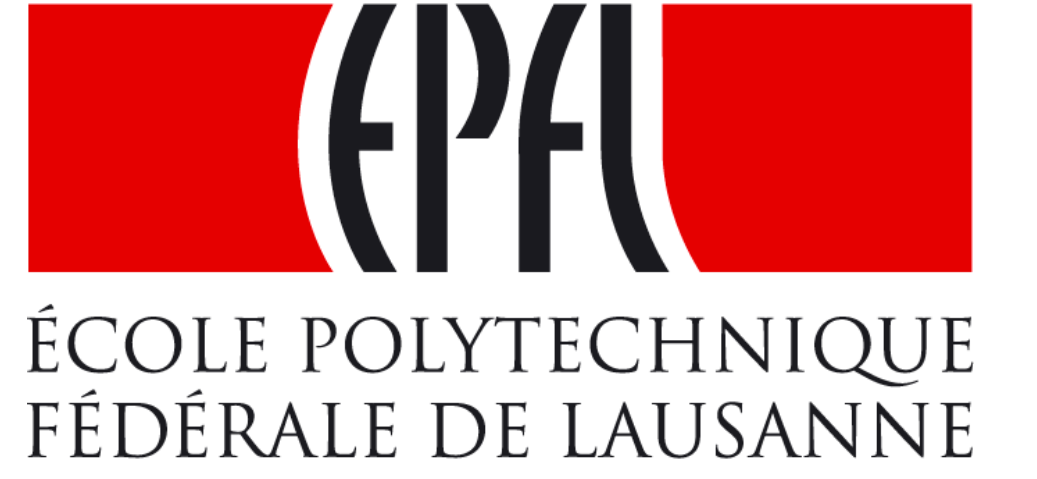


Electronics Laboratory



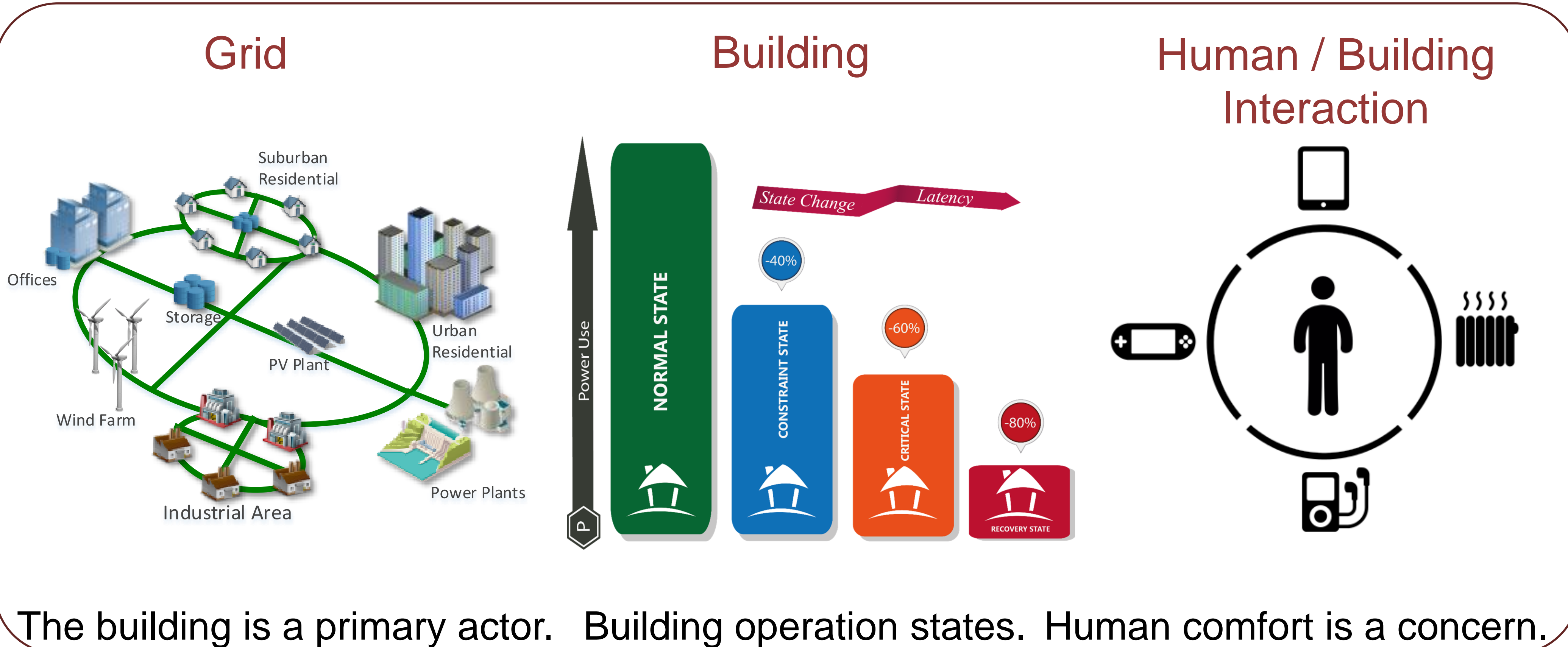
Smart Building Management and Control Environment



