

Energy Efficiency in Urban Areas

The R&D cooperation Aspern Smart City Research

November 26th 2019, Prague

Oliver Juli – Aspern Smart City Research GmbH & Co KG

The Idea behind Aspern Smart City Research

Partner von  SMART CITY WIEN



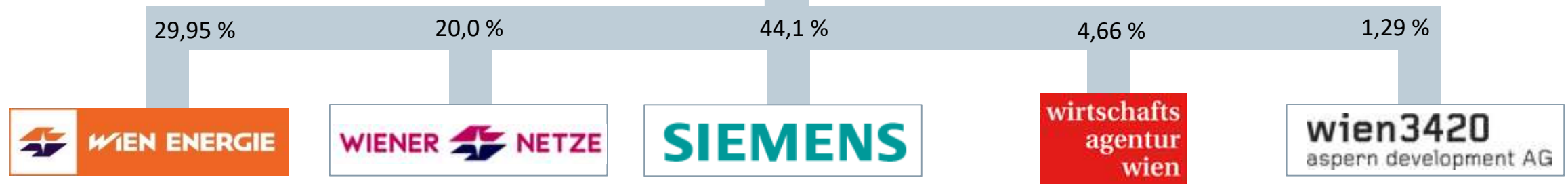
Phase 1 (2013-18)
Total Budget: 38,5 '€

Phase 2 (2019-23)
Total Budget: 45 '€

Seestadt Aspern



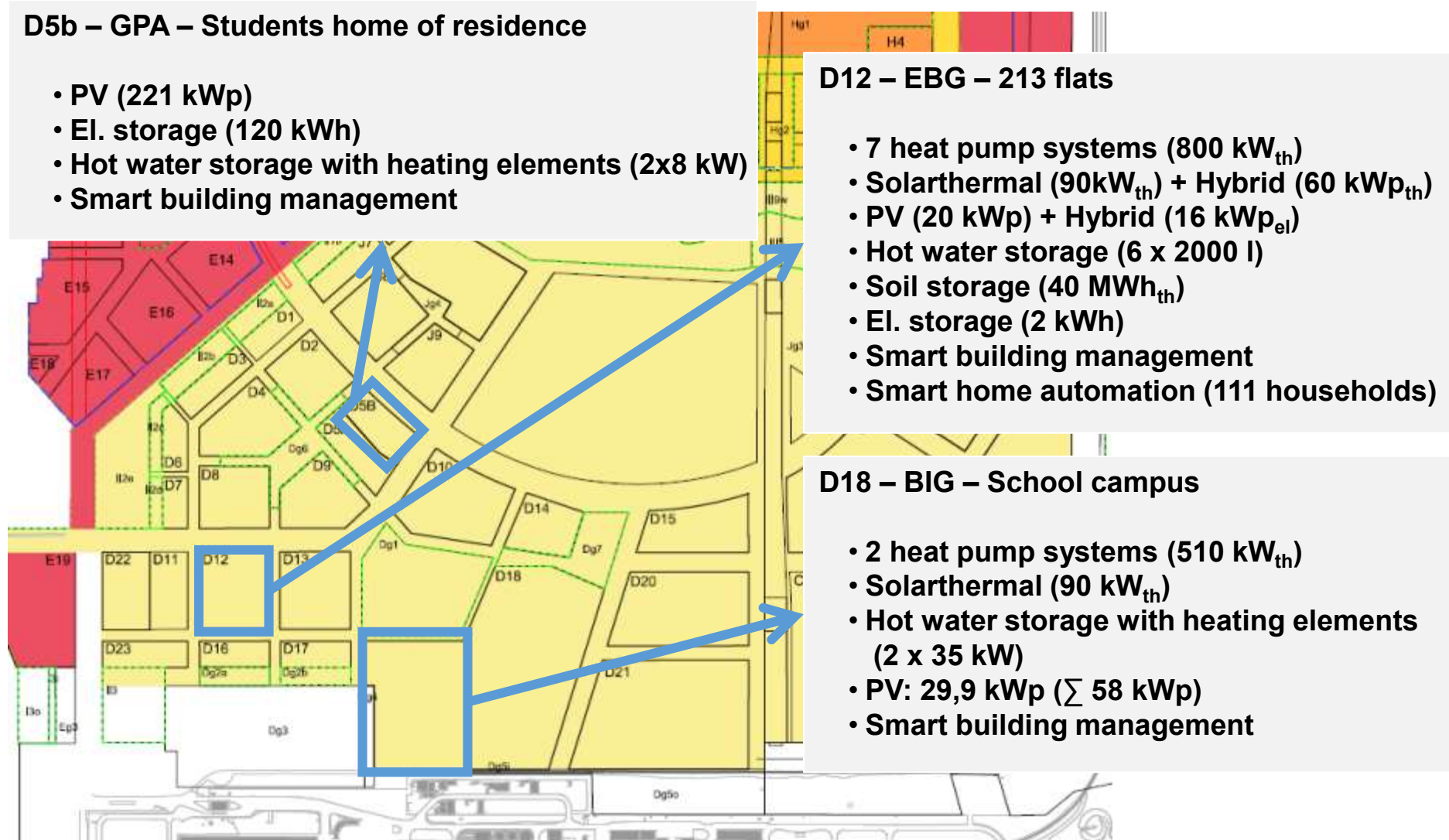
ASCR
Aspern Smart City Research
WORLD SMART CITY PROJECT AWARD
WINNER 2016



