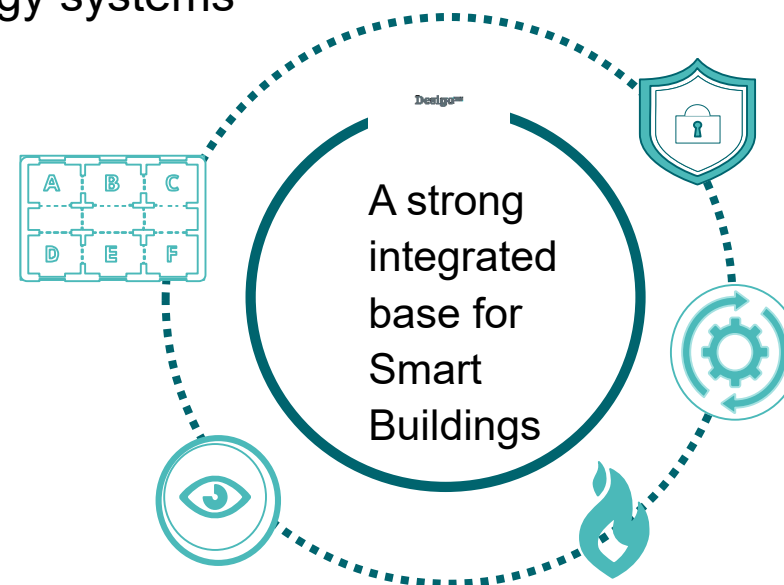


## Digital platform

- Analytics & Data visualization
- Cloud
- Open system offering
- IoT / smart devices

## Important role of digital services

Integrations will connect building automation and energy systems



Siemens – a reliable partner for safe, efficient and sustainable high-performance buildings.

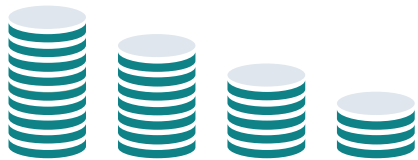
## Digital services

- Open application & partner ecosystem
- Data driven maintenance
- Remote operations
- Software as a Service
- Cyber security services

