



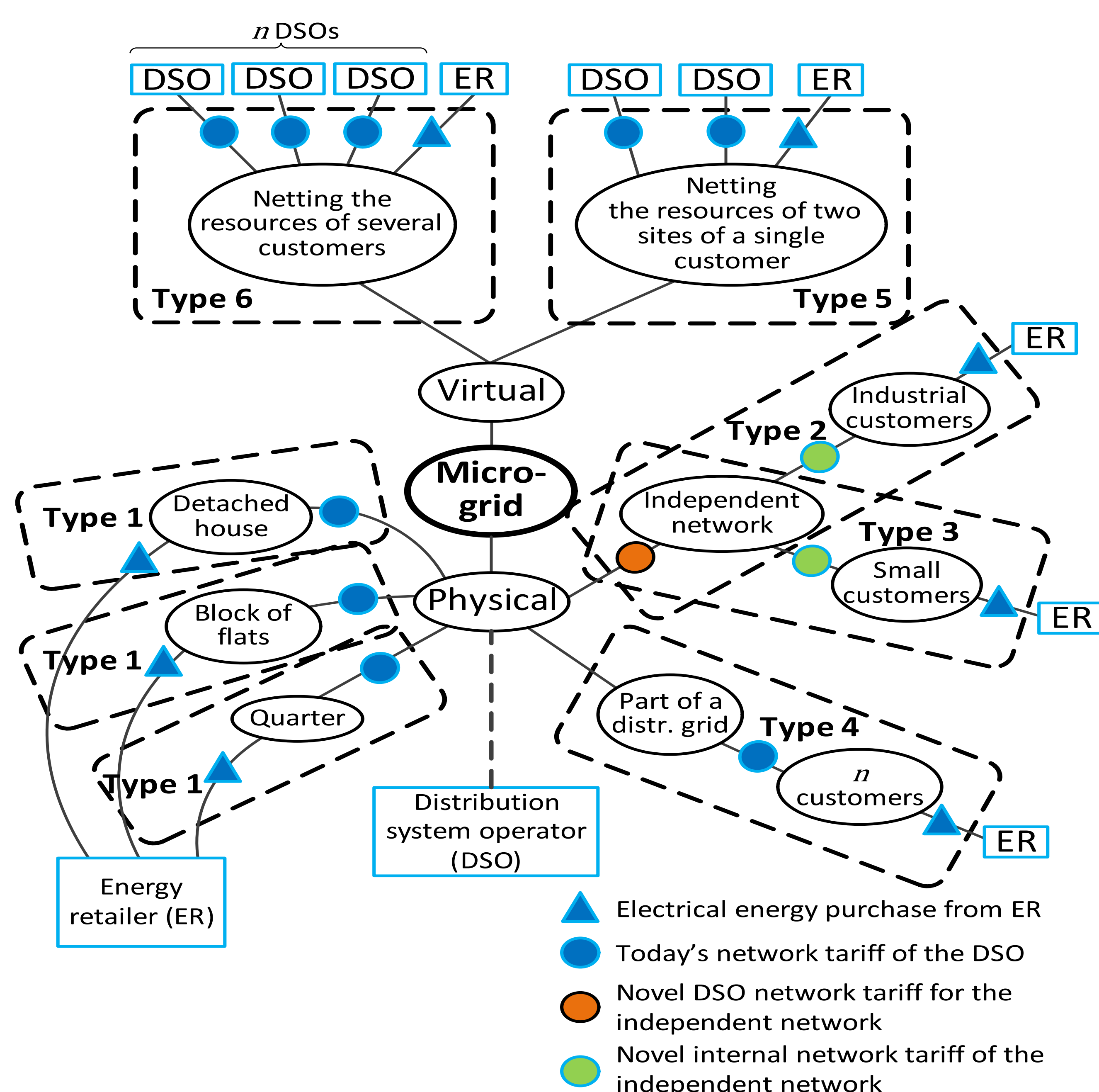
Microgrid Research in Tampere University of Technology - Prosumer Centric Energy Ecosystem (ProCem)