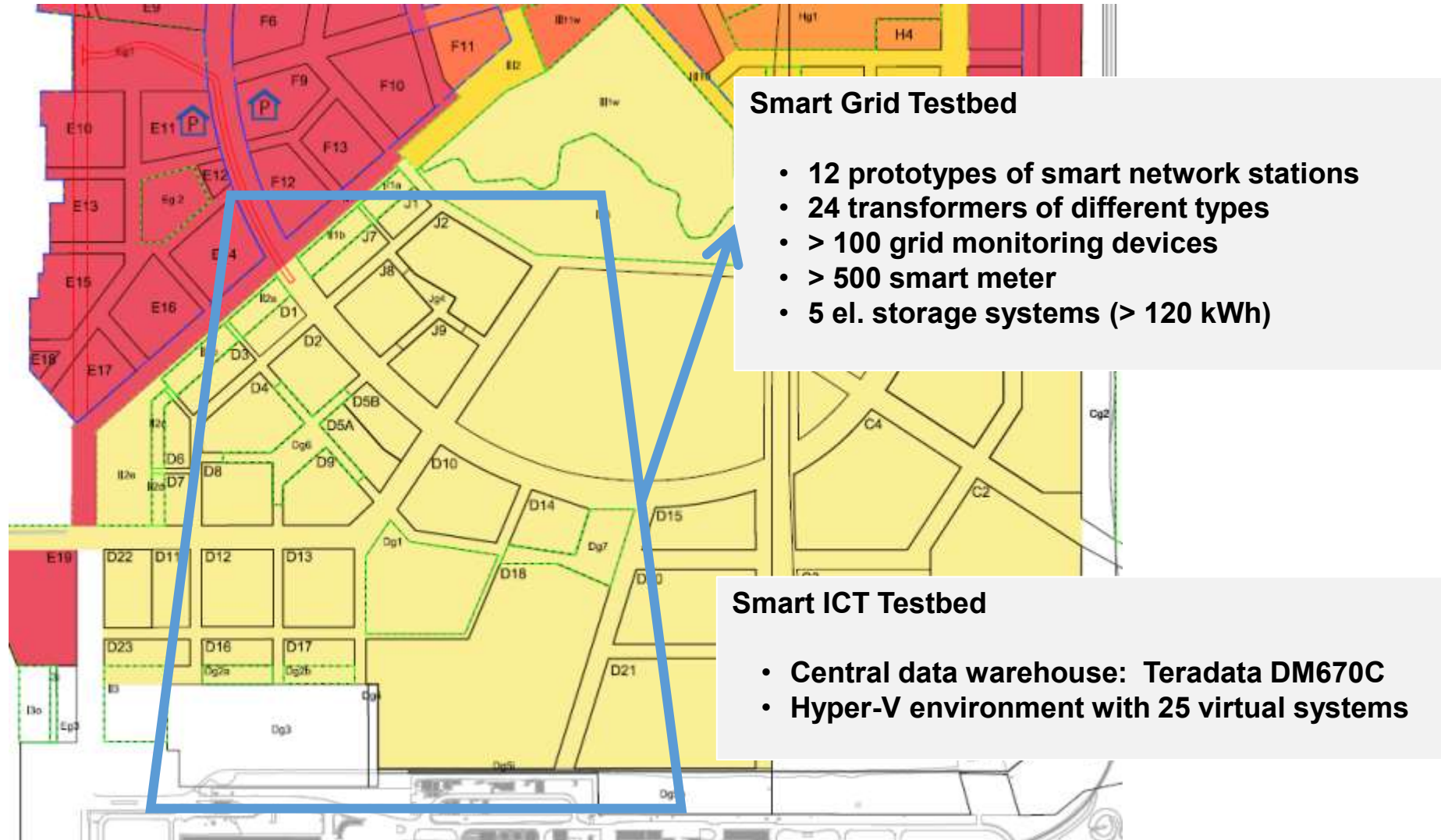
The City Development District Seestadt Aspern - Energy efficiency and CO₂-reduction is essential



