CO-CREATION WITHIN THE PROCESS OF ENERGY TRANSITION AT FORSCHUNGSZENTRUM JÜLICH

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LLEC

LLEC – BRIEF SUMMARY

Project objectives

- Development of **scalable technology demonstrators** for production, distribution, storage and use of (renewable) energy
- Development and application of **innovative modeling, planning and control** tools
- Simulation and operation of **highly integrated energy supply systems**
- Quantification and raising **efficiency gains** in the heat, electricity, chemical energy, and mobility domain
- **Engagement and dissemination** / knowledge transfer ("Living Lab")

Budget (Mio. €): 36.5 (FZJ) | 3 (KIT)
duration/personnel: 2018 – 2022 / 35 FTE

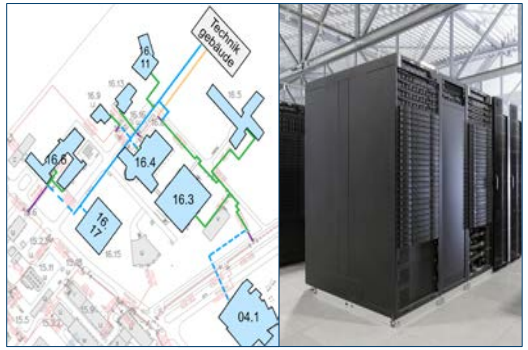
HELMHOLTZ
SPITZENFORSCHUNG FÜR GROSSE HERAUSFORDERUNGEN

Bundesministerium für Bildung und Forschung

Bundesministerium für Wirtschaft und Technologie

Ministerium für Kultur und Wissenschaft des Landes Nordrhein-Westfalen

ENERGY DEMONSTRATERS IN THE LLEC



HPC waste heat usage for district heating

Different photovoltaics systems (BIPV, open field, Agro PV)

Combined heat and power plant (CHP) with H_2 co-firing

Carbon-neutral administration building

Lithium-ion batteries (2 MW / 2,5 MWh)

LOHC-One-Reactor (300 kWp)

JuPilot (Mini LLEC)

Alcaline fuel cell (100 kW_p)

INVOLVING THOSE AFFECTED IN THE LIVING LAB

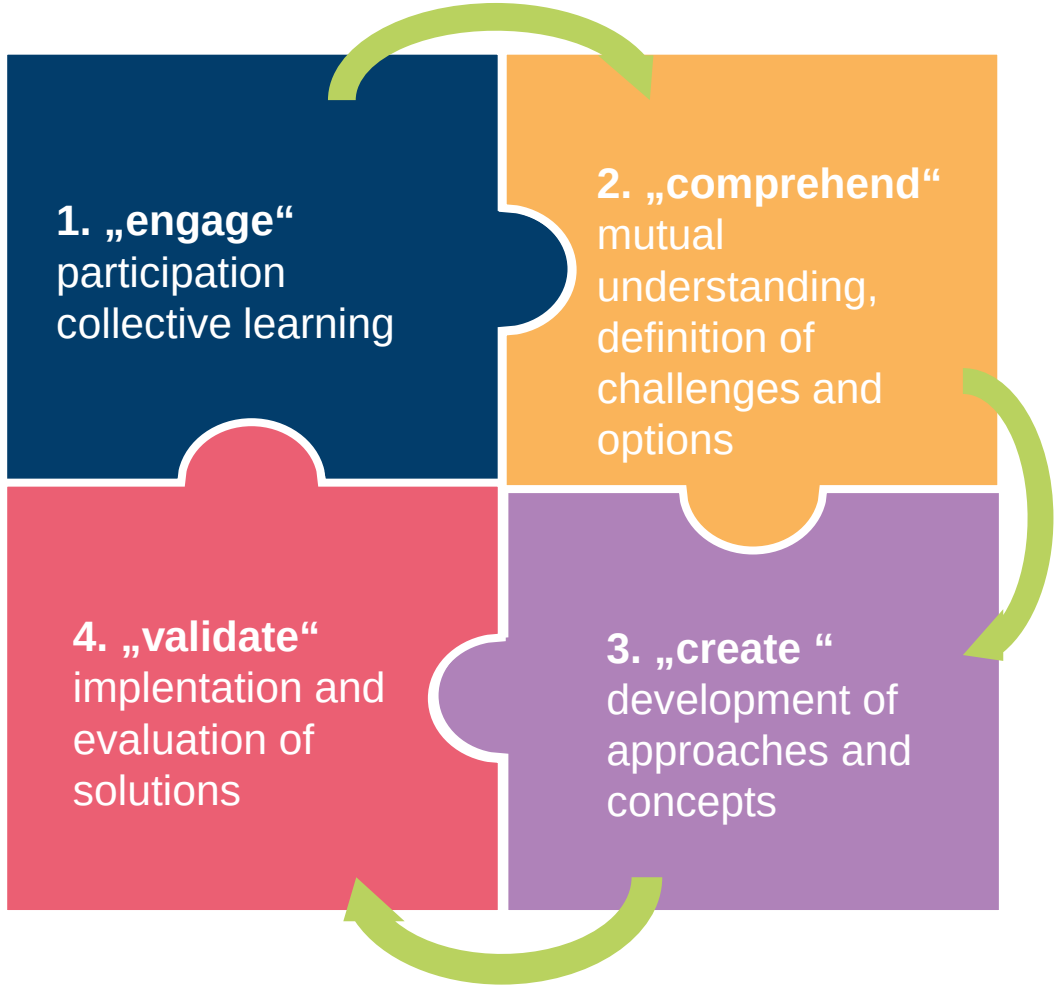
Our understanding of Co-Design and Co-Creation