Background

- Digitalization, and end-user and information oriented new ecosystems in general
- Customer's (=prosumers) role is changing in the future electrical energy system
- Need to manage DER diffusion efficiently
- Strict reliability requirements for quality of supply give new opportunities for microgrids

Objectives of the ProCem project

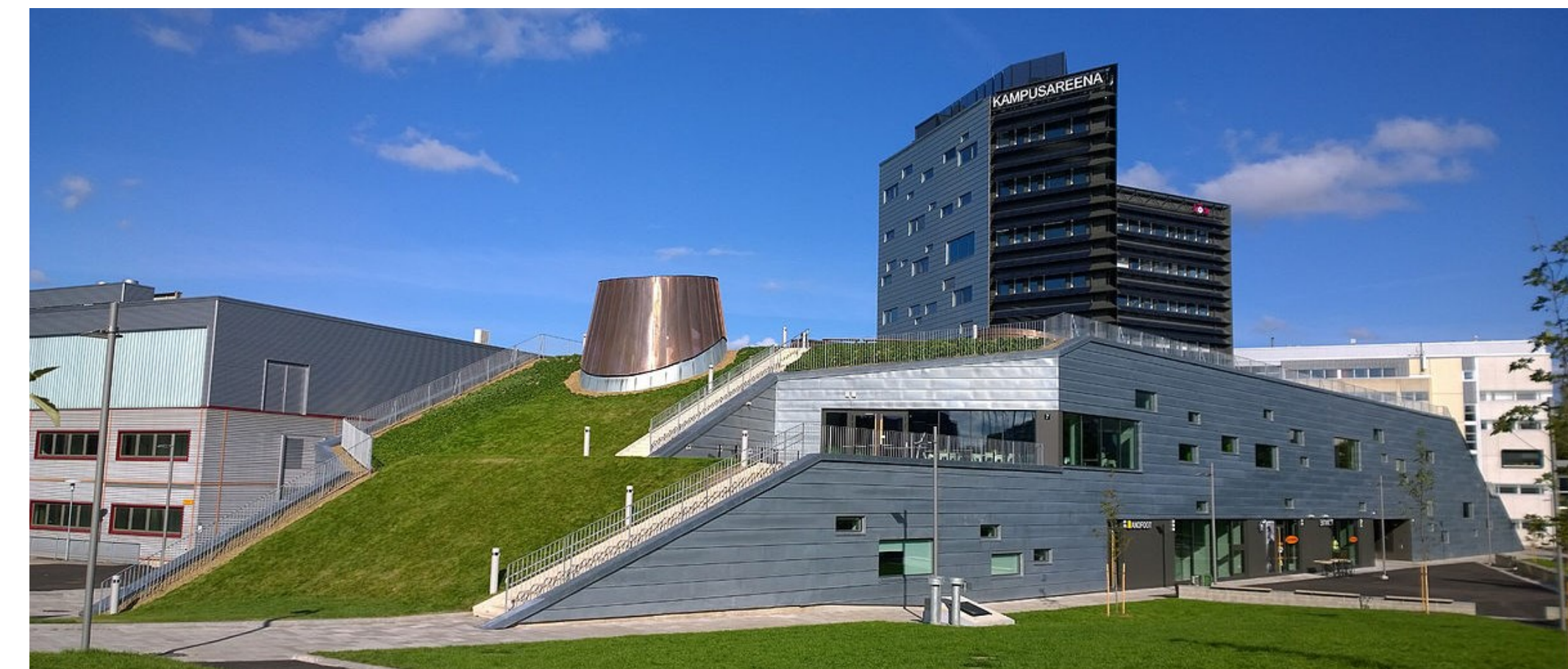
- To study new roles of prosumers and microgrids in the energy system
- To develop and demonstrate IoT-based technology platform to study roles, behaviour, needs and requirements of prosumers and new kind of business models and ecosystems in a new operational environment utilizing real time data management



