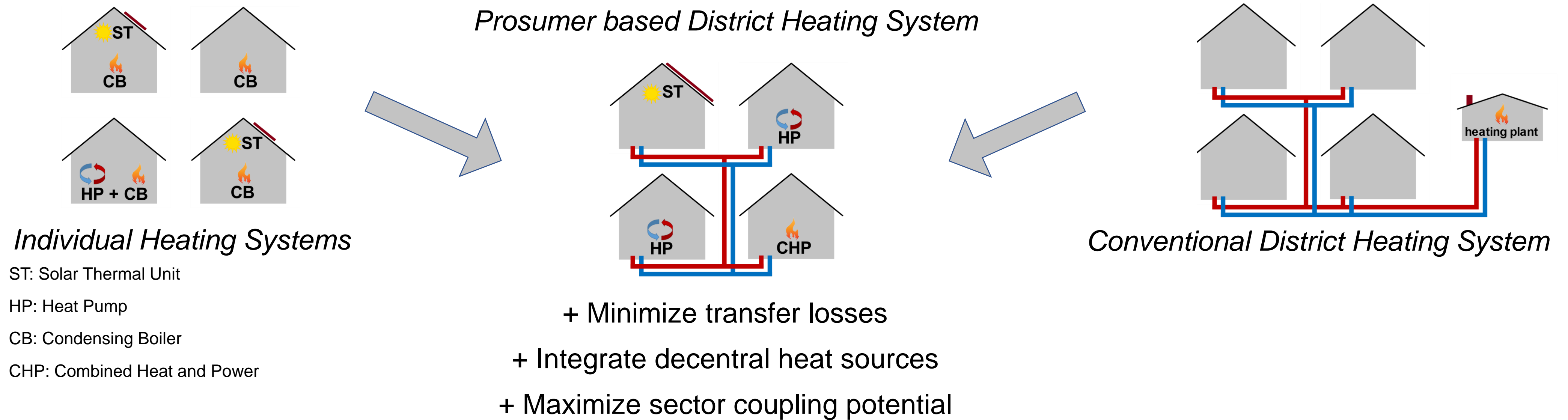


Optimized Sector Coupling in Districts through Intelligent Thermal Prosumer Networks

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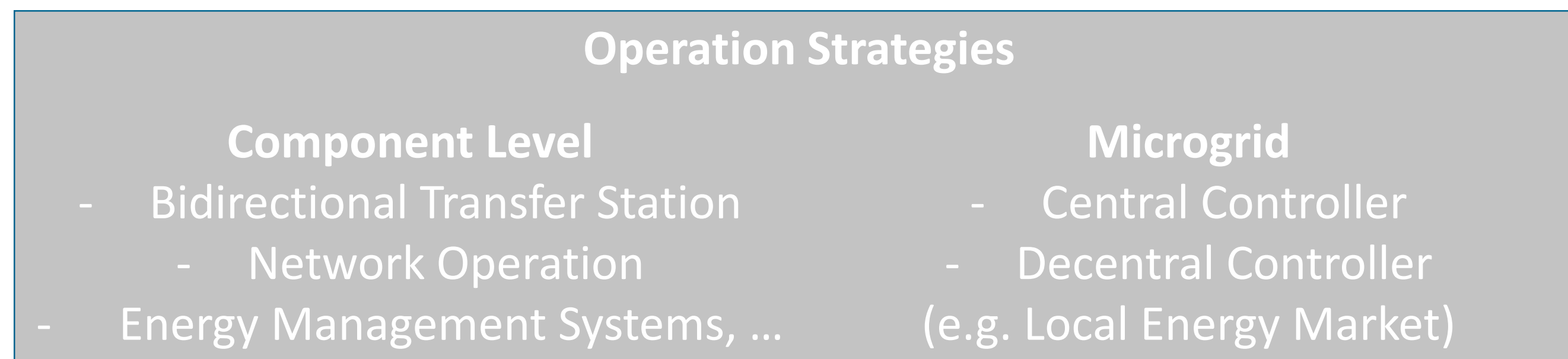
Project Idea:



