



E.ON Energy Research Center

Institute for Energy Efficient Buildings and Indoor Climate

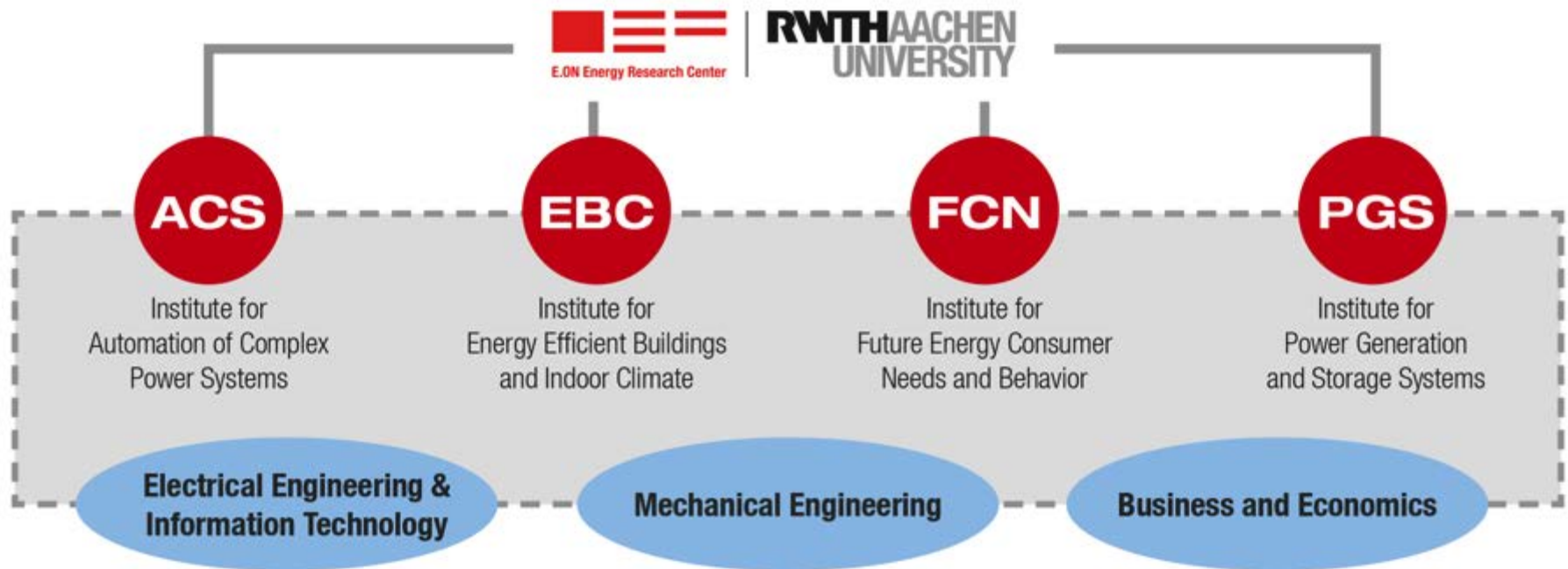
Peter Remmen

EBC | Institute for Energy Efficient
Buildings and Indoor Climate



New E.ON Energy Research Center 2017 - 2021

- June 2016: research and development contract research co-operation between (E.ON SE) and RWTH Aachen university was signed
- Four Institutes with 7 professorships
- Cooperation with two Associate Institutes (GGE and ISEA) started.
- Research areas: energy savings, efficiency and sustainable power sources for the urban environment (buildings and city quarters, energy distribution systems, automation and services)



Institute for Energy Efficient Building and Indoor Climate

■ Heads of department

- ≡ 1 Professor
- ≡ 1 Chief engineer
- ≡ 6 Team leaders

■ Academic employees

- ≡ 53 Research associates
- ≡ Approx. 60 student assistants

■ Technical and administrative employees

- ≡ Secretary, 3 employees
- ≡ Controlling, 3 employees
- ≡ Software, 4 employees
- ≡ Design and test benches, 3 employees