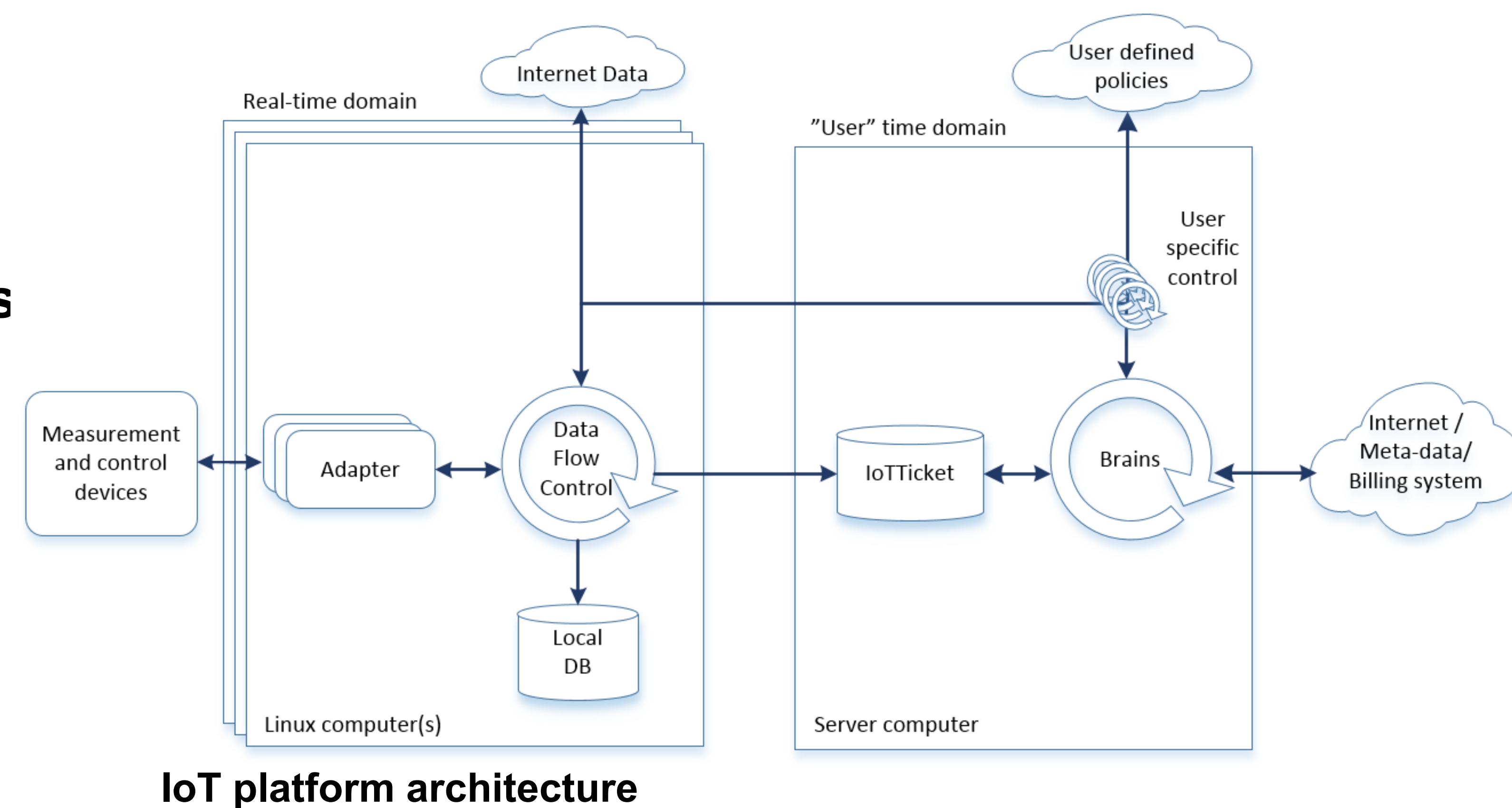
Microgrid type categorisation done by the research group

