

The ERIGrid Integrated Research Infrastructure for Validating Cyber-Physical Energy Systems

Thomas Strasser

Center for Energy – Electric Energy Systems
AIT Austrian Institute of Technology, Vienna, Austria

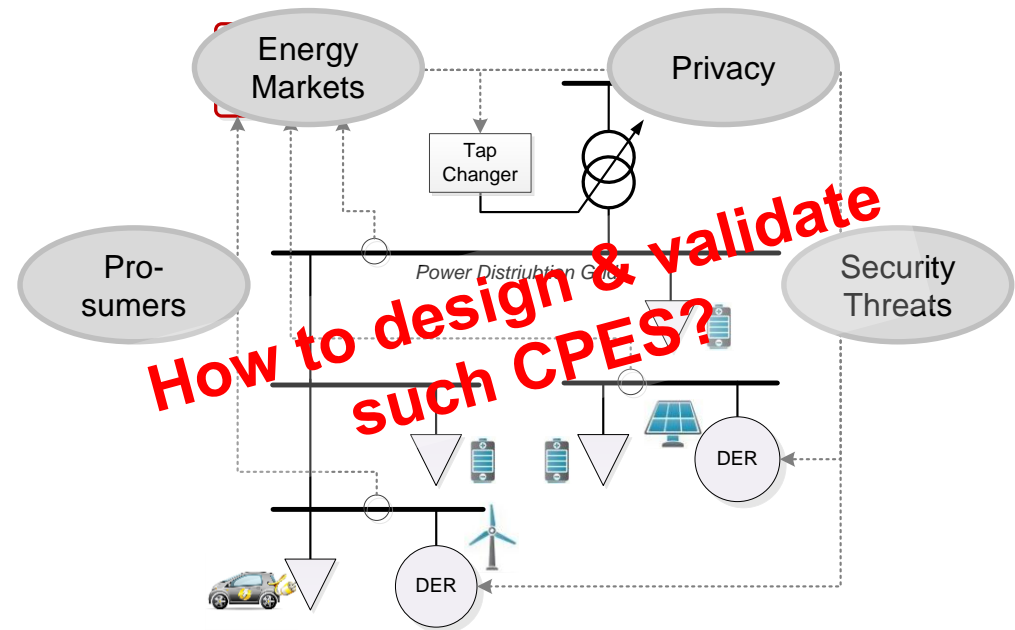
IRED 2018 Side Event

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Higher Complexity in Cyber-Physical Energy Systems

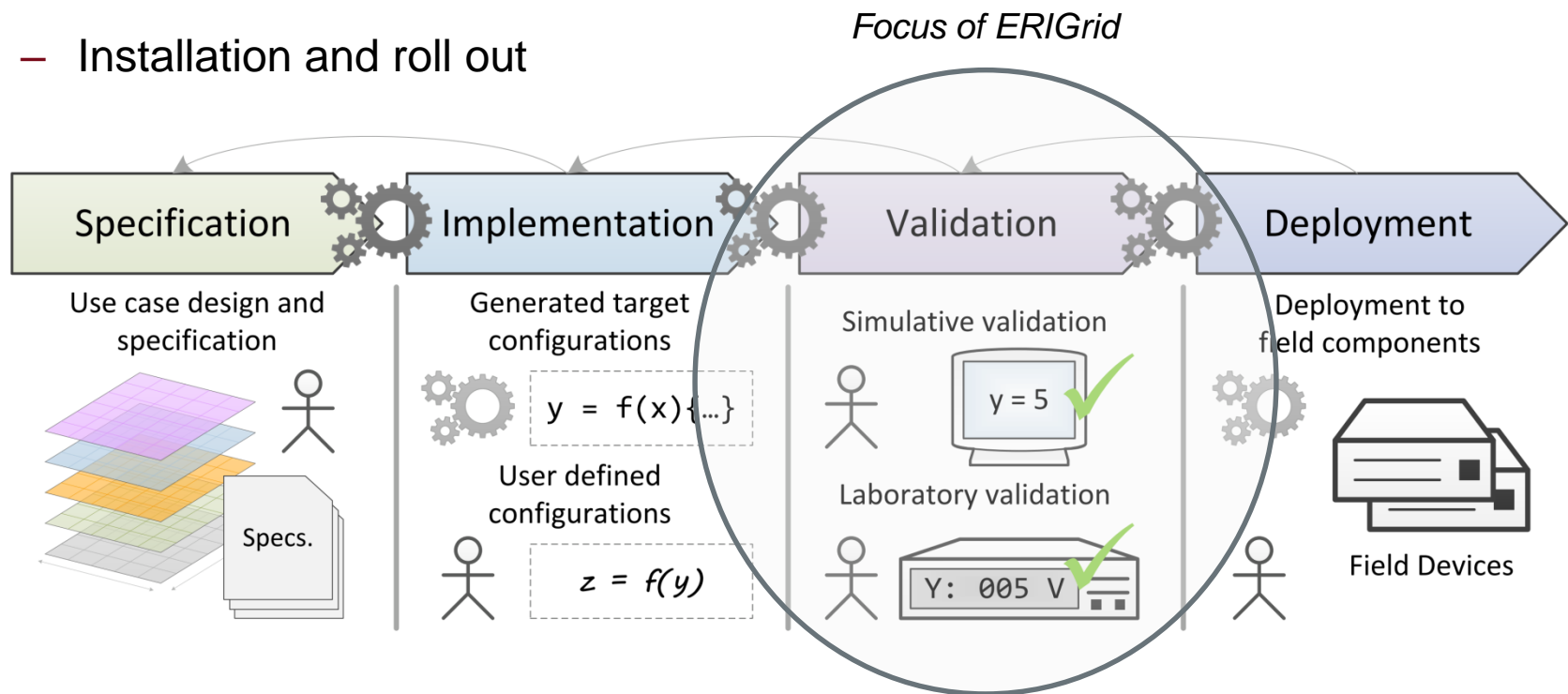
- Planning and operation of the energy infrastructure becomes more complex
 - Large-scale integration of renewable sources (PV, wind, etc.)
 - Controllable loads (batteries, electric vehicles, heat pumps, etc.)
- Trends and future directions
 - Digitalisation of power grids
 - Deeper involvement of consumers and market interaction
 - Linking electricity, gas, and heat grids for higher flexibility and resilience