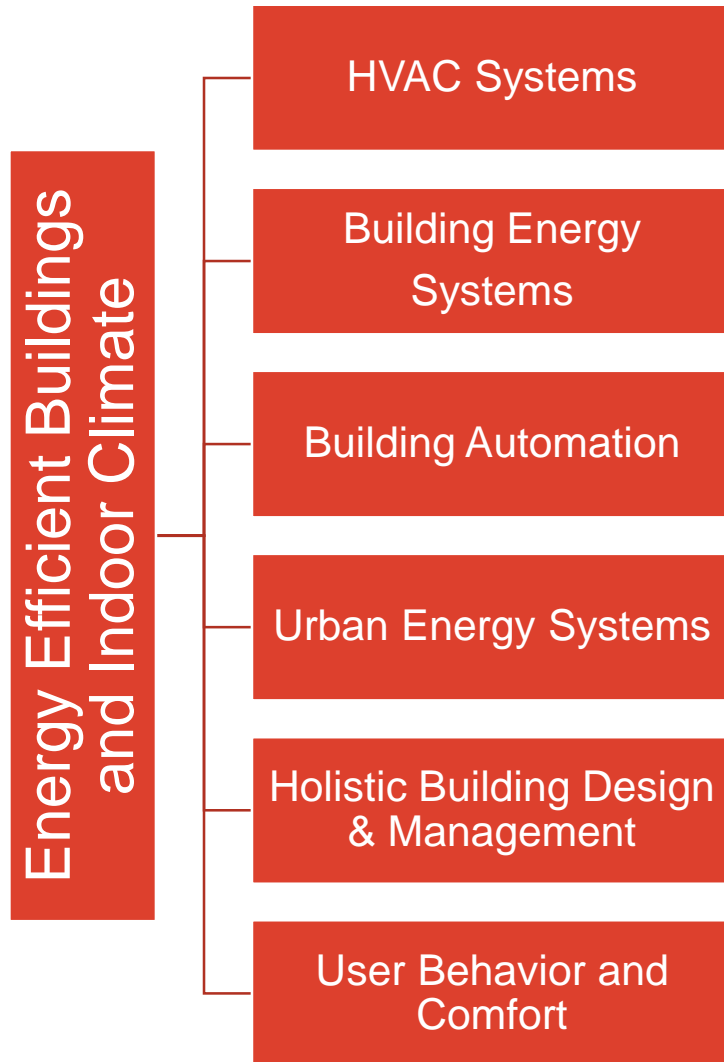
■ More than 700 m² lab space

- ≡ Labs
- ≡ 2 Experimental halls (2nd will be opened in 2018)