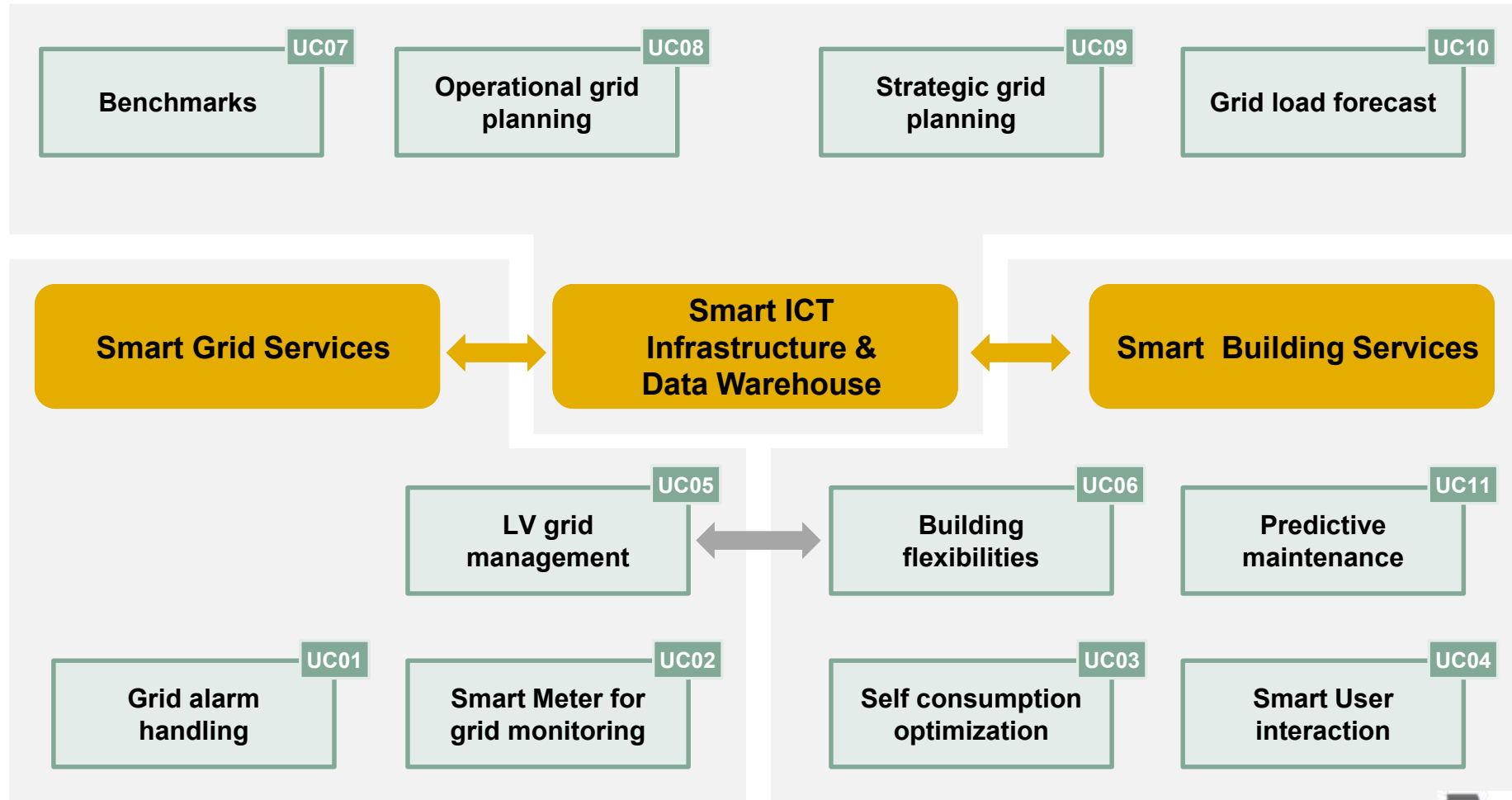
ASCR 2018: The Smart Building Testbed



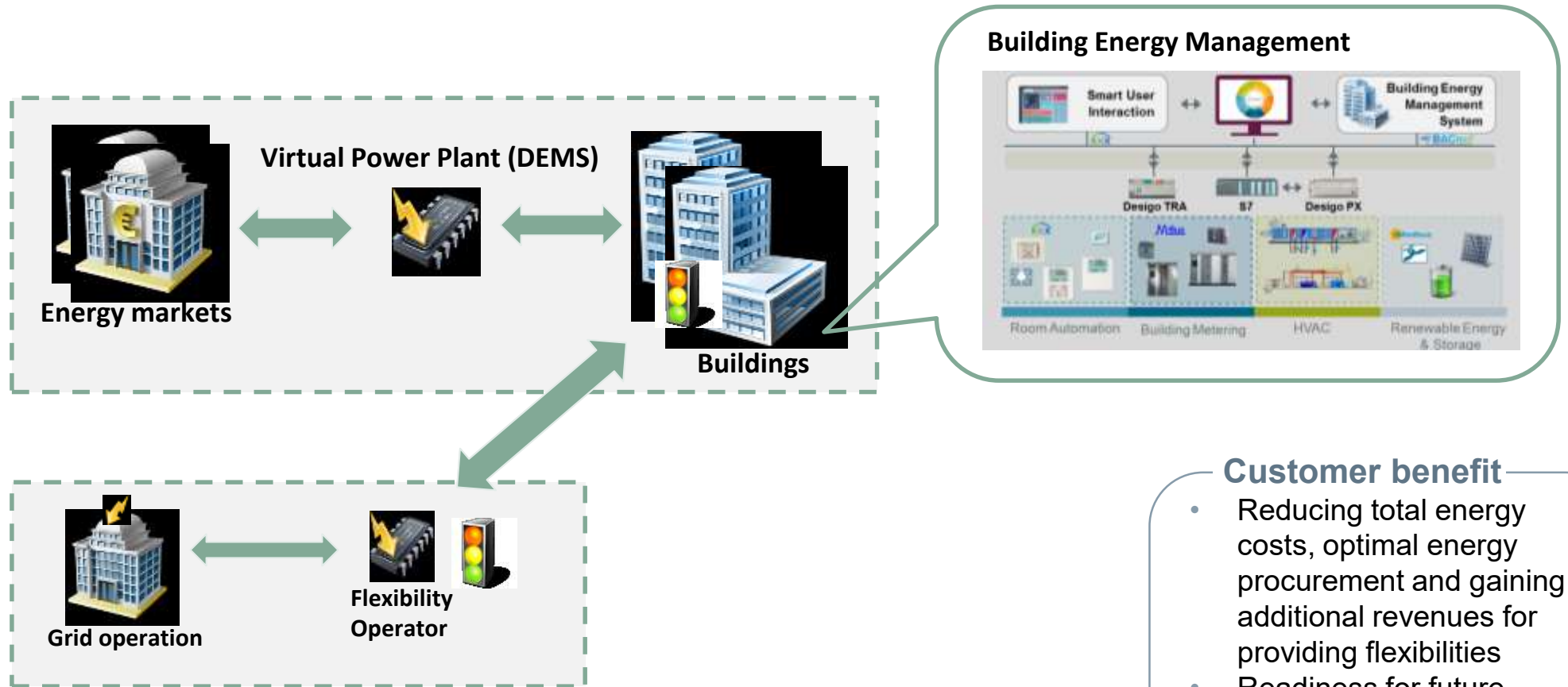
ASCR 2018: The Smart Grid Testbed & The Smart ICT Testbed



ASCR 2018: The R&D-Program → Use Cases



The Interaction between Building – Grid - Market



Innovation

- Forecasting of energy generation and consumption at building level
- Predictive optimization of self-consumption using energy storage models
- Active market participation (e.g. tertiary control reserve power)
- Using different types of storages for providing flexibilities
- Predicting and communication power profiles

Customer benefit

- Reducing total energy costs, optimal energy procurement and gaining additional revenues for providing flexibilities
- Readiness for future changes in the energy market

