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

Smart Building | Smart Grid | Smart User | Smart ICT

Seestadt Aspern

Vienna's test bed for the future of energy provision in urban areas

SIEMENS | WIEN ENERGIE | WIENER NETZE | wirtschaftsagentur wien – Ein Fonds der Stadt Wien | wien3420 aspern development AG

Content

- Where is Aspern?
- What is going on in Aspern?
- What did we find out?
- What do we have to do now?

Content

- Where is Aspern?
- What is going on in Aspern?
- What did we find out?
- What do we have to do now?

Perspective

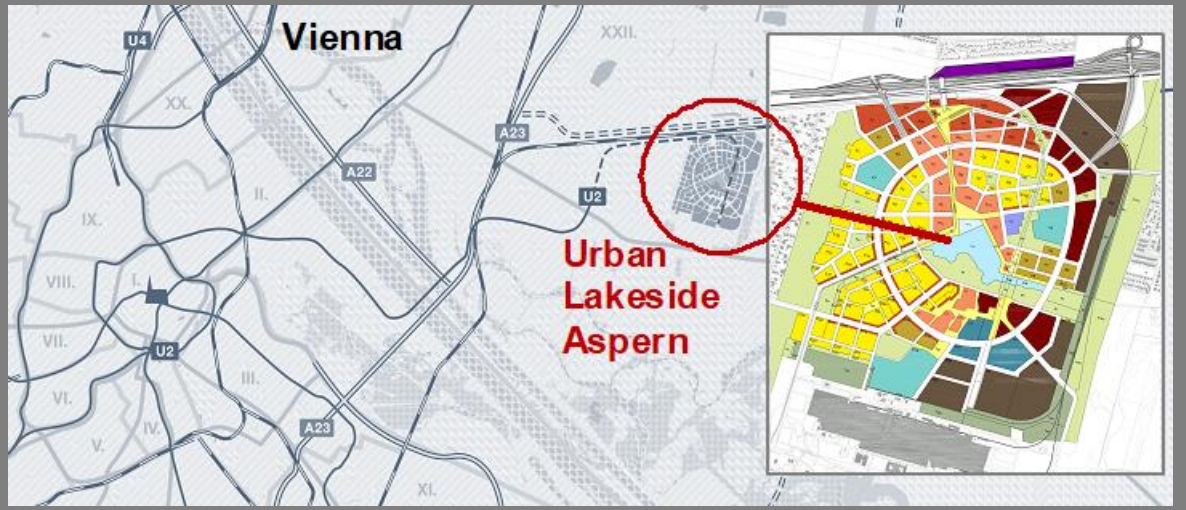
Where is Aspern?

Perspective

Where is Aspern?

Perspective

Where is Aspern?



Aspern

Vienna‘s Urban Lakeside as a blueprint for future cities

- **2,6 million sqm** gross floor area
- **50%** free- and green space
- **10.500 apartments** for **25.000 people**
- **20.000 workplaces**
- **5 billion Euros** investment volume

Content

- Where is Aspern?
- What is going on in Aspern?
- What did we find out?
- What do we have to do now?