Users are active and competent partners as well as “experts” for their workspace-requirements

Central elements of Co-Design/Co-Creation

- All relevant actors are **invited** and **enabled** to engage in the process
- Vivid dialogue between all project-partners **on an equal footing**
- Collaborating **with** users instead of providing solutions **for** them

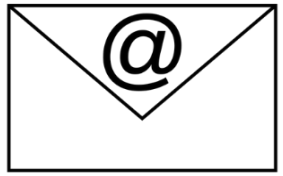
Objective: collectively create and implement relevant, substantial and broadly accepted solutions



USER-ENGAGEMENT: EXEMPLARY APPROACHES

- Information:
  - webbased: Intranet, LLEC-Blog, LLEC-Website
  - LLEC-Newsletter
  - Information and updates for those affected
- Dialogue:
  - Workshops for directly affectes colleagues
  - Annual employee workshops
  - Committee work
  - Intranetbased discussion board
  - Personal (actually mainly virtual) contact
  - „Suggestion Box“ and „Troubleshooting“
- Collective Action:
  - Beta-test of energy eashboard
  - Co-design of dashboard-extensions
  - Optimisation of concepts and measures

https://blogs.fz-juelich.de/llec/



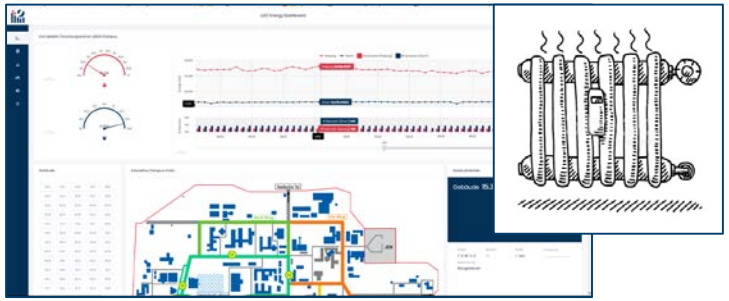
USER-INVOLVEMENT: OPPORTUNITIES …

Positive effects on **acceptance and cooperation** (e.g. wind-turbine)

- explain objectives and answer to users‘ questions
- Adapt procedures and plans to users‘ needs and requirements
- Collectively develop compromises for difficult situations

Positive effects on **awareness and perceived self-efficacy** (e.g. employee workshops)

- Raising general awareness for energy-issues on campus
- take colleagues‘ input seriously



Positive effects on **project execution**

- Getting viable information (e.g. HPC waste heat usage)
- Collectively designing need-based interfaces (e.g. energy dashboard)
- (timely) adapting solutions to users‘ requirements

… AND FURTHER CHALLENGES

Actual challenges for user-involvement include:

- **Activating users** to engage in the project by fostering intrinsic motivation

- Ensure **understandable, meaningful and timely communication** amongst all partners on complex and technically ambitious issues

- Collect, consider and **implement users'** concerns, **suggestions** and proposals in an ongoing project

- Take **perspectives and responsibilities** of different formal and informal decision makers into account