Smart Grid Migration Path as a guideline for R&D activities

Data provisioning & grid monitoring
→ grid operation

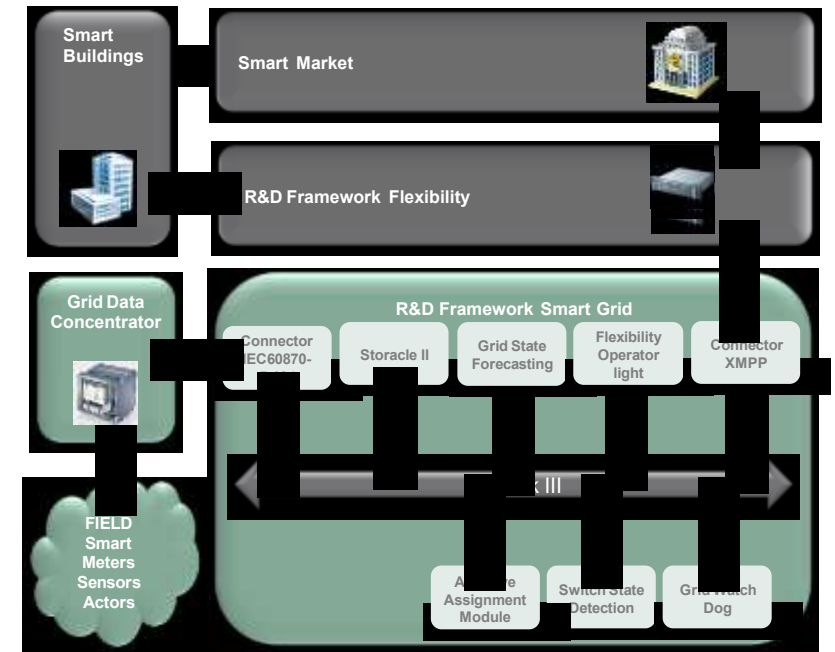
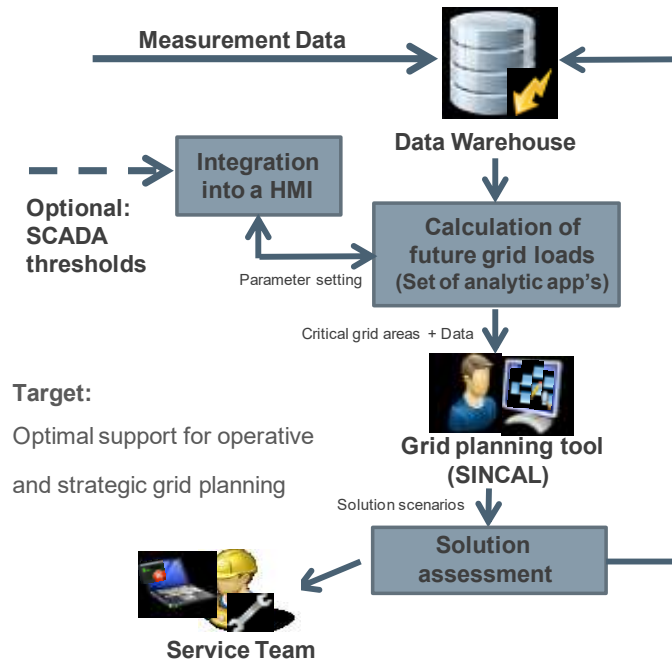
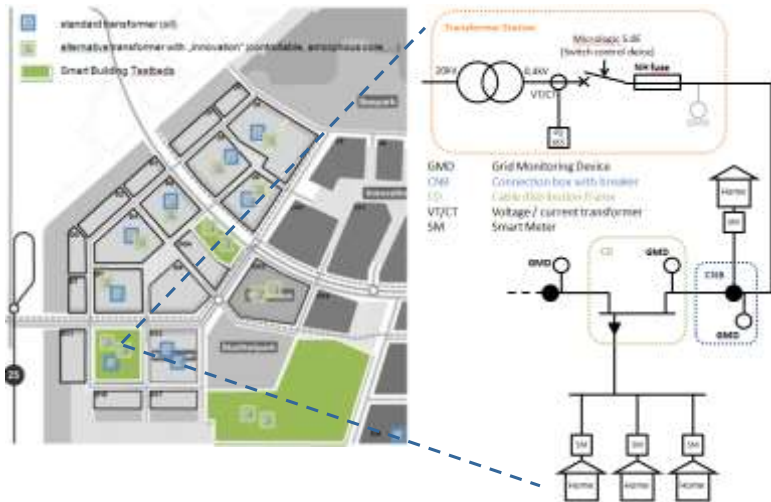
Big data & business analytics
→ back office grid optimization

Active grid management
→ distributed intelligent devices

Where does the infrastructure reach its limits?