ASCR

Joint venture
will be continued

SIEMENS 44,1 %

WIEN ENERGIE 29,95 %

WIENER NETZE 20,0 %

wirtschaftsagentur wien 4,66 %

wien3420 aspern development AG 1,29 %

ASCR 1.0
2014-2018

Budget: 38,5 Mio. €

SCIDA Smart Cities Demo Aspern

iNIS integrated Network Information System

FACDS Flexible AC Distribution Systems

ASCR 2.0
2019-2023

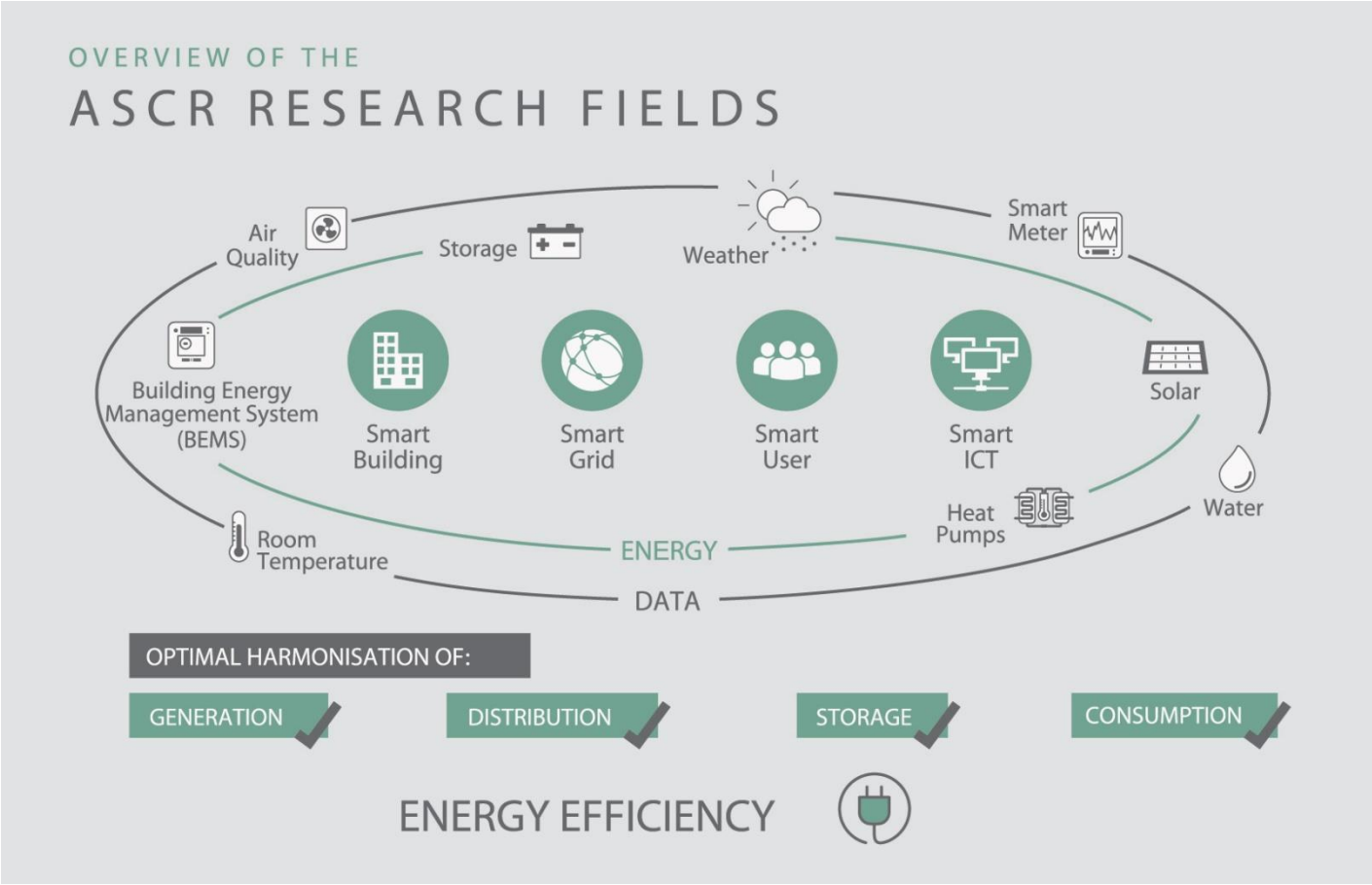
Budget : 45 Mio. €

PoSyCo PowerSystemCognification

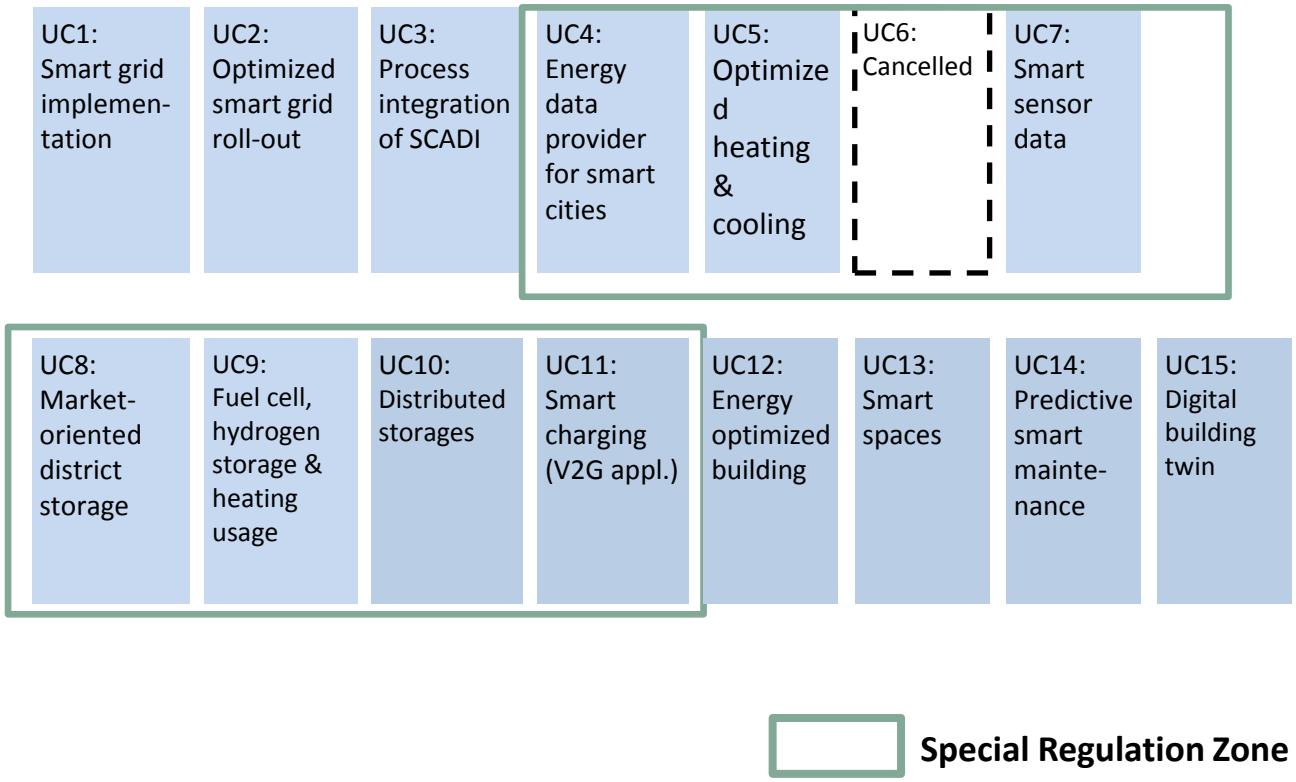
„Multidimensional“ initiative of the city of Vienna, their utility, distribution system operator und a leading technology provider