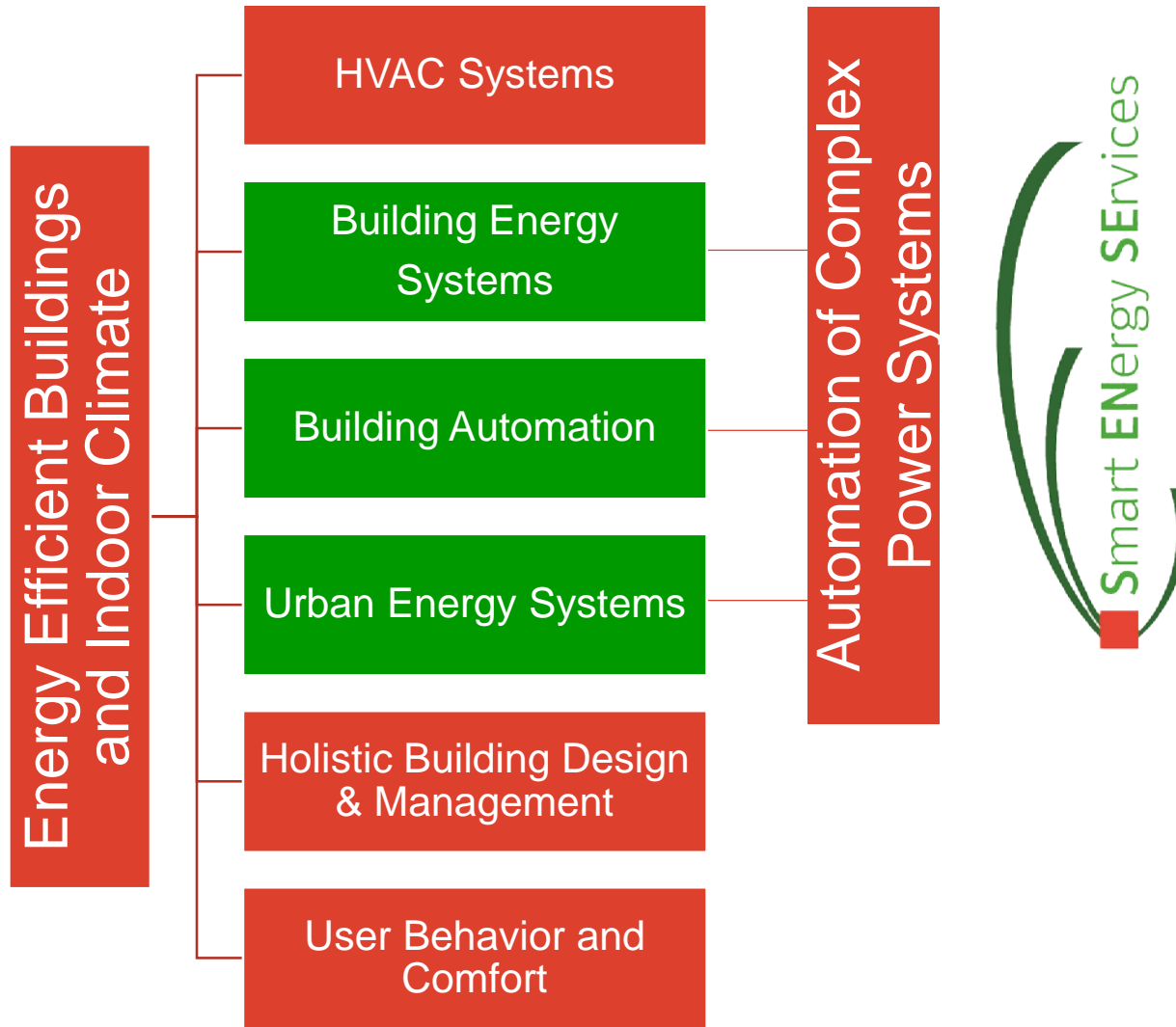
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