„passive“ grid optimization, analysis of events and effects

„active“ grid optimization, platform for new services

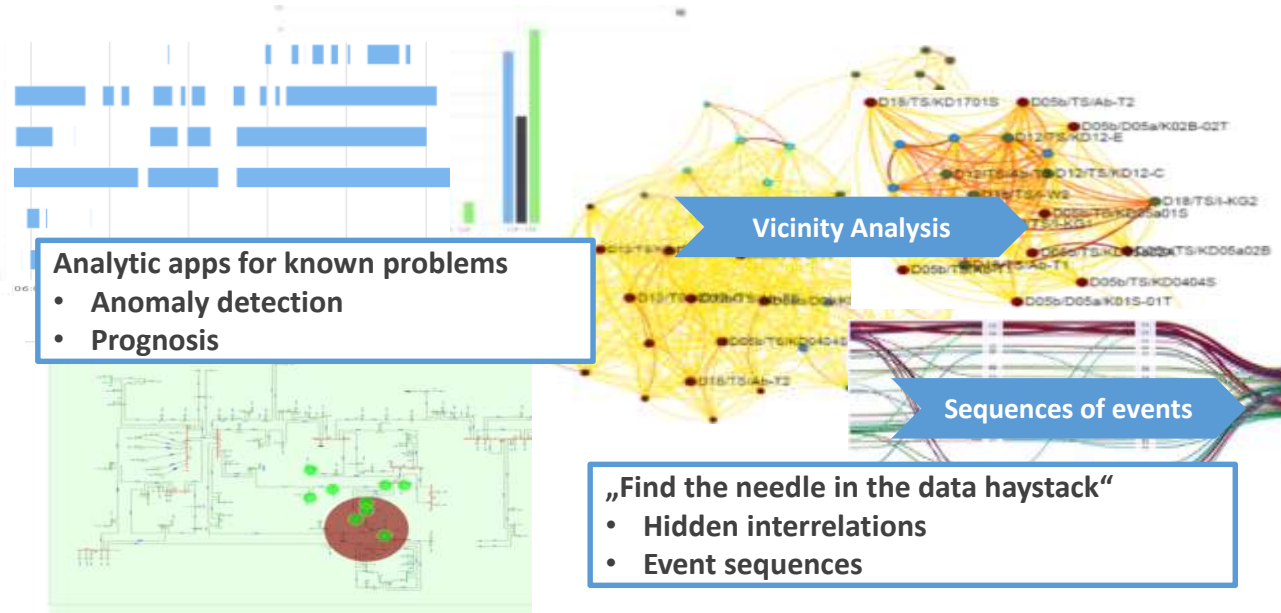
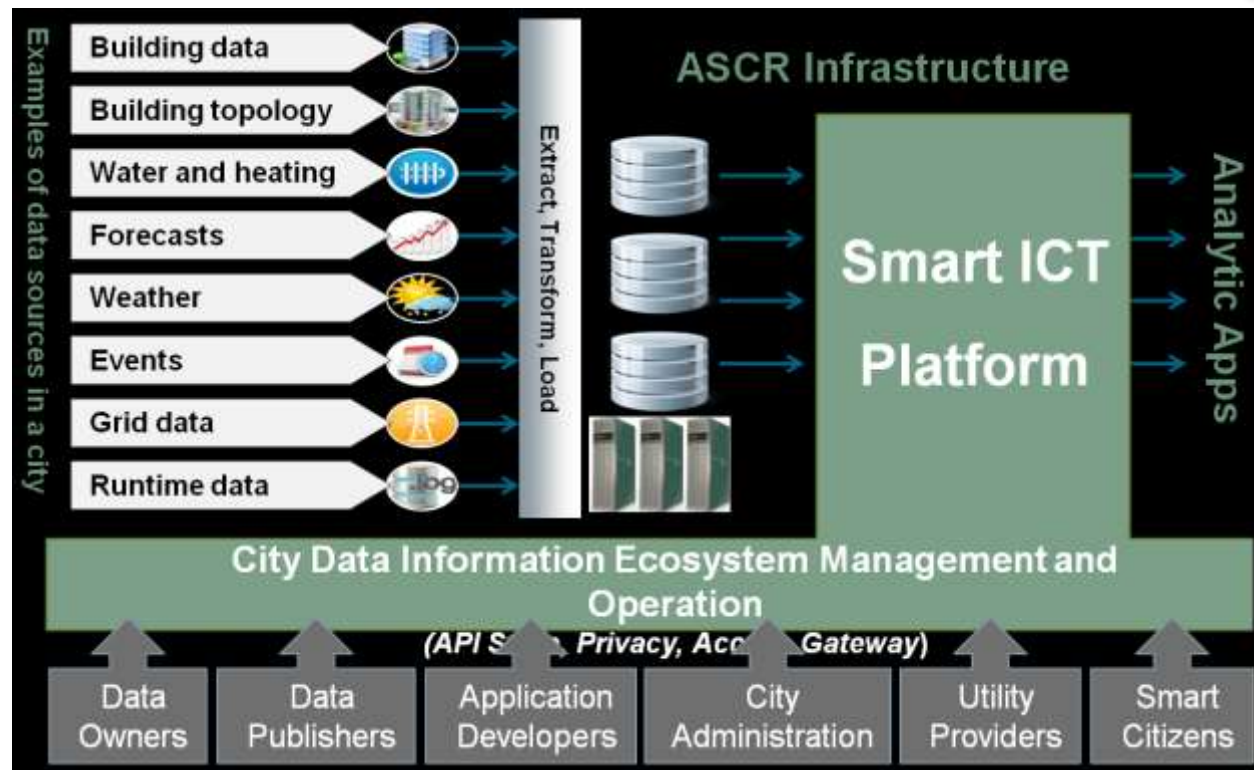