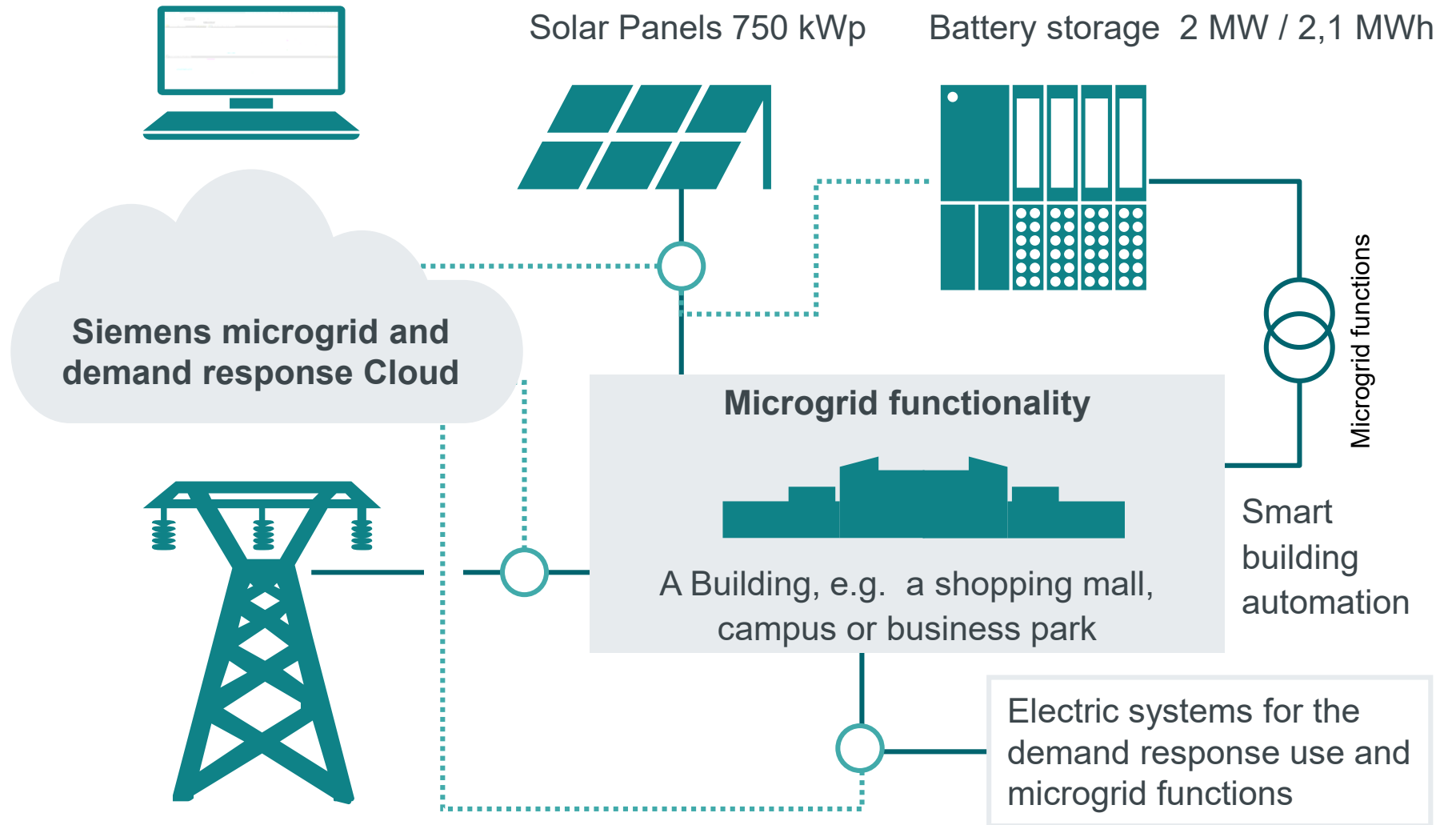
Turn key digital projects

# A building as a part of the smart energy system

**El Spot  
Electricity market**

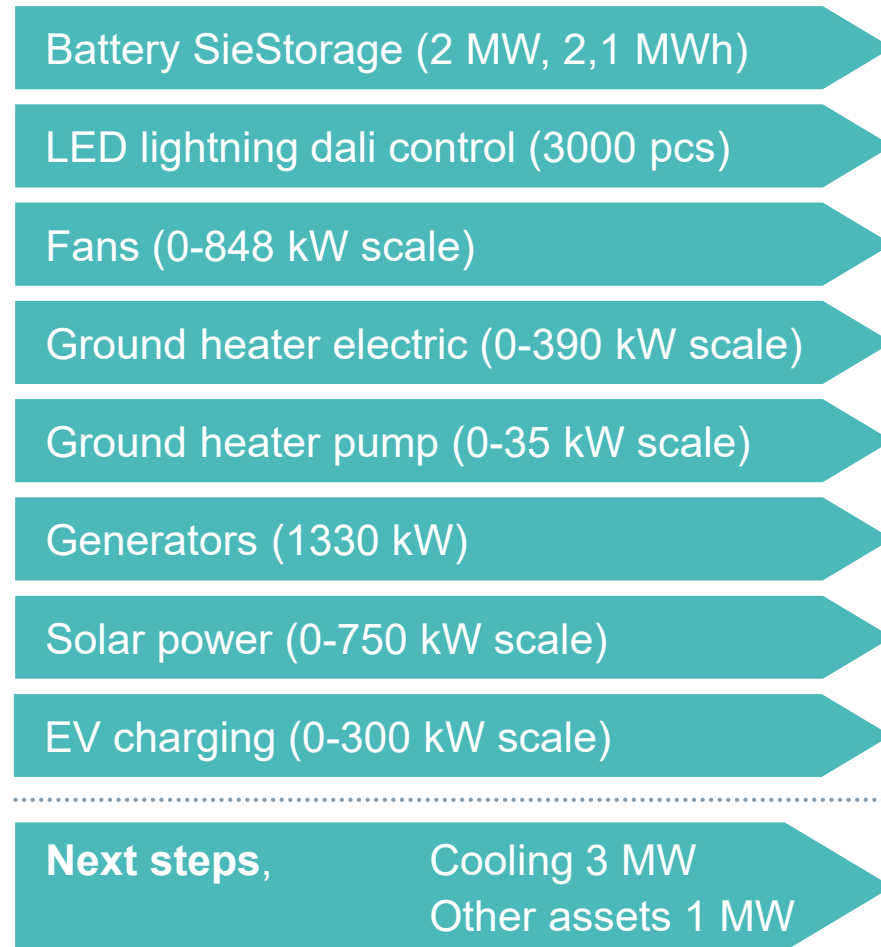


**Demand response  
market**



# Building technology components in the microgrid