Nastaran Asadi Zanjani, Georgios Lilis, Gilbert Conus and Maher Kayal

Electronics Laboratory, EPFL - École Polytechnique Fédérale de Lausanne

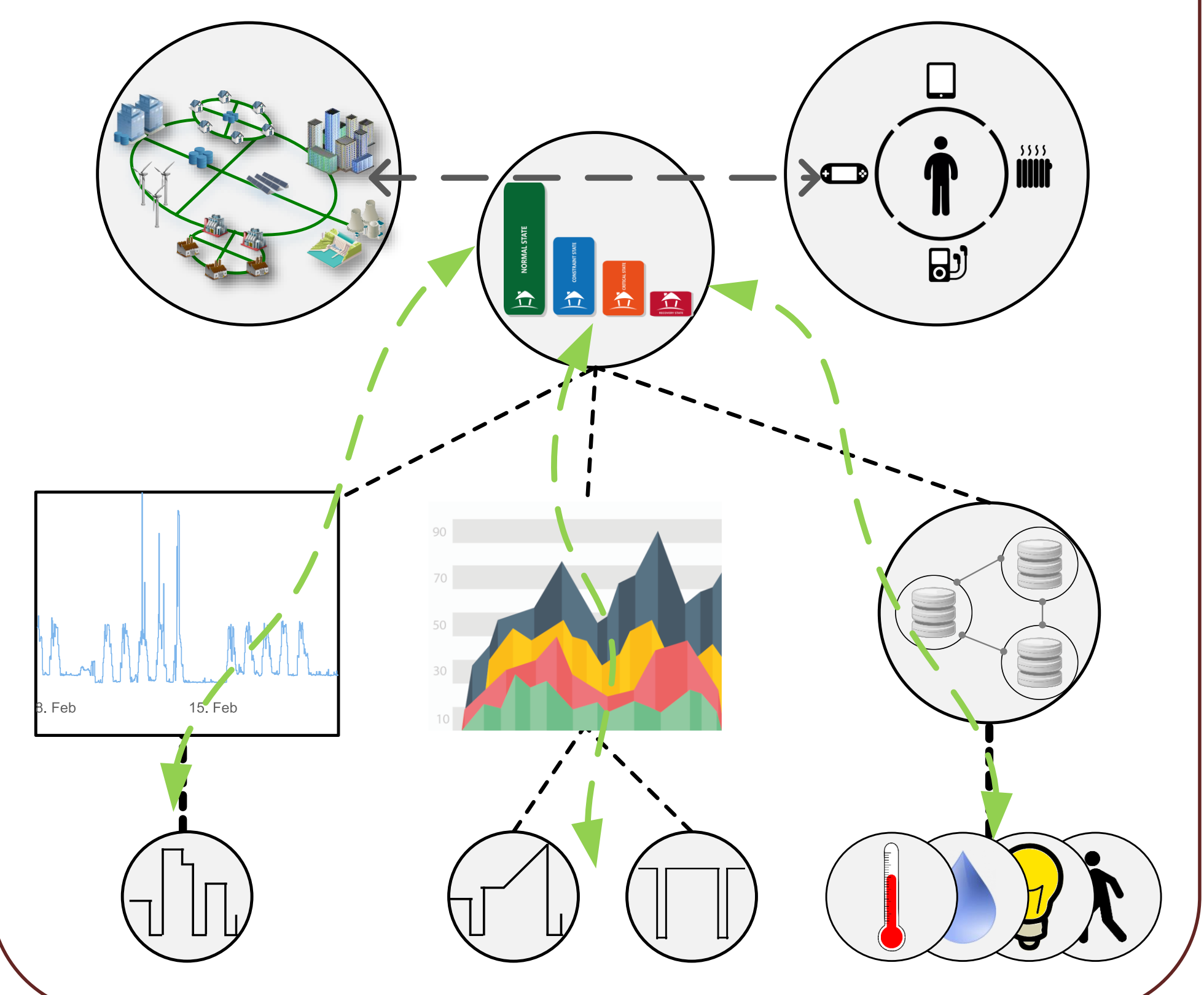