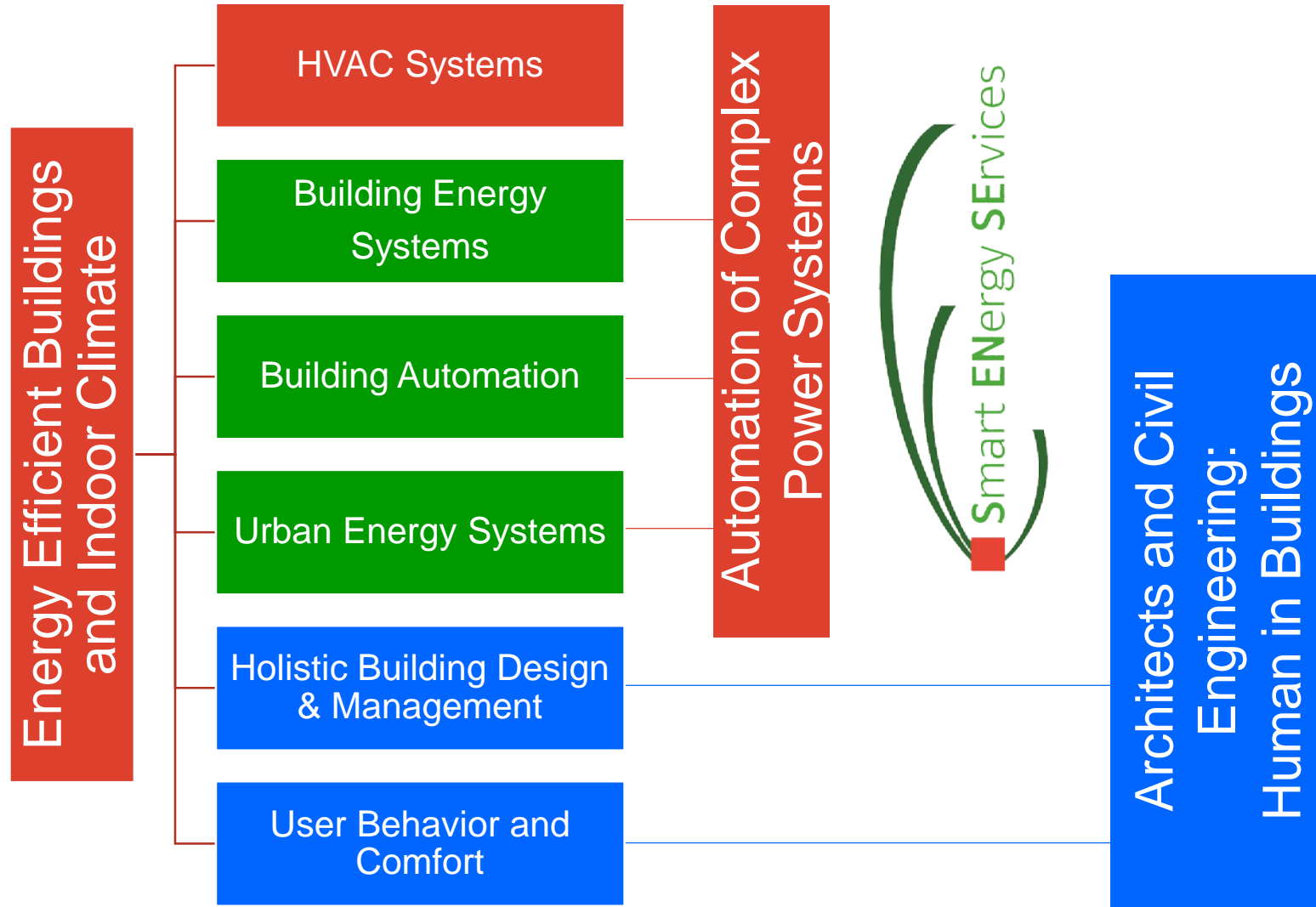
Research Areas