## Load to be provided from Sello to the reserve market





# Shopping mall Sello

## Project key exploitable results

**SIEMENS**  
*Ingenuity for life*



Overall yearly benefits for the customer 658.700 €

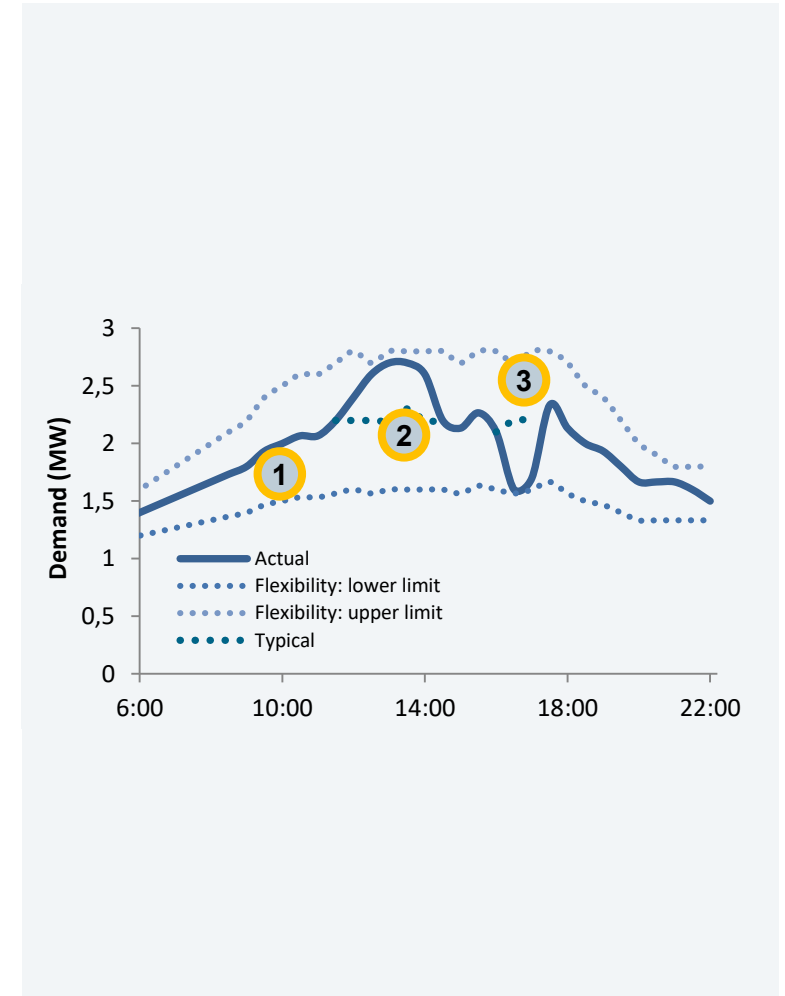
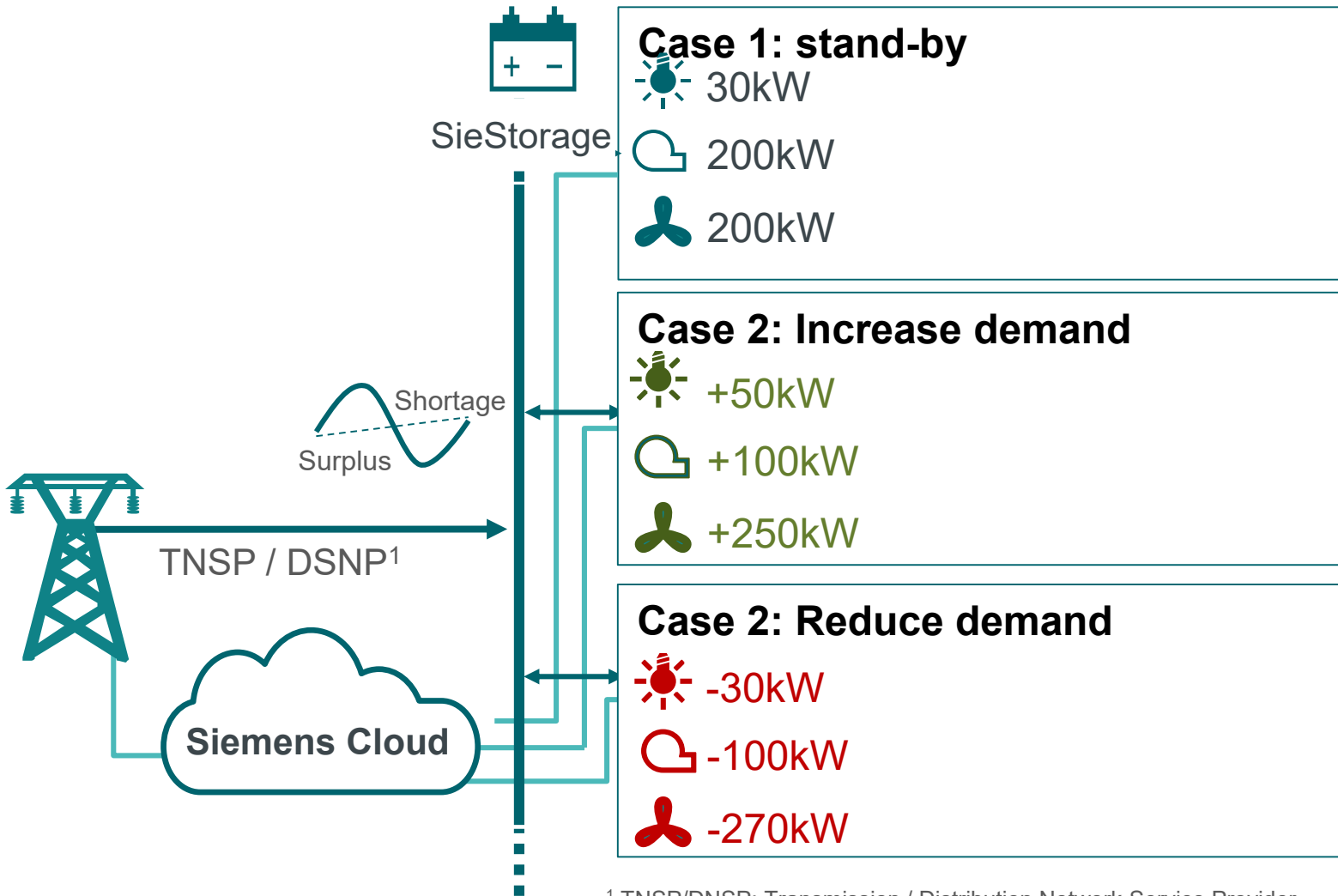
- Fingrid market places 483.000 €/a
- PV energy production 57.500 €/a
- Energy efficiency 78.200 €/a
- Maintenance cost reduction 40.000 €/a
- Maintenance cost backlog reduction 650.000€
- Own energy production 640 MWh/a
- Carbon emission reduction 281 tkg/co2/a