An Information Ecosystem for Smart Urban Data Analytics

Information Ecosystem

Business Intelligence

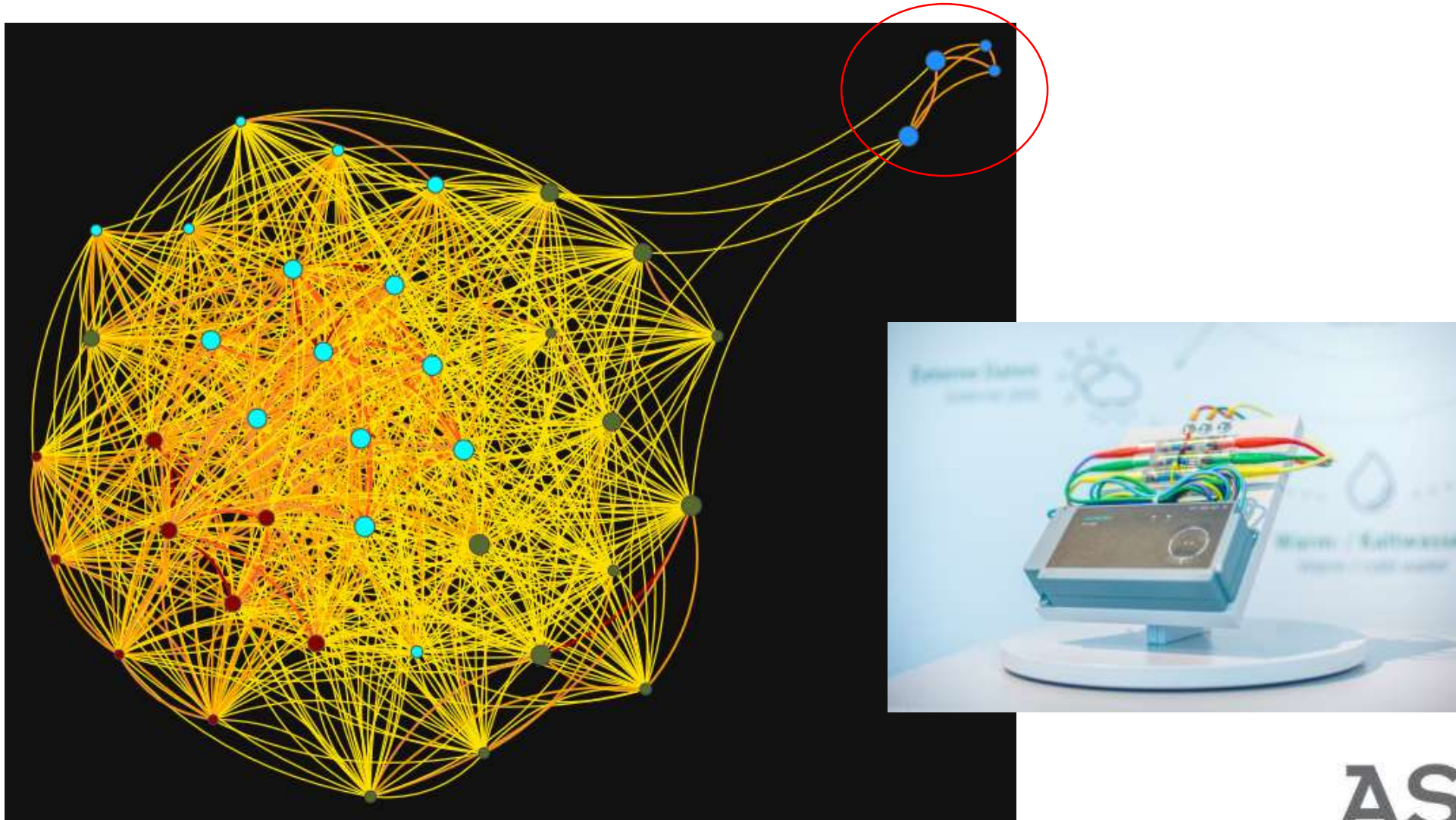
Data Discovery



KPIs Comparative Analysis



Big Data Analysis – A Simple Example with Grid Monitoring Devices



ASCR 2023: Possible Testbed Enhancements

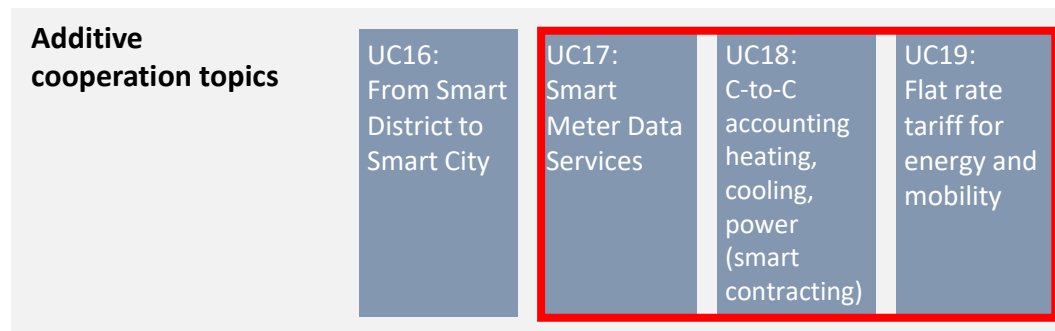
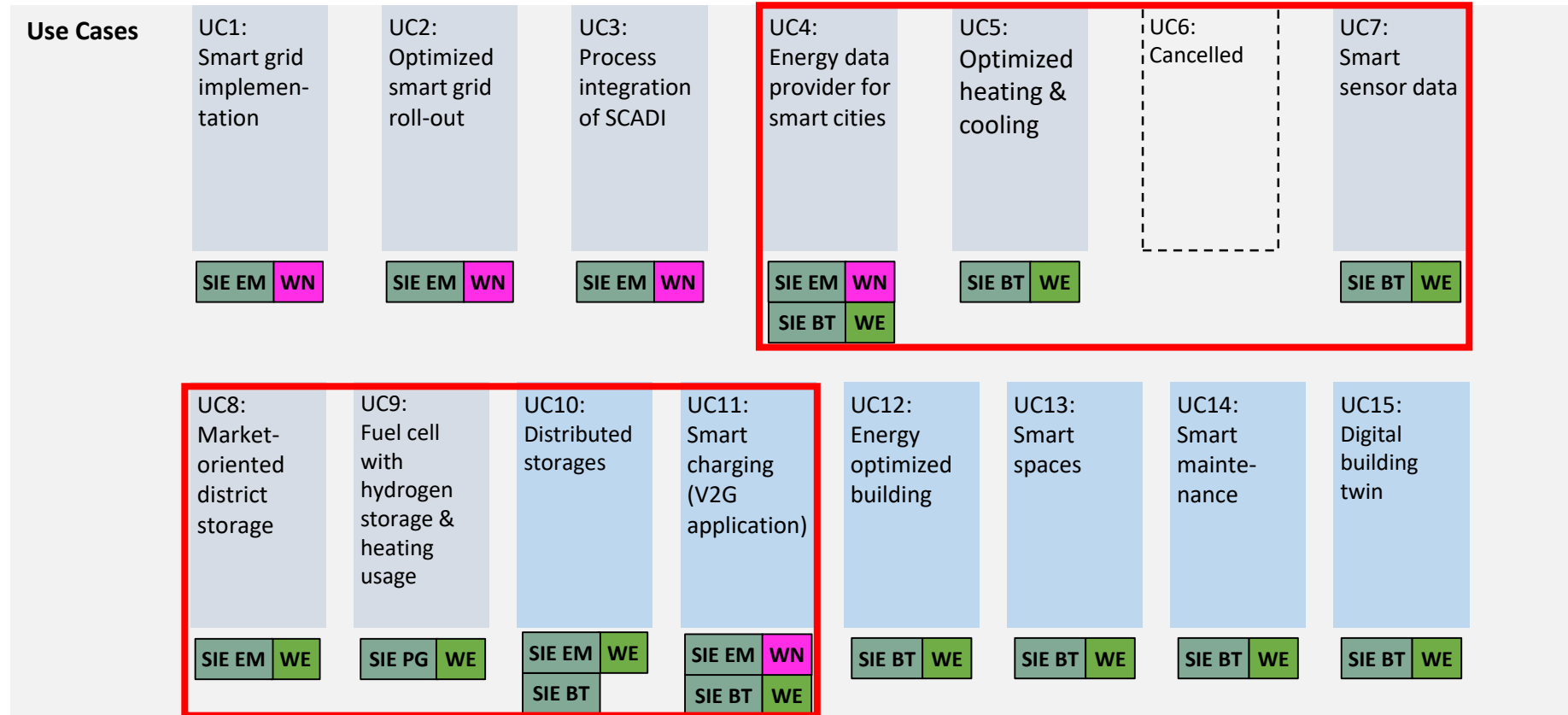


H3 Schoolcampus North

J14C List Garage

C4 Technology Center

ASCR 2023: The new R&D-Program



 **Special Regulation Zone**

Aspern Smart City Research Demo Center



Contact

Oliver Juli

Aspern Smart City Research GmbH & Co KG

Seestadtstraße 27/2/TOP 19
1220 Vienna, Austria

oliver.juli@ascr.at

Phone: +43 1 9089369 0

Web: www.ascr.at