→ *Cyber-Physical Energy System (CPES)*

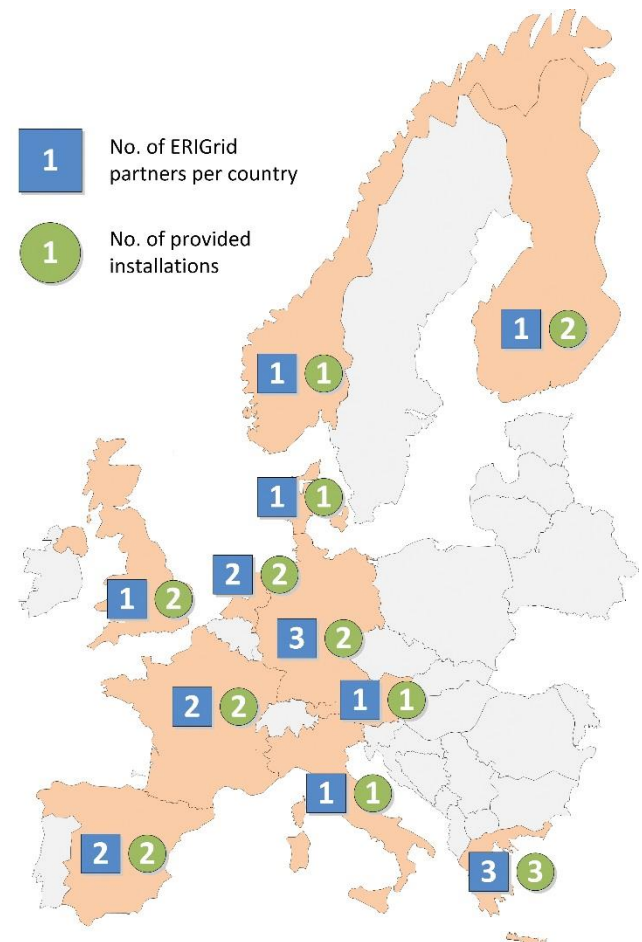
Open Issues and Future Research Needs

- Vision: *“Providing support from design to implementation & installation”*
 - Integrated system design
 - Validation and testing
 - Installation and roll out



ERIGrid Smart Grid Research Infrastructure

- H2020 INFRAIA-1-2014/2015 call
 - Integrating and opening existing national and regional research infrastructures of European interest
- Funding instrument
 - Research and Innovation Actions (RIA)
 - Integrating Activity (IA)
- 18 Partners from 11 European Countries
- Involvement of 19 first class smart grid labs
- 10 Mio Euro Funding from the EC (~1000 Person Month)



ERIGrid Smart Grid Research Infrastructure

- Overview and approach

