Simulation of HVAC and thermal storages for building integration

HIGHLIGHTS

- Equipment modeling cannot preclude from building model for integration
- Models to be developed need to be flexible, highly-reusable, with real-time functionalities

CHALLENGES

- Standardization lacking
- Open standards
- Model scale and computational effort
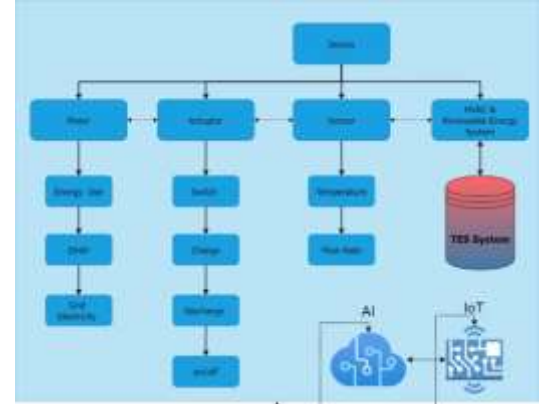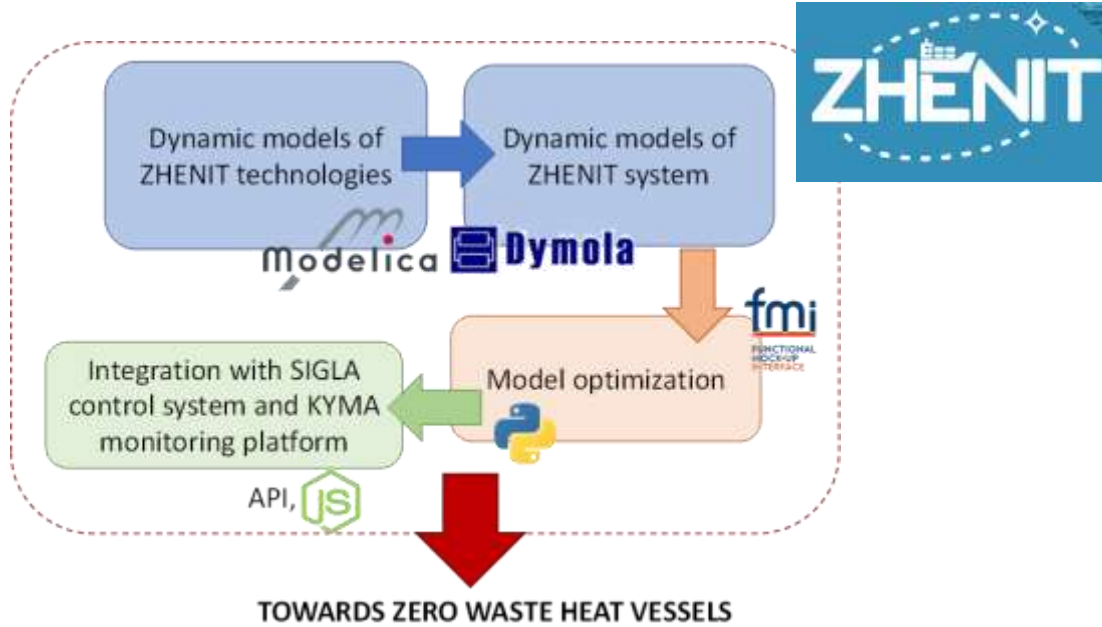- Lack of awareness from producers

ON-GOING WORK AND POSSIBLE ANSWERS

- FMU exchange and co-simulations
- Open source tools (e.g. Python, Modelica)
- Integration of models in the BDT → SIMBots experience
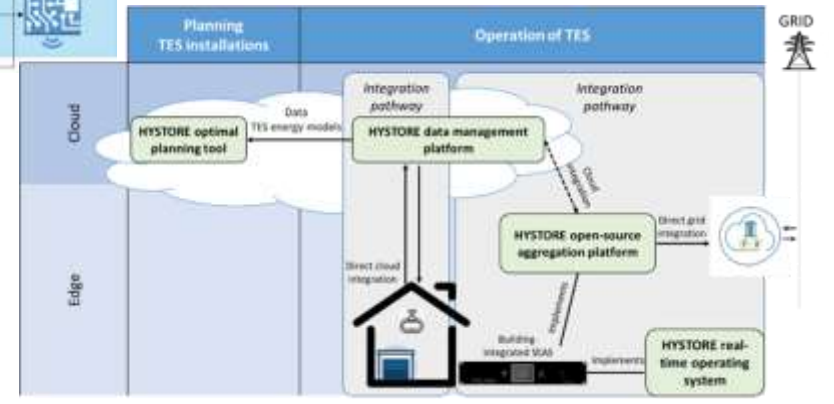- Dedicated training?

