

Innovationspool InnovEEA – WP4 Load Management

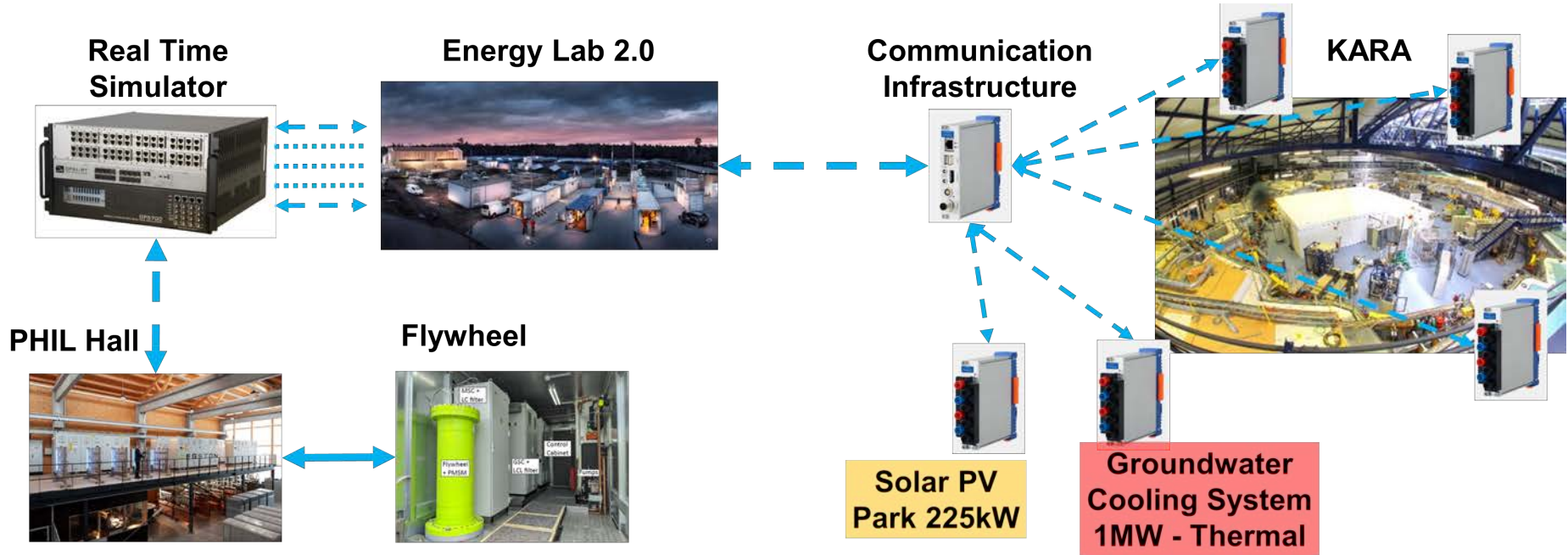
Energy Lab 2.0 – KARA collaboration

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KARA @ KIT: our experimental benchmark



Project ACCESS

Main idea

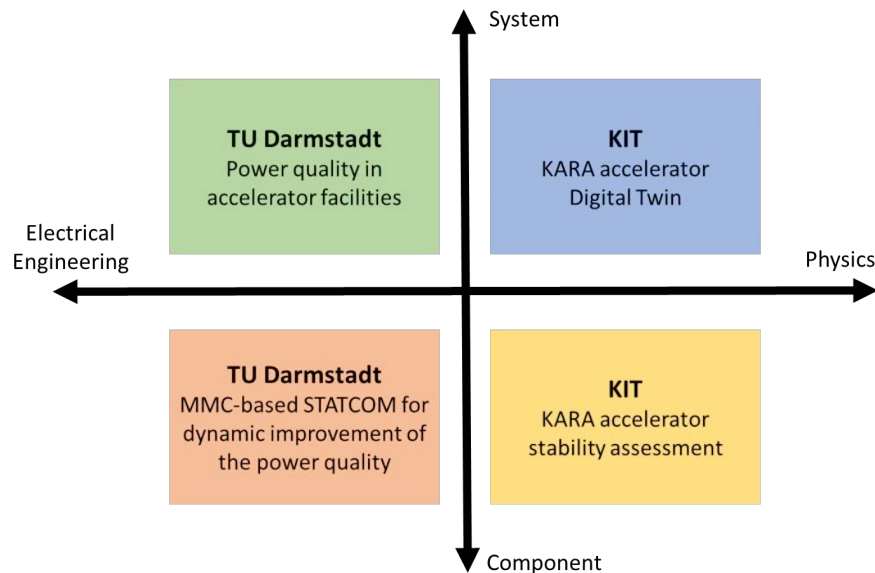
- Systematic and comprehensive approach to investigate power quality problems in accelerator
- New control and technological idea development for improving the power quality

How?

- Installation of fast measurement and communication system at KARA
- Development of the KARA digital replica (or twin)
- Realize and test new controllers and power electronics solutions in EL2.0 with the KARA digital twin

Who's in?

- KIT (ITEP-EL2.0, IBPT)
- TU Darmstadt



Helmholtz Sustainability Challenge: Research Facility 2.0

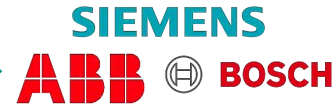


AI-control, Energy Management, Hydrogen technologies, Geothermal energy, Real Lab

Accelerators



Electrical
Manufacturers



Grid operators



Stakeholders

Core
Partner
Partners

Associate
Partners



Test cases



Photovoltaic technologies, AI-control,
Permanent magnet technology



Research
Positioning

Unique Worldwide
Competence Center
for the energy
management in
research facilities

Technology
Transfer

- Consultance to research facilities
- Patents, software, IP
- Publications, presentations

THANK YOU



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