# PowerWeb

Intelligent, Integrated Energy Systems at TU Delft

Peter Palensky TU Delft



## Why are we here?

- What is PowerWeb?
- Invited Speakers
- Poster Session & Networking



### The Energy System

Socio-technic system

- optimize economical operation
- optimize environmental effects
- provide consumers with choice

**Energy management** 

- ensure reliability of supply
- ensure security of supply
- reconfigure to maintain QoS

Physical energy system

- Generate/distribute/store/use
- improve systems operations
- reduce environmental impact



## The Energy System

optimize economical operation Socio-technic system optimize environmental effects provide consumers with choice industrial policy analysis design ensure reliability of supply computer mathematic scurity of supply reconfigure tomaintain gos science engineerin electrical mechanical engineering engineering Physical energy Generate/distribute/store/use improve systems operations system reduce environmental impact



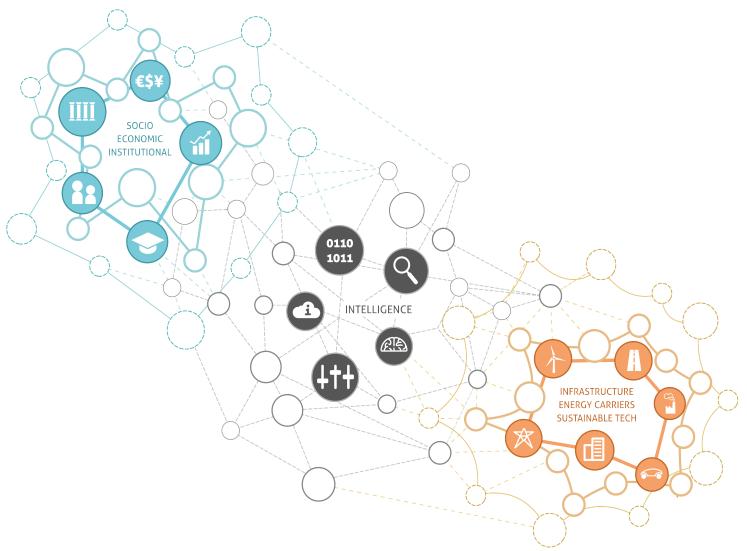
#### PowerWeb at TU Delft

- Founded in 2012
- Ecosystem for Research and Development
- Help from Liander, TenneT, etc.
- Dozens of projects (national, H2020), invited lunch lectures, workshops with industry, etc.



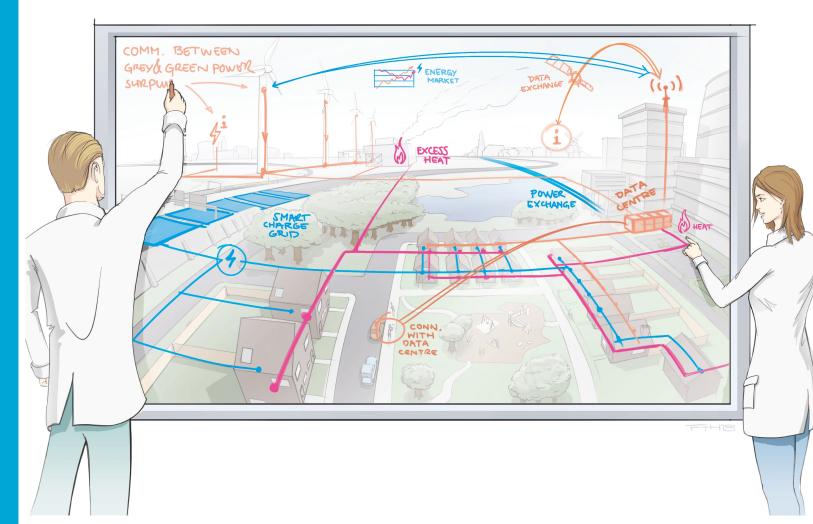


# Intelligence





## Integration





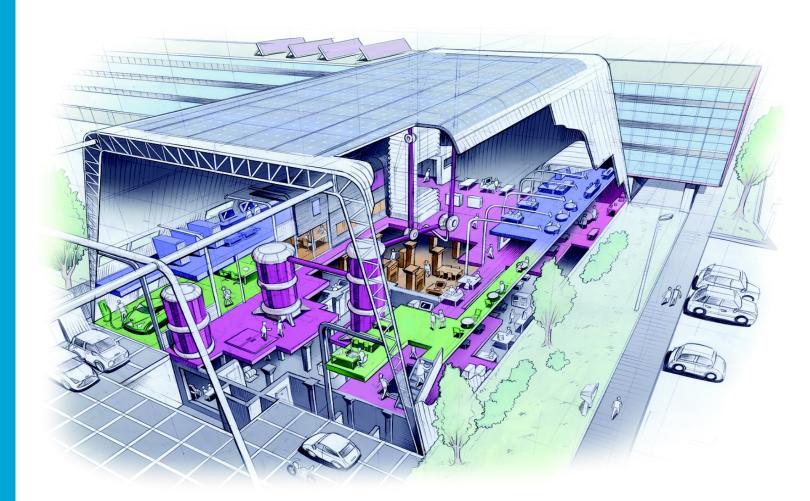
#### PowerWeb Activities

- Industry Advisory Board
- PowerWeb Conference
  - 2017: Smart Grid Cyber Security
  - 2018: Integrated Energy Systems
- Invited Lunch Talks
  - monthly
- Projects
- Education coordination
- One-stop shop for Industry



### Infrastructure

TU Delft Electric Sustainable Power Lab





# PowerWeb

**Intelligent, Integrated Energy Systems** 

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