ASCR 1.0

R&D Programm

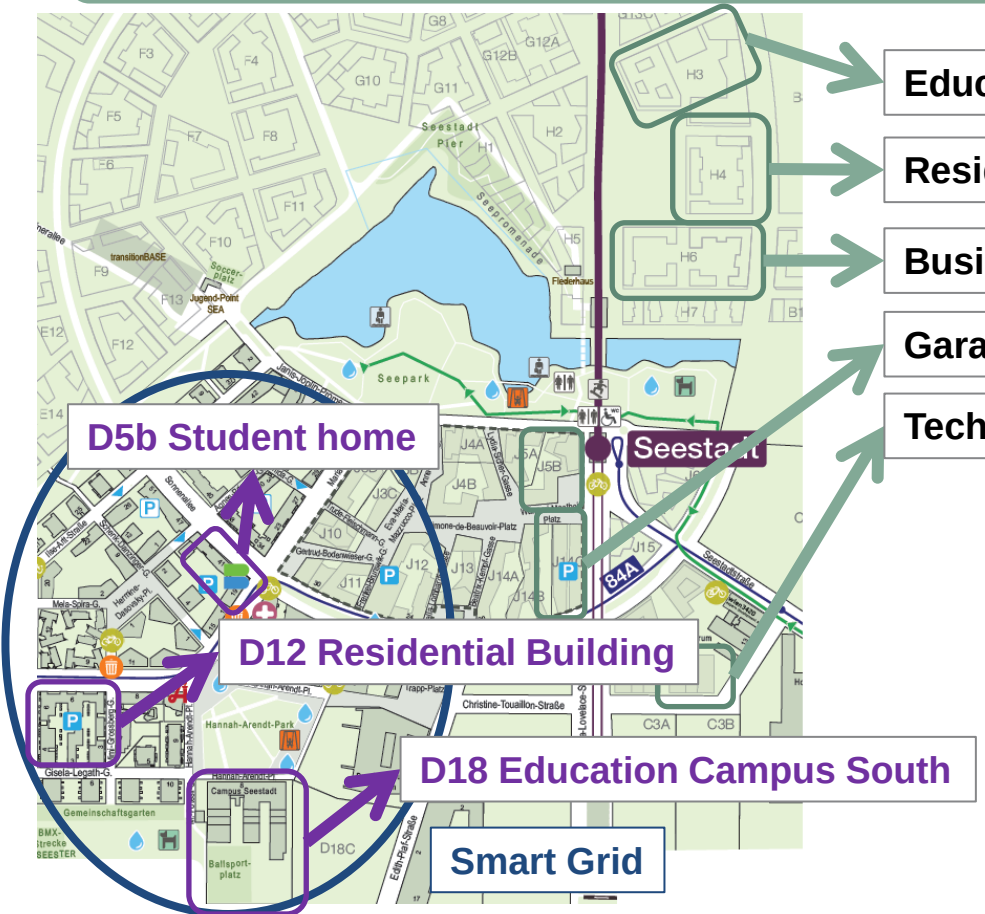


ASCR 2.0 RnD – Use Cases



Site visit of growing ASCR testbed

ASCR
Aspern Smart City Research



4:00 p.m.-6:00 p.m.
Site visit: Testbed Aspern Smart City Research

anna.kaltenbaeck@siemens.com

Directions: Starting from the conference venue at Parkhotel Schönbrunn, take the Underground line U4 in the direction Heiligenstadt and change at the station Schottenring for the line U2 in the direction Seestadt and go to the final stop. It will take one hour to go there.

Content

- Where is Aspern?
- What is going on in Aspern?
- What did we find out?
- What do we have to do now?