The main pilots

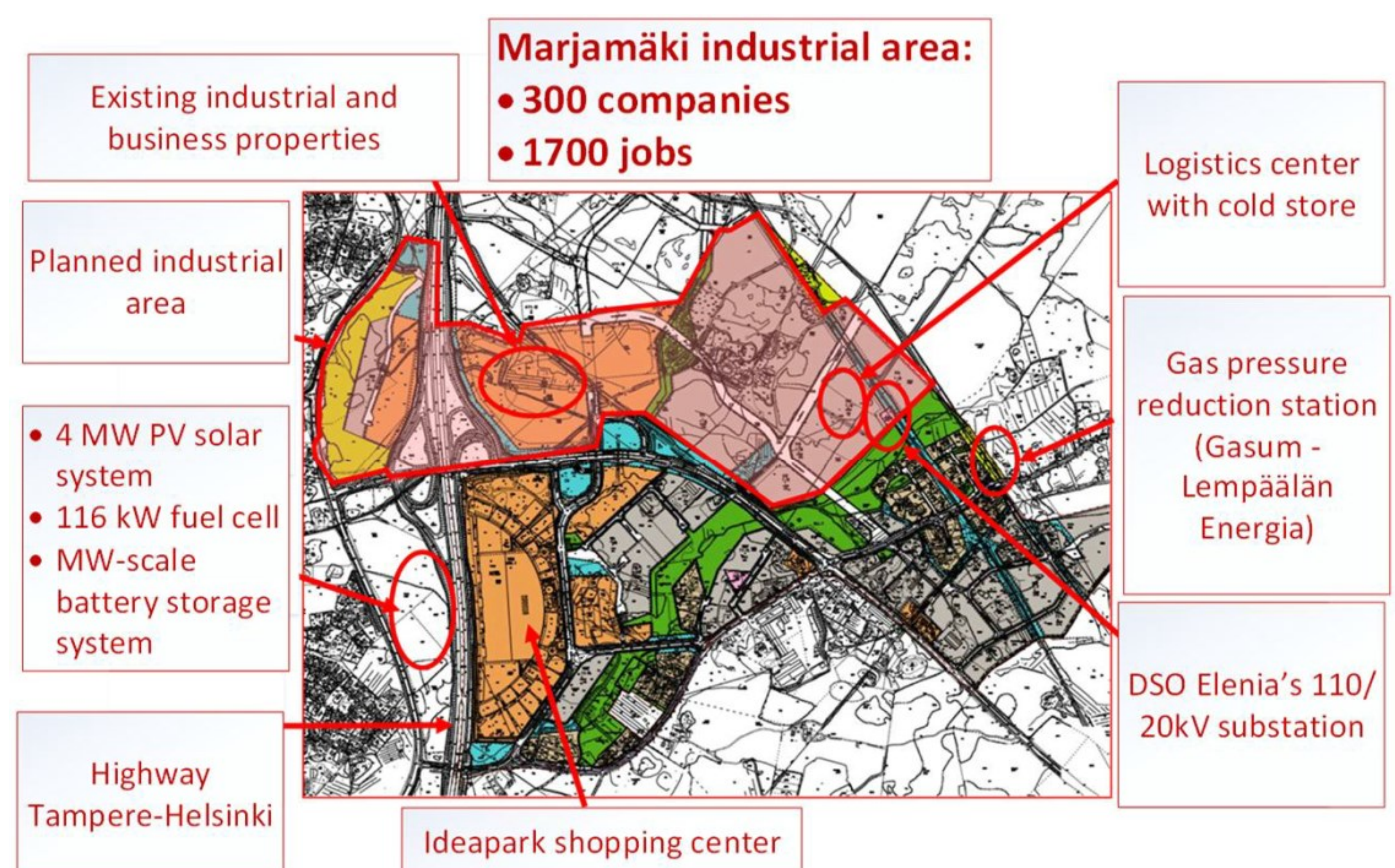
- Kampusareena (university campus building)
- Industrial level microgrid under development in Marjamäki, Lempäälä



Kampusareena



IoT platform architecture



Marjamäki industrial and commercial area is part of the research



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Participating laboratories:

Electrical Engineering
Pervasive Computing
Automation Science and Engineering
Industrial Management

Funding:

Business Finland
and collaborating
IT and energy
companies