Smart-Grid with Demand-Side Management



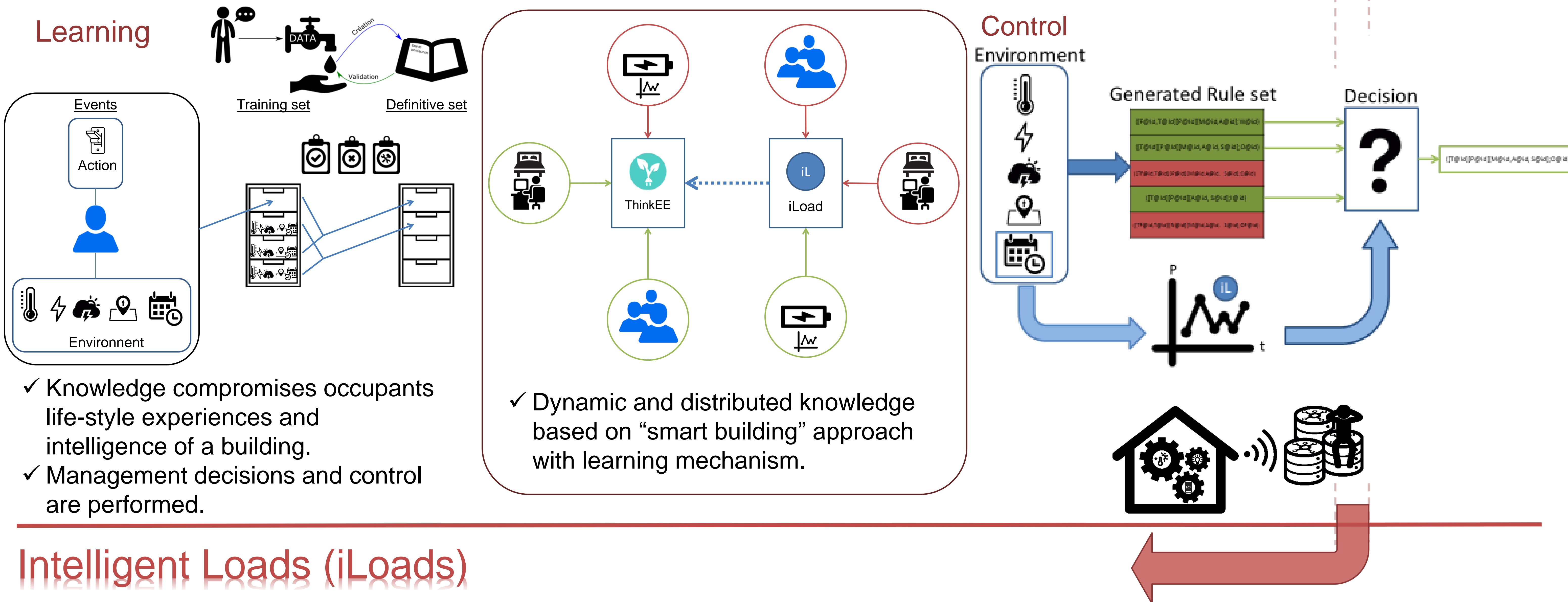
The building is a primary actor. Building operation states. Human comfort is a concern.