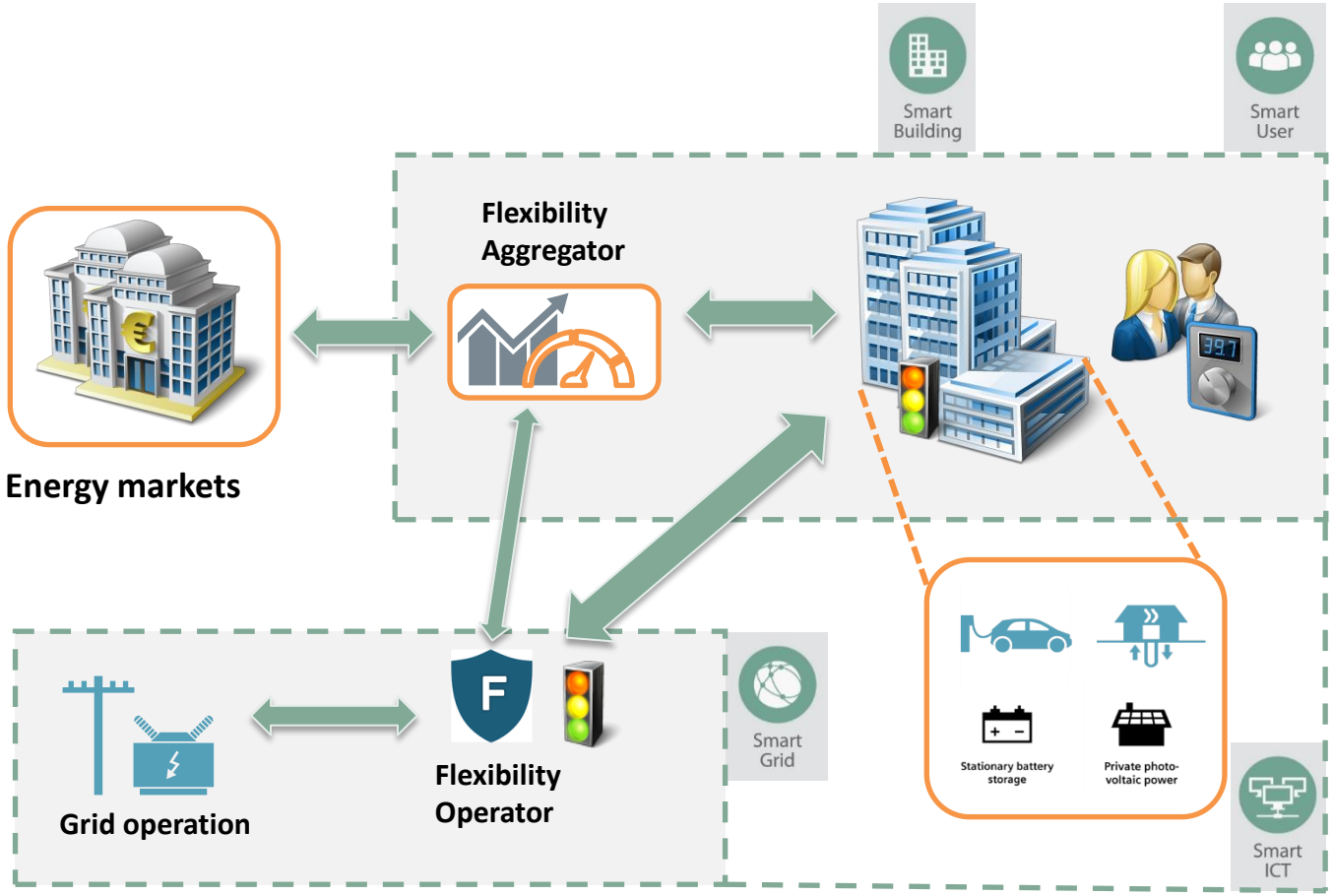
ASCR
Aspern Smart City Research

ASCR1.0 research example

Flexibility and the impact on urban distribution grids

Flexibility

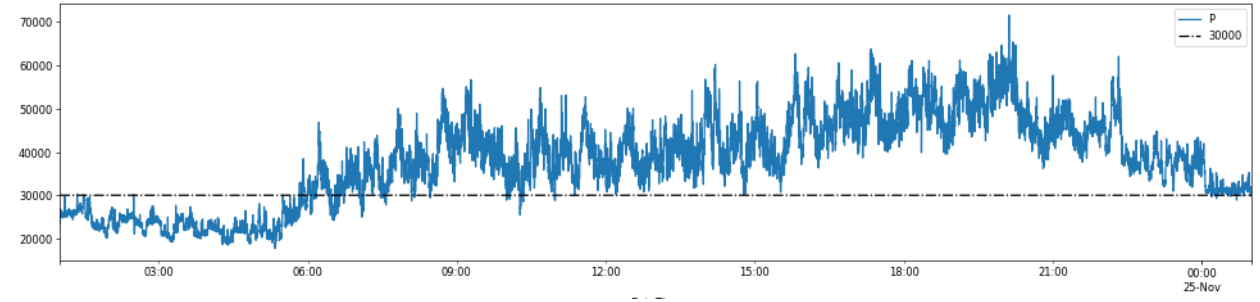
Smart Cities Demo Aspern - SCDA approach