Research Areas



Research Areas



Methods

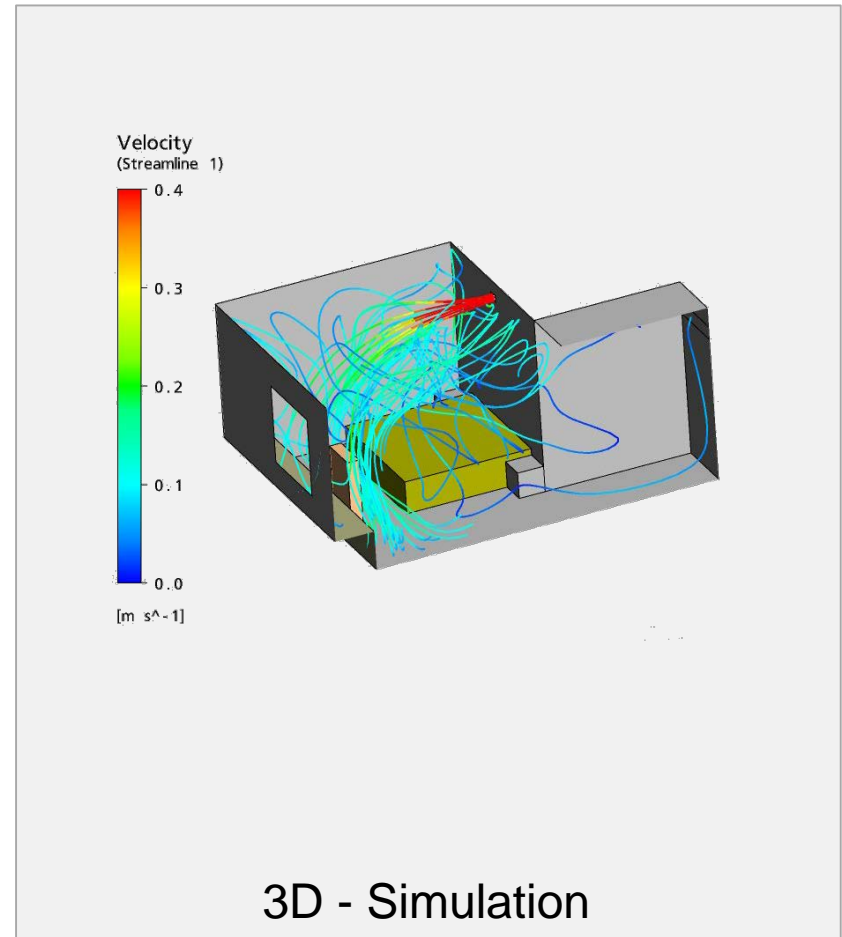
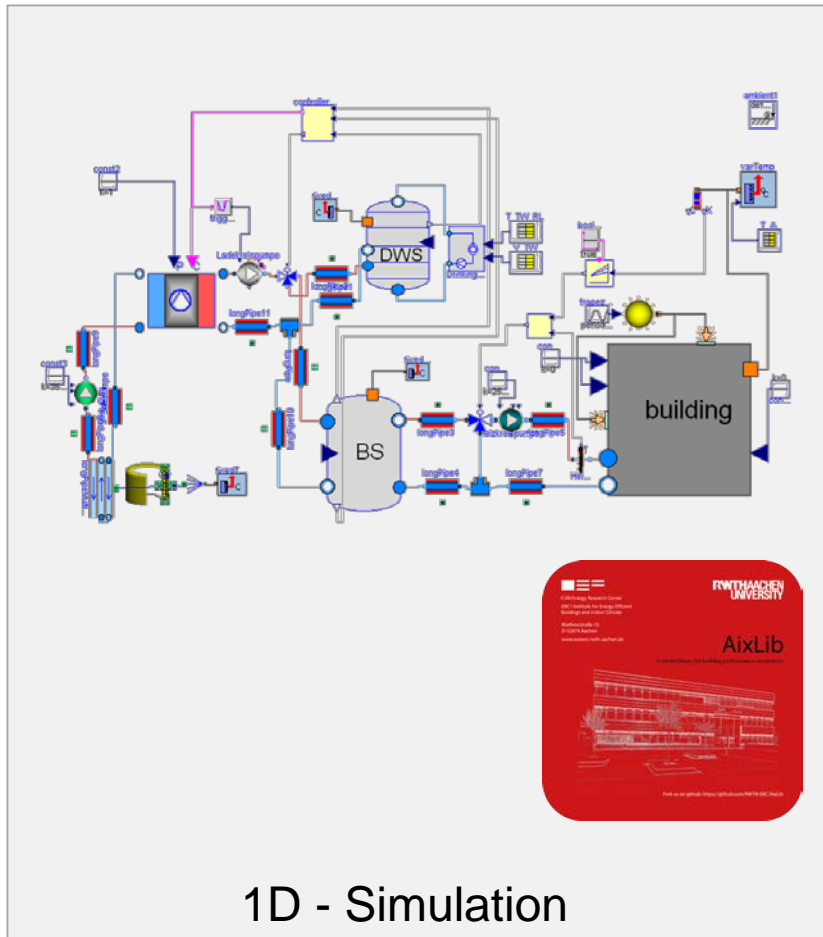
Simulation