Opex neutral solution

- Property value will increase
- Shopping center image will increase
- Lifecycle cost efficiency will affect the tenants positively
- Sustainability matters, acting as a leader
- Technology improvement and readiness for next steps

# Briefly control of building loads

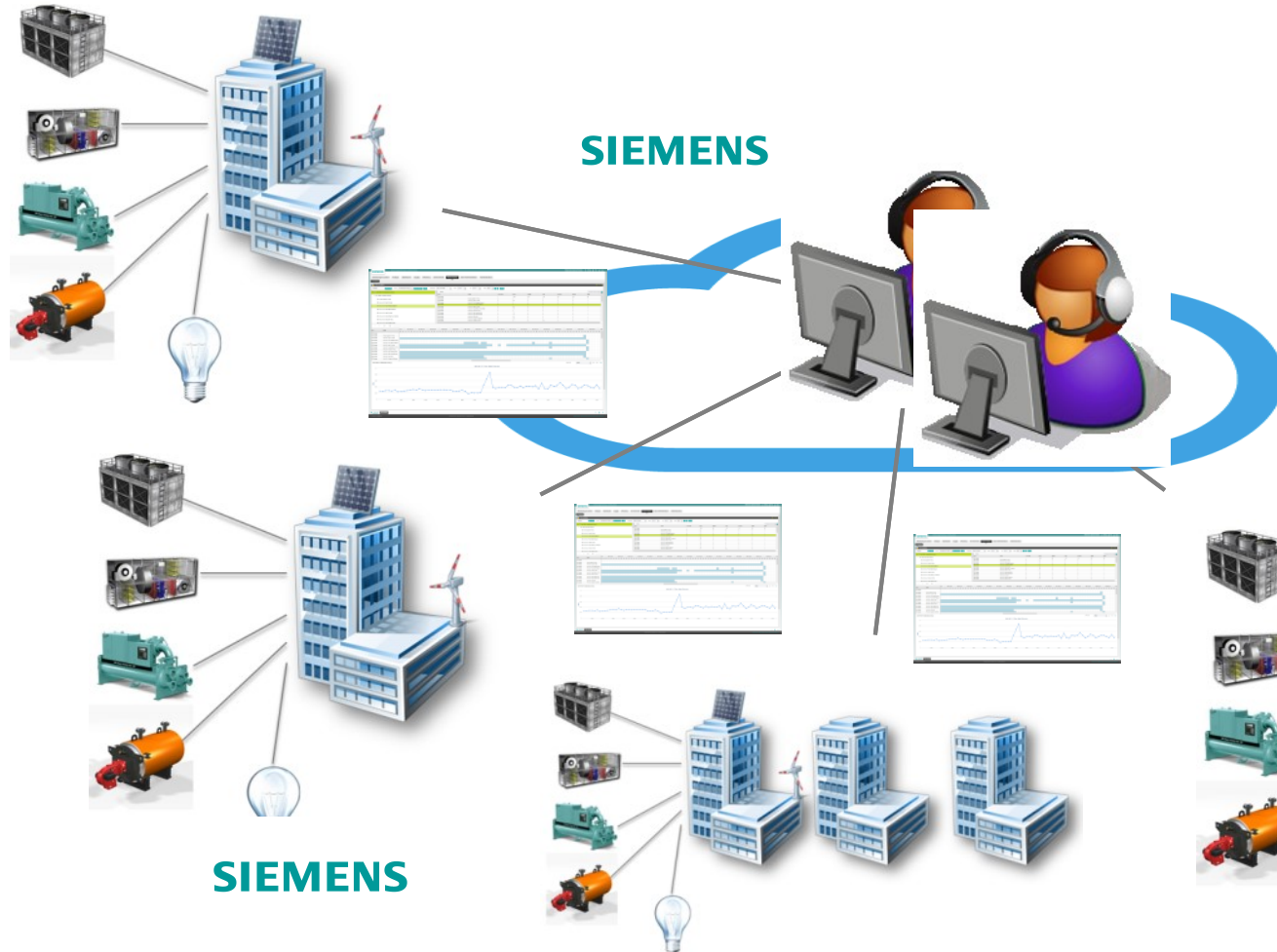
## Sello shopping center



<sup>1</sup> TNSP/DSNP: Transmission / Distribution Network Service Provider

# Later on Shopping center as part of a Virtual power plant More customer benefits out of the greater markets

**SIEMENS**  
*Ingenuity for Life*



# Virtual power plant video



The growing amount of renewable energy is increasing the need for a sustainable balancing solution - through flexible consumption.