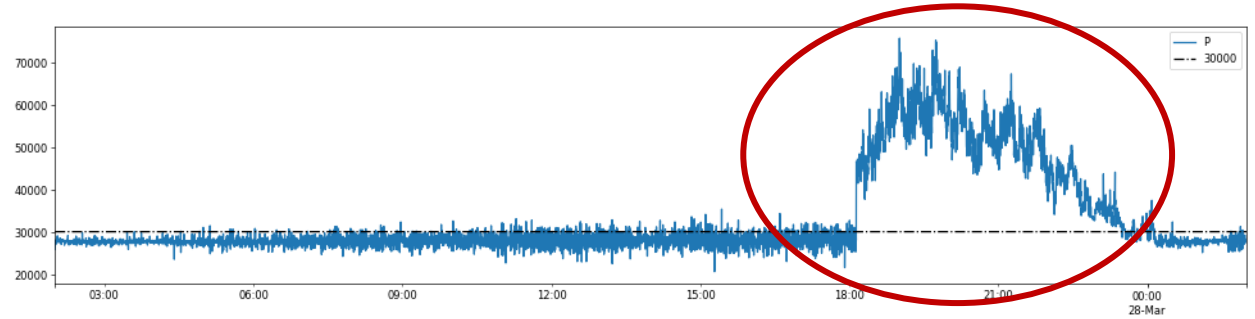


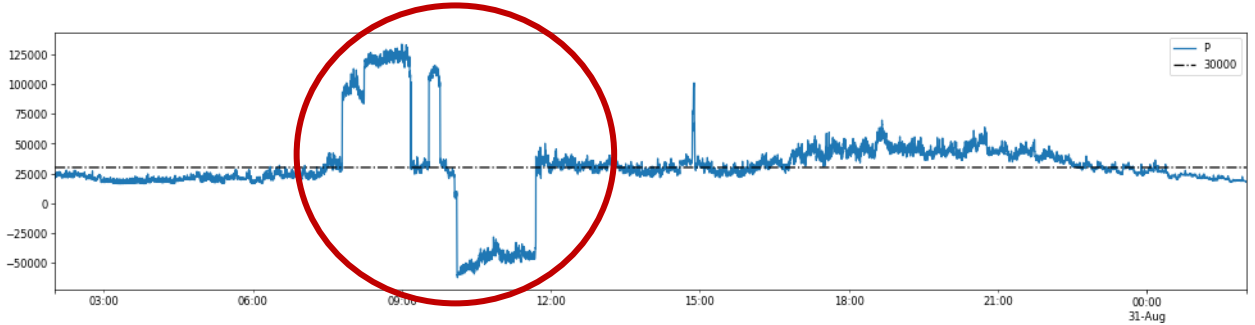
powered by klima+ energie fonds

Impact

... on smart urban distribution grids

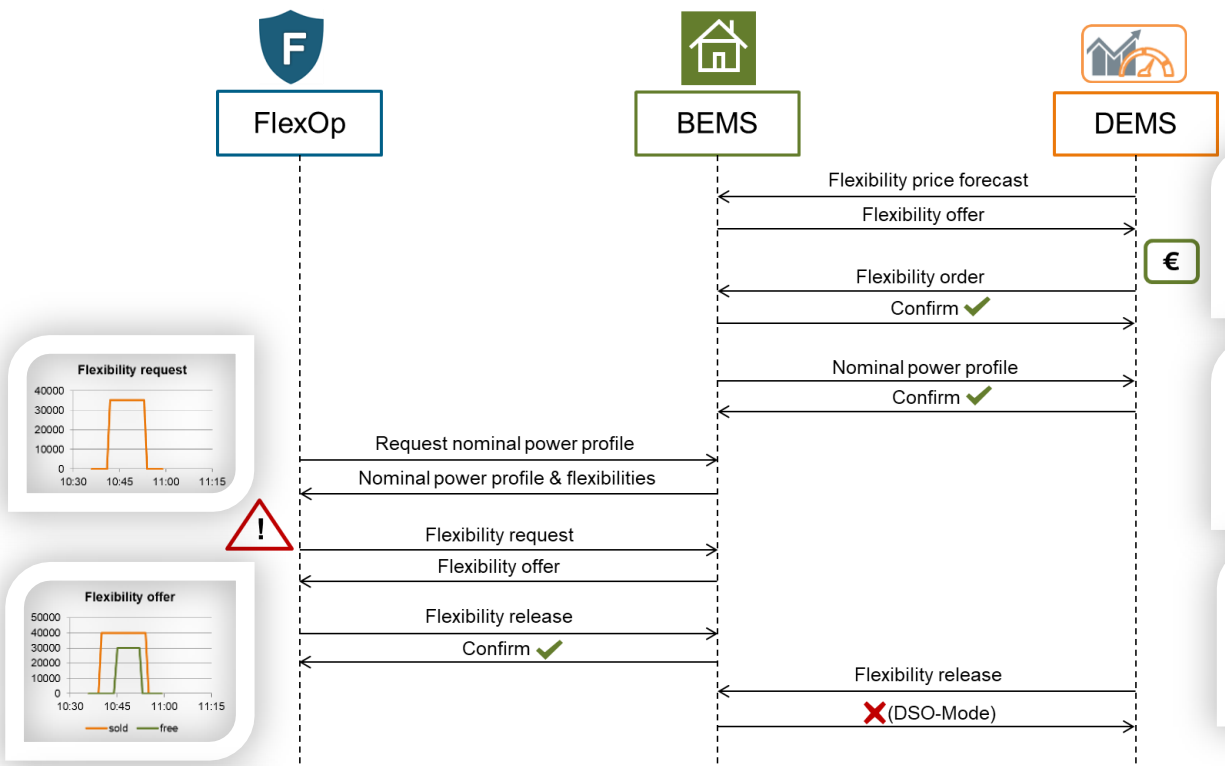






Flexibility

SCDA approach and impact on distribution system



powered by klima+ energie fonds

Content

- Where is Aspern?
- What is going on in Aspern?
- What did we find out?
- What do we have to do now?