System level

A Distributed, Event-driven Building and Energy Management System



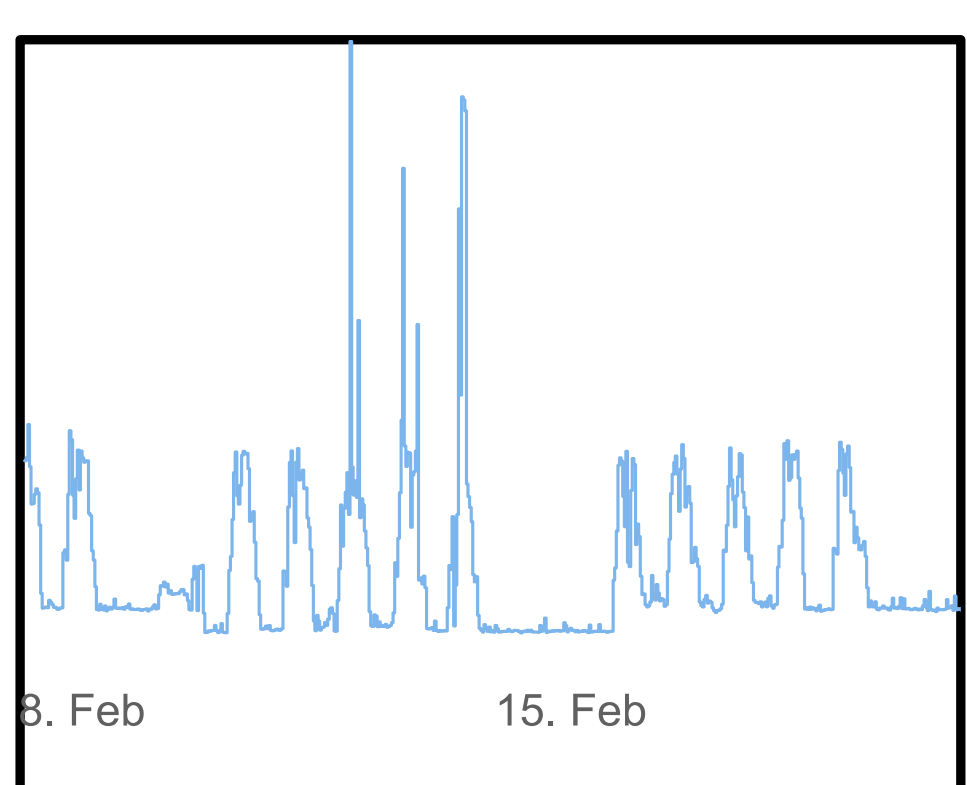
Building Management System (BMS)



Intelligent Loads (iLoads)