BUILDING DT SIMULATION

"Simulation for real-time / AI enabled by Building Digital Twin Environments"

SEP 8TH, 2022 09:00 AM CEST | NICE, FRANCE

Simulation of HVAC and thermal storages for building integration

PROJECTS EXPERIENCE

HYSTORE
(to start end of 2022)

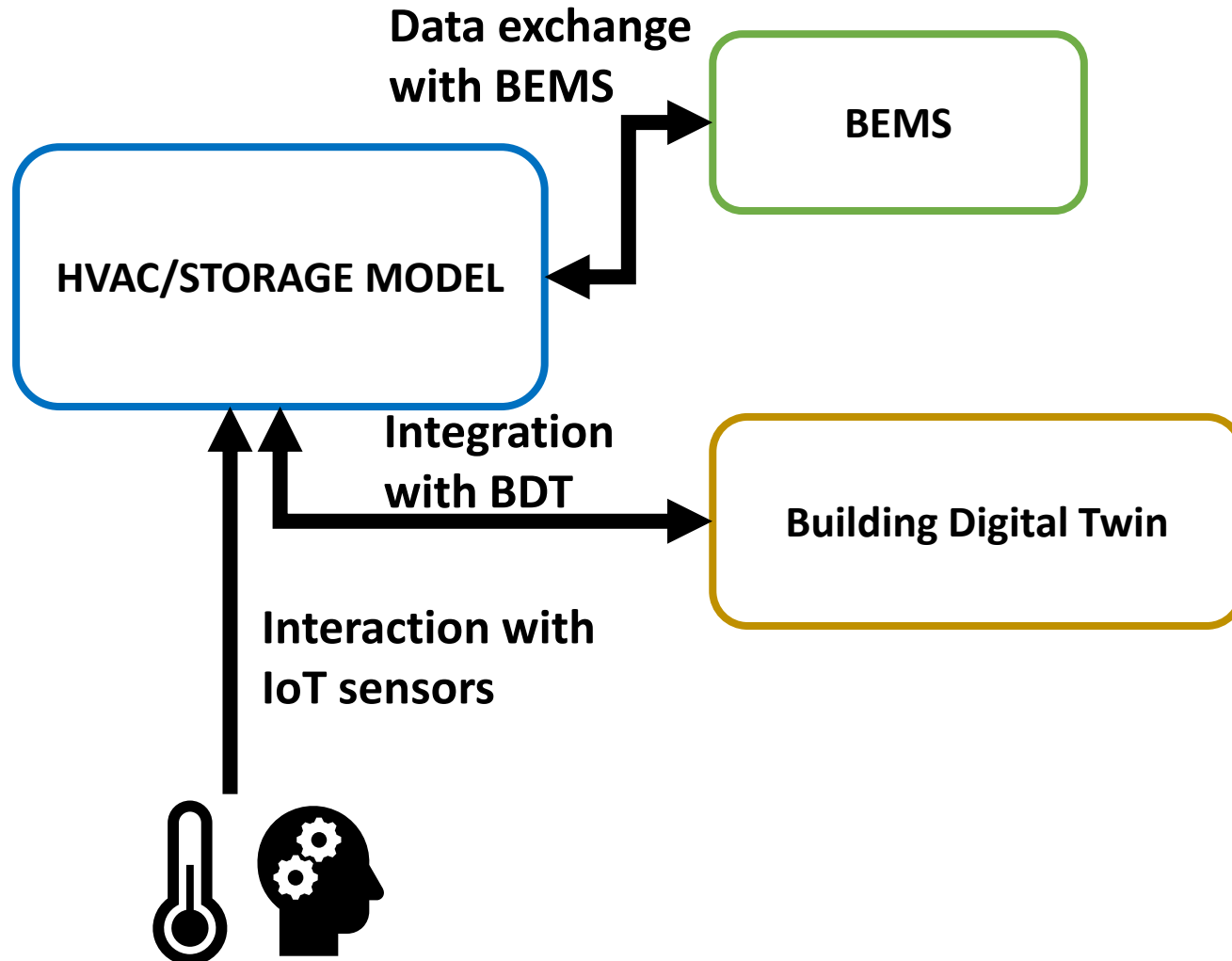# Simulation of HVAC and thermal storages for building integration

WHAT DO WE NEED IDEALLY?

Data exchange with BEMS

BEMS

HVAC/STORAGE MODEL

Integration with BDT

Building Digital Twin

Interaction with IoT sensors

FUNCTIONALITIES

- Continuous measurement

- Real-time operating decisions

- Fault detection and

  predictive maintenance

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