Optimization

Experiment

HiL

Field test



Methods

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Optimization

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HiL

Field test



Exact methods

Speichervolumen:

200 l 500 l 1000 l 1500 l

Solarthermische Anlage:

Solarthermie

Wärmeerzeuger

GBK

L/W WP

S/W WP

Fenster

3-fach

Außenwanddämmstärke

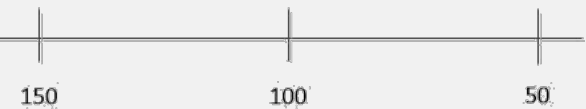
12 cm

Unter- und Zwischensparrendämmstärke

16 - 32 cm

Kellerdeckendämmstärke

4 - 10 cm



Primärenergiebedarf in kWh/(m²a)

Heuristic methods

Methods

Simulation

Optimization

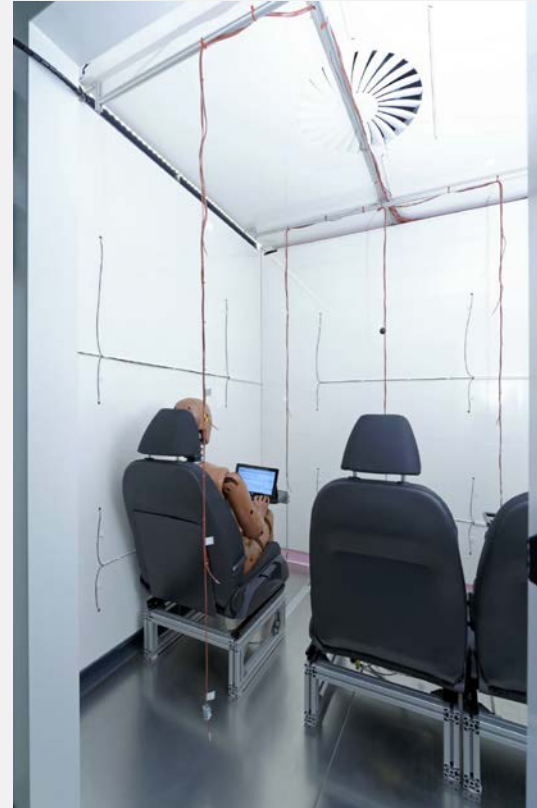
Experiment

HiL

Field test



High resolution measurement
equipment



Test person panel

Methods

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Sink - HiL



Source - HiL

Methods

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HiL

Field test

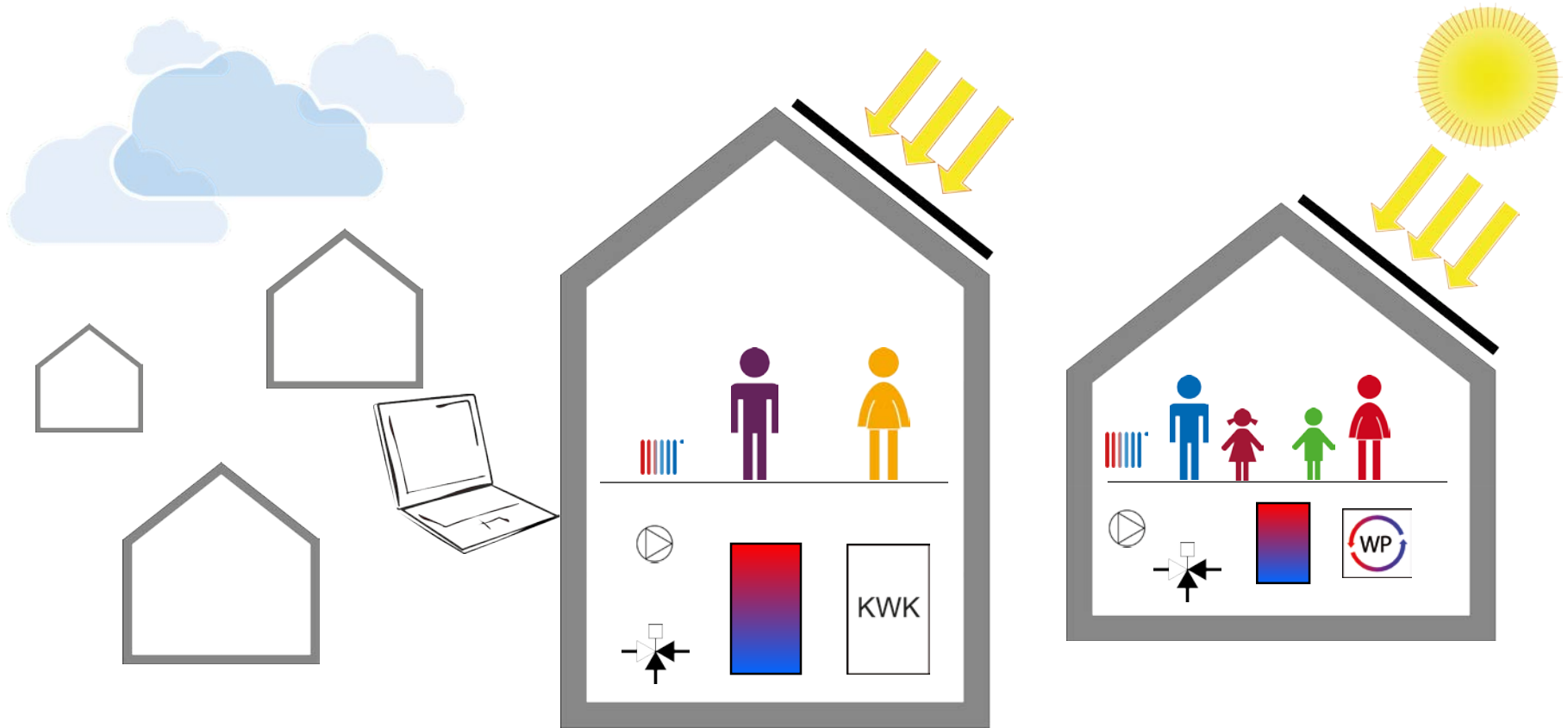


Room/building



Block of buildings

Energy concepts for the city of the future



Thank you for your attention!



Contact

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