Low Power Electronics for Loads Tagging, Control and Monitoring

Specification and capabilities

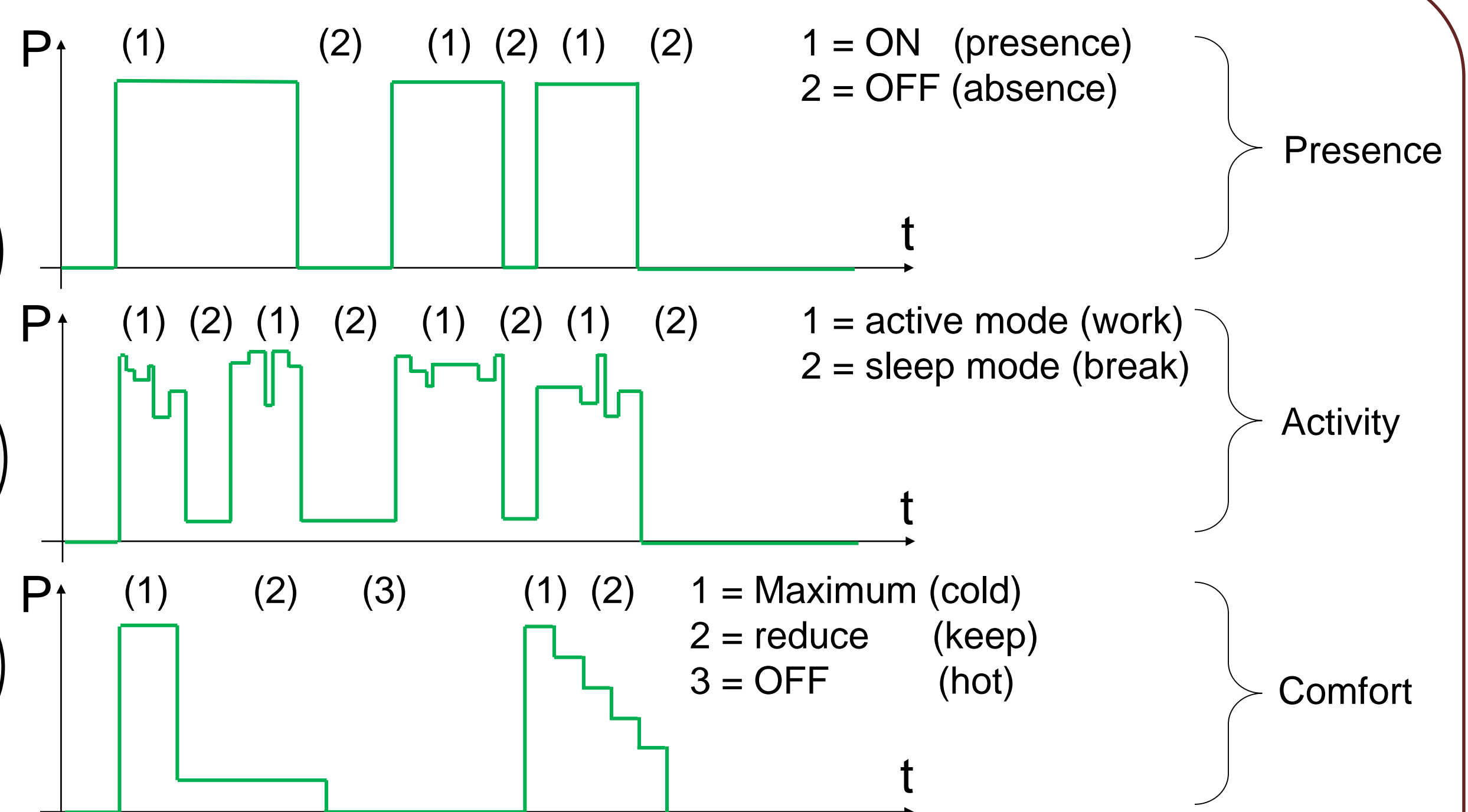
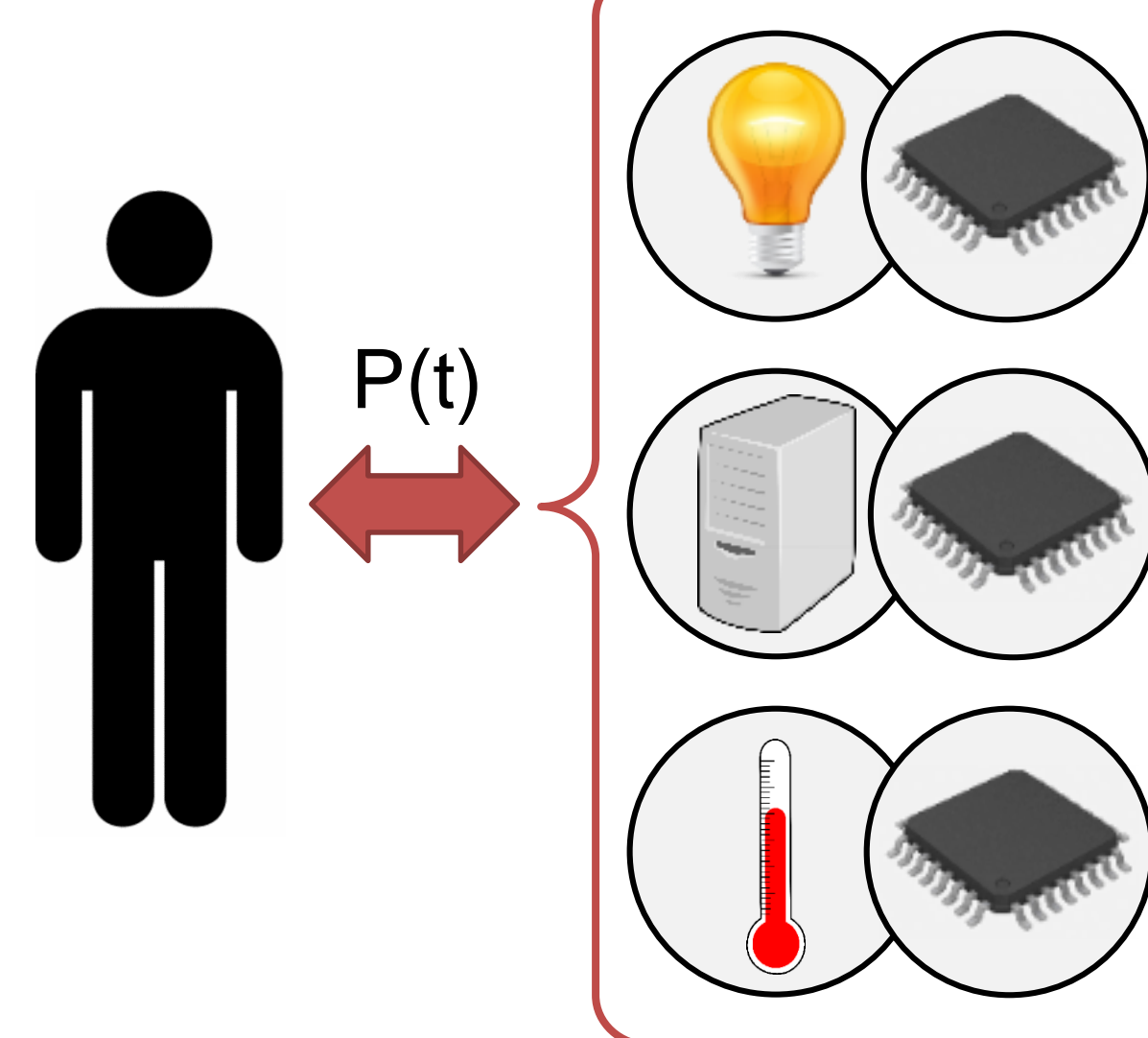


Power monitoring Load profile

- Tag (load type)
- Event-Driven
- Real-Time calendar
- Load features
- Monitoring
- Wireless communication
- Specific control

Each device is paired with a load and makes an intelligent load (iLoad). Low power consumption (22 μ W).

Analysis



Loads consumption profiles are covering the