## €8.4 million investment aid

### Back-up power

- Expensive for a society to maintain
- Not driving sustainability
- Unprofitable replacements



- The Ministry funding enabling the implementation of the required technology for the buildings.
- The biggest investment aid granted to an energy initiative reflects the Ministry's trust of the initiative.
- €7,2 million is dedicated to building owners to implement required technologies.

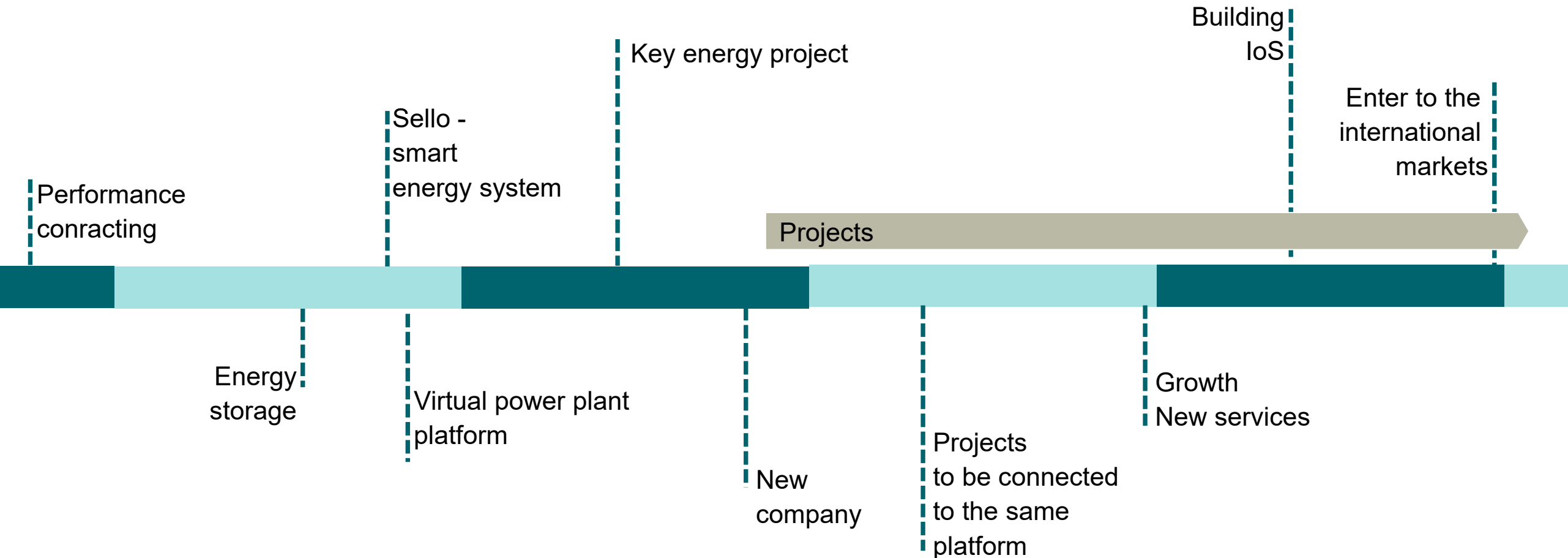


### Funding

- Microgrid projects 22 MW
- Battery storages 10 MW
- Smart energy management

**Enabler for profitable technology investments.**

# Development path to become the Buildings IoT platform



**Technology for balancing grids  
with present assets are here!**

**Can we balance European grids  
with building assets?**



**Thank you.**