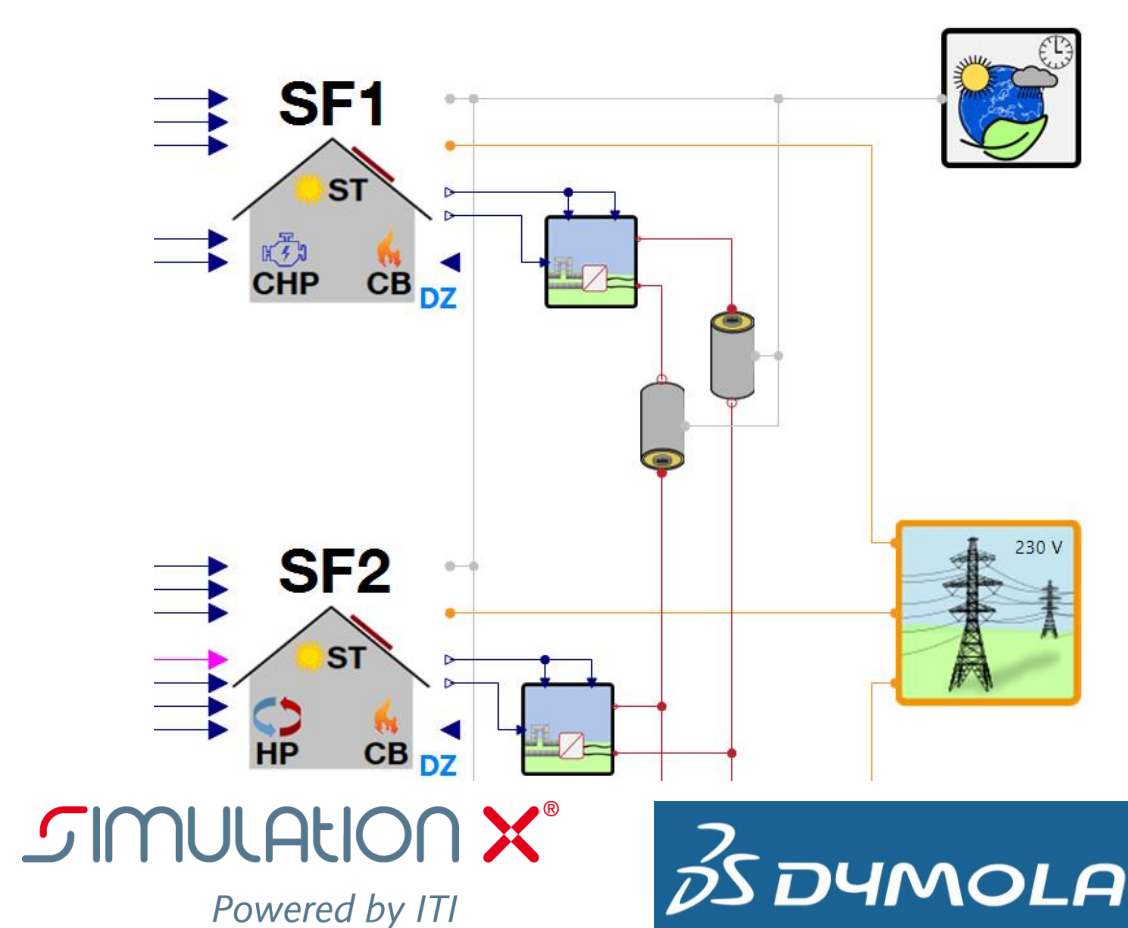
Project Goals:

- Develop and analyze new, innovative **topologies** for thermal grids and their **bidirectional transfer stations**
- Design suitable **operation strategies**
- Build a **demonstrator**
- Evaluate the interaction with the **electricity sector**

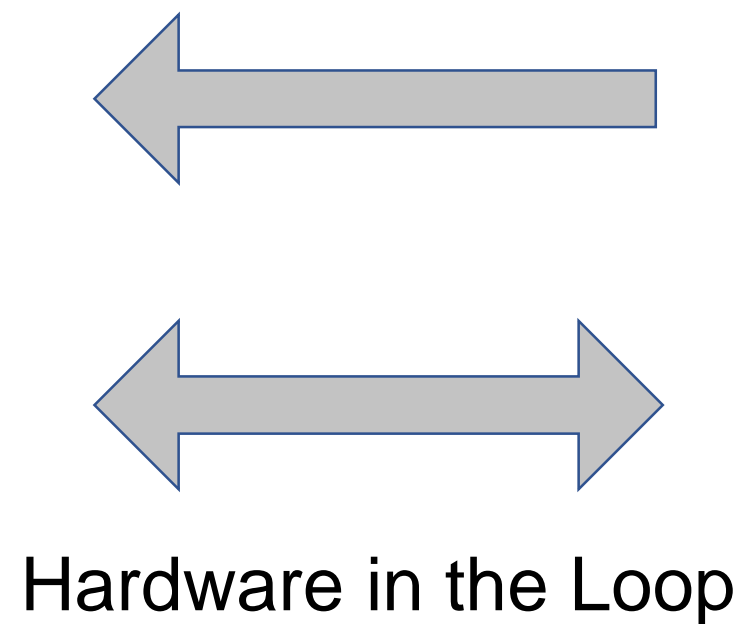
Approach:



Simulation Models



Model validation



CoSES Laboratory



[Stefan Hobmaier / TUM]

First Results:

- Characteristics and challenges in prosumer-dominated thermal networks / CISBAT 2021
- A Comparison of Prosumer System Configurations in District Heating Networks / DHC 2021
- Thermohydraulic Model of Smart Thermal Grids with Bidirectional Power Flow between Prosumers / Energy 2021
- ProsNet – a Modelica library for prosumer-based heat networks: description and validation / CISBAT 2021
- Modeling of Combined Heat and Power Generation Unit for Dynamic Analysis of Integrated Thermal-Electric Grids / MSCPES