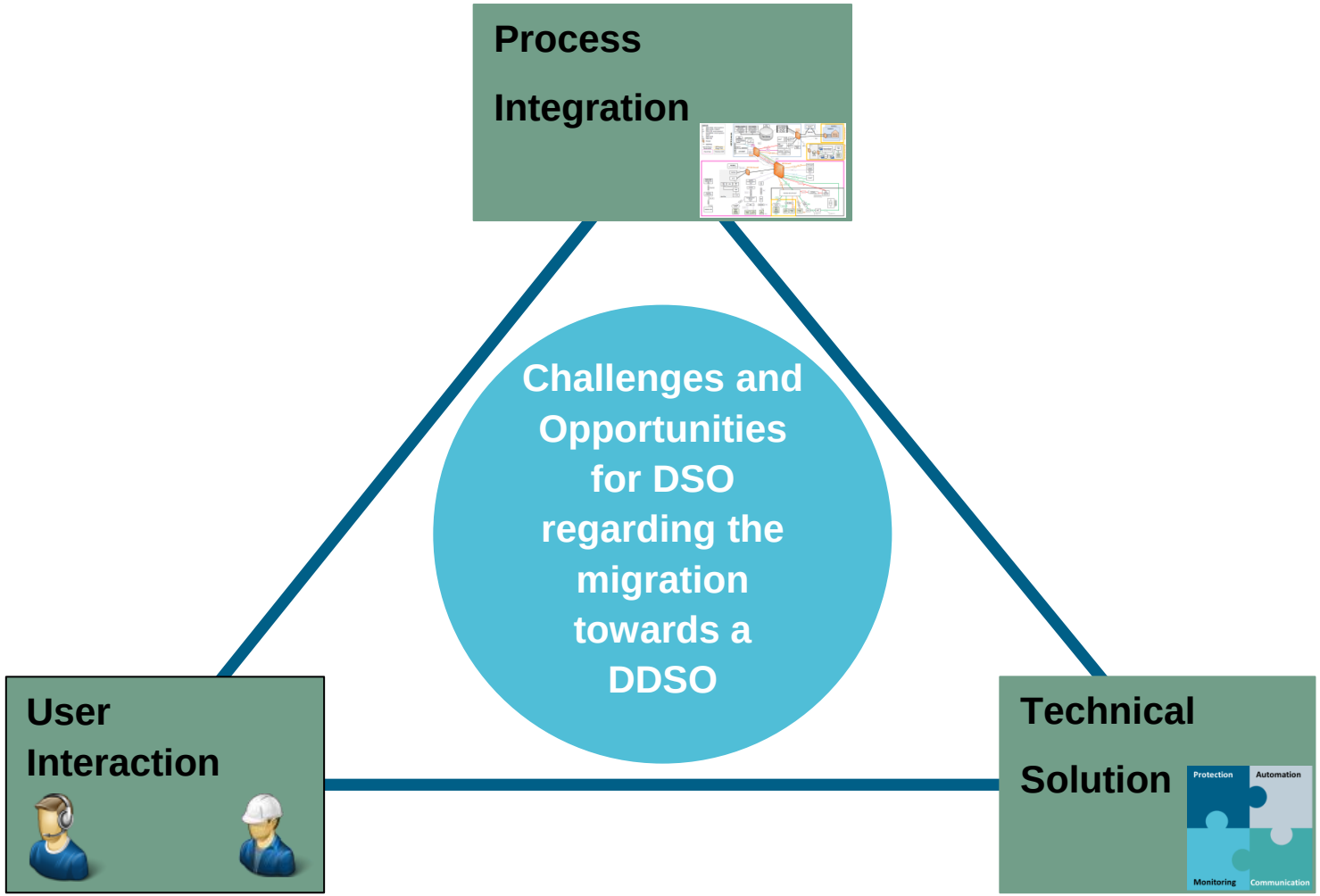
Aspern Smart City Research

ASCR2.0 research example

Managing uncertainty

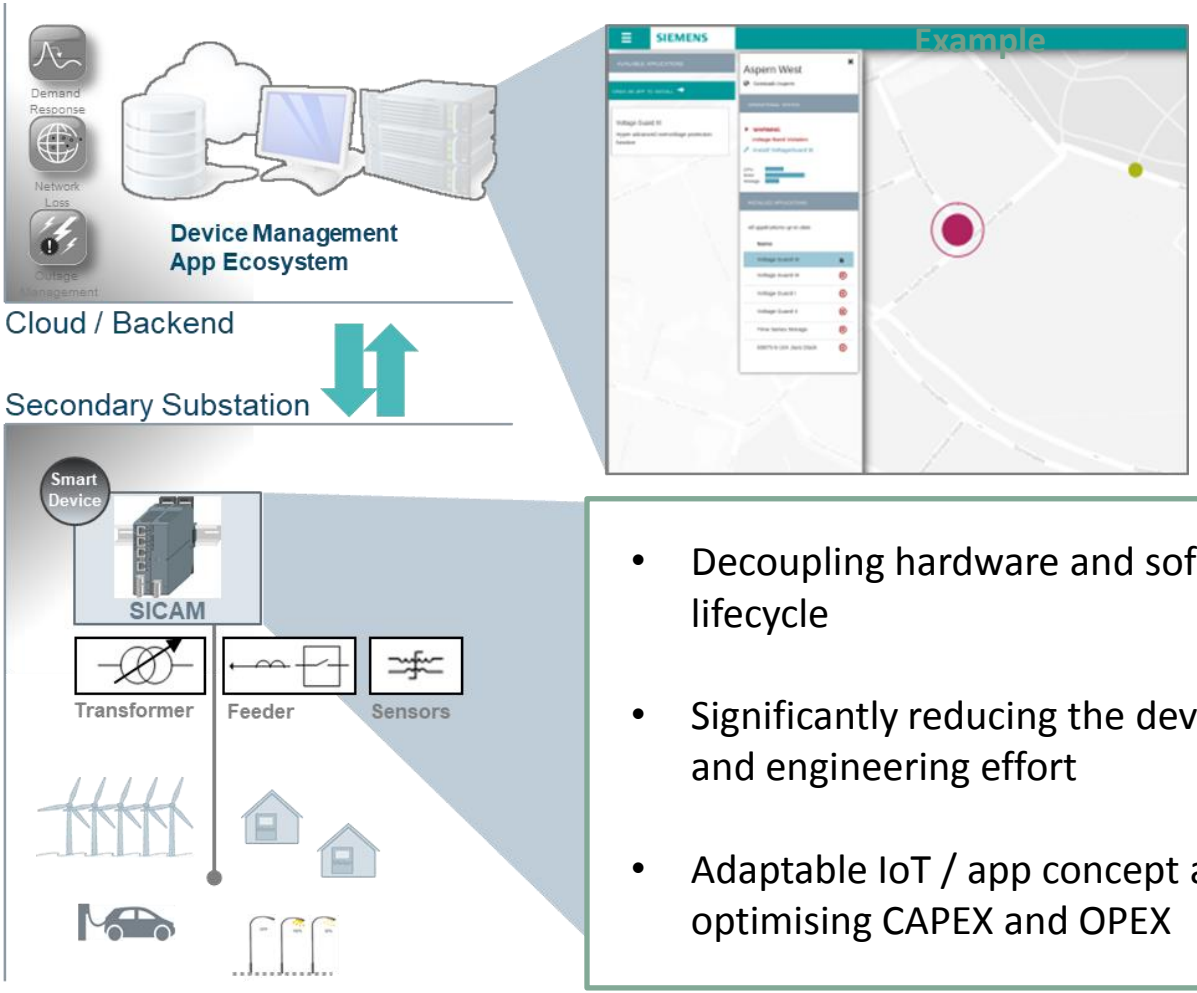
DDSO

Digital Distribution System Operator



Adaptability

Industrial IoT as an enabler for augmented network operation



- Decoupling hardware and software lifecycle
- Significantly reducing the development and engineering effort
- Adaptable IoT / app concept allows for optimising CAPEX and OPEX

powered by klima+ energie fonds

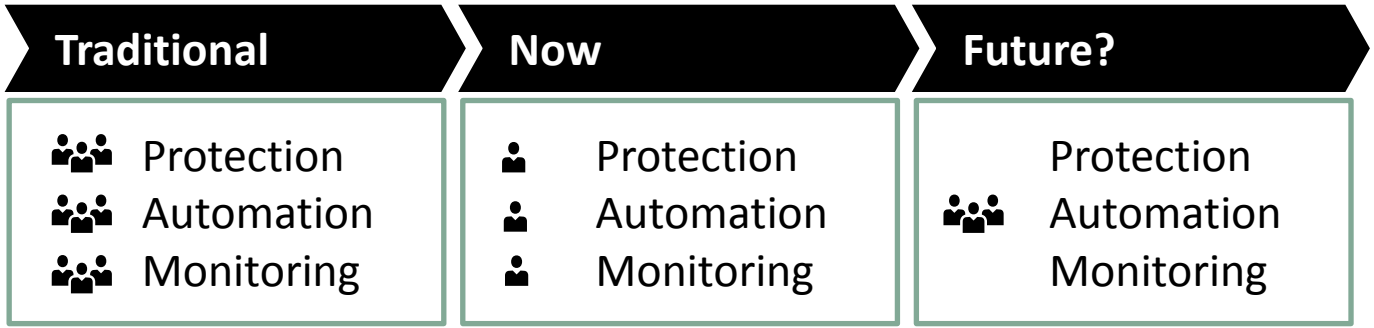
DDSO

Process Integration and User Interaction

Goals

- Data based decision support and holistic system understanding
- Increasing efficiency through OPEX and CAPEX optimisation

Flat organizational structure and short decision paths.



Digitalisation offers necessary system and tool landscape

ASCR
Aspern Smart City Research

Conclusion

DDSO

Digital Distribution System Operator

Micro Grid Operator?

Process Integration

Anergy Network Operator?

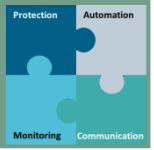
Operator of Local Market Platform?

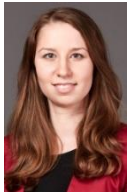
Change from an operator of infrastructure to a service provider for the exchange of energy where highest resiliency has to be ensured

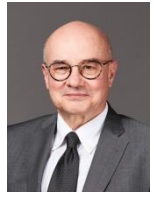
Regulatory Framework?

User Interaction

Technical Solution







ASCR

Aspern Smart City Research

Dr. Alfred Einfalt
Siemens AG Österreich
Tel.: +43 (0)664 8011716472
E.: alfred.einfalt@siemens.com

ASCR

Success story