Overview of the ERIGrid 2.0 Research Infrastructure for Smart Grids and Smart Energy Systems

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Motivation

- Planning and operation of the energy infrastructure becomes more complex

  - Large-scale integration of renewable sources
    (Distributed Energy Res./DER – like PV, wind, etc.)

  - Controllable loads (battery storages,
    electric vehicles, heat pumps, etc.)

- Trends and future directions

  - Digitalisation of energy infrastructure

  - Deeper involvement of consumers
    and market interaction

  - Sector coupling (linking electricity, gas, and
    heat grids) for higher flexibility and resilience
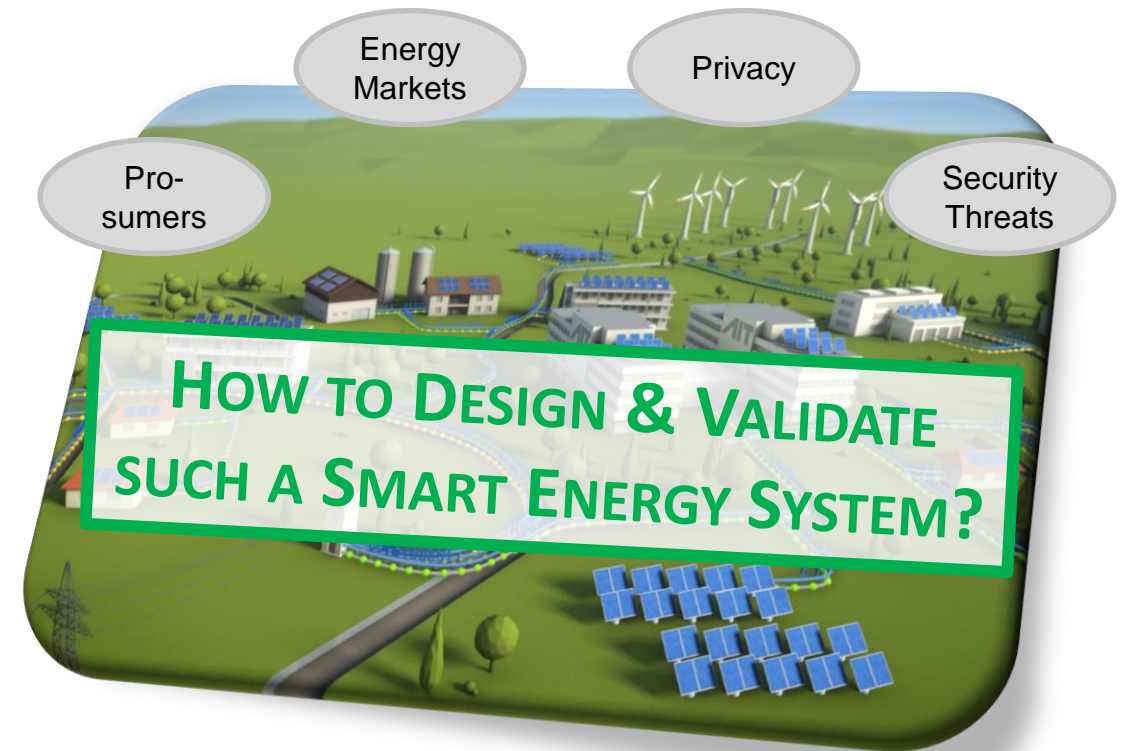
Advanced Community

- Long-term

- Pan-European cooperation

2024

DERlab
European Distributed Energy Resources Laboratories

- GA-ID 5189299
- FP6 NoE (01/2005-12/2011)
- 4.1 Mio EUR funding
- 12 partner
- Networking of DER labs, pre-standardization

DERri
Distributed Energy Resources Research Infrastructure

- GA-ID 228449
- FP7 RI IA (01/2009-12/2013)
- 6.7 Mio EUR funding
- 16 partner from 12 countries
- TNA to DER labs, pre-standardization

ERIgrid
Connecting European Smart Grid Infrastructures

- GA-ID 654113
- H2020 RI IA (11/2015-04/2020)
- 10 Mio EUR funding
- 18 partner from 11 countries
- TNA to Smart Grid and DER labs, pre-standardization

ERIgrid 2.0
Connecting European Smart Grid Infrastructures

- GA-ID 870620
- H2020 RI IA (04/2020-09/2024)
- 10 Mio EUR funding
- 20 partner from 13 countries
- TNA & VA to Smart Grid, Smart Energy Systems and DER labs, pre-standardization

2005

Key Facts

ERIGRID 2.0 – European Research Infrastructure supporting Smart Grid and Smart Energy Systems Research, Technology Development, Validation and Roll Out – Second Edition

- 13 European countries involved

- 20 Partners from research and industry

- 21 top-class smart grid and smart energy systems laboratories

- 8 virtual facilities

- 4.5 years project duration

- 10 Mio funding

CONSORTIUM COORDINATED BY

Integrated Smart Energy Research Infrastructure

- ERIGrid 2.0 stands for research and technology development in smart grids and smart energy systems

- It pushes digitalization with lab interfacing and data exchange for physical/virtual access

- It develops simulation, co-simulation, ICT and automation and controls for power and energy systems
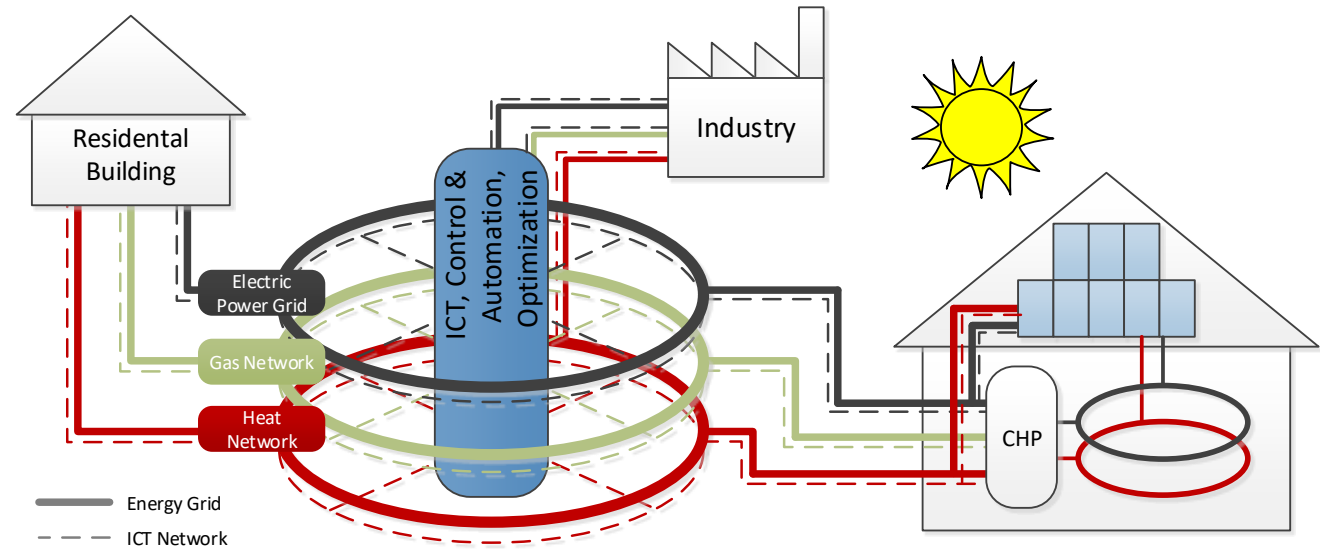
# Approaches for Smart Energy Technologies

- Validation of cyber-physical and multi-domain systems

- Tools and services for lab interfacing and data exchange

- Research infrastructure services combining real-time simulation, hardware-in-the-loop test setups and physical laboratories
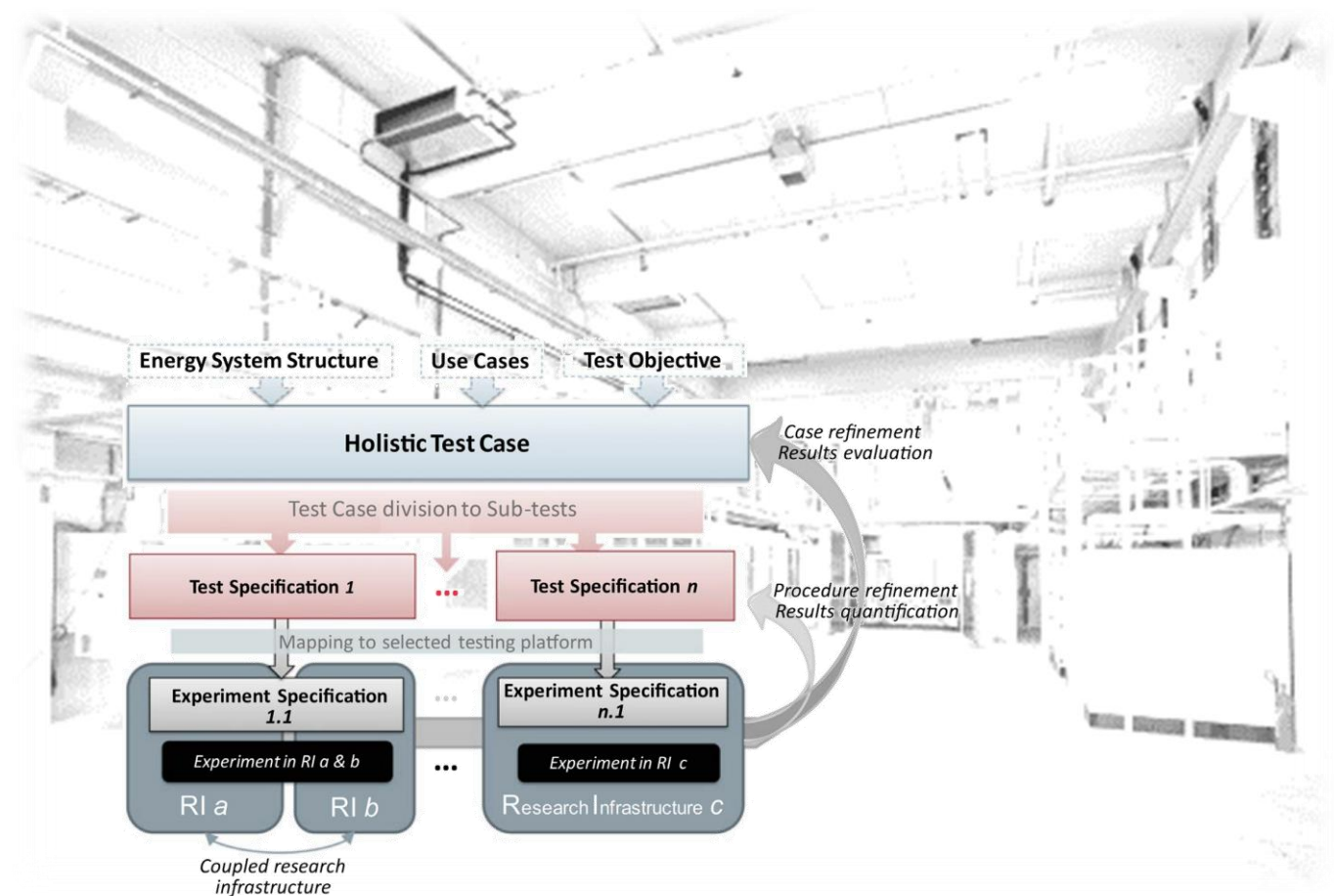
Education and Training

- Education and Training for energy professionals

- Physical and remote workshops, webinars, tutorials, and training schools

- Open access laboratory education

- Provision of e-learning tools and open access resources
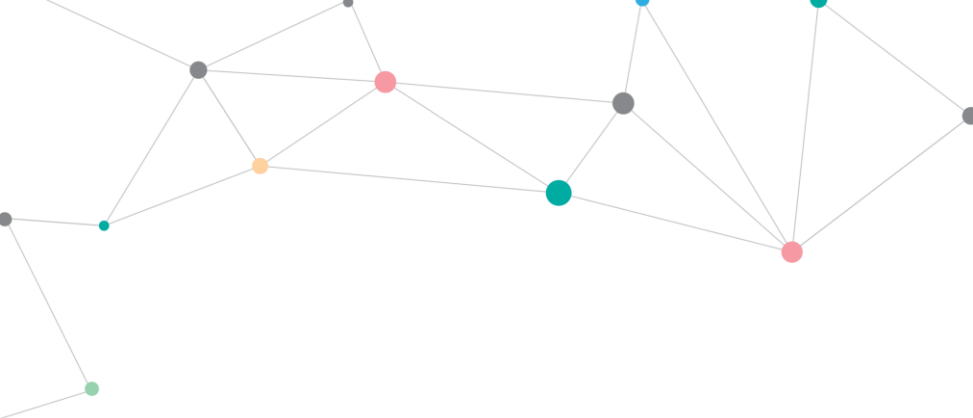
www.erigrid2.eu

@ERIGrid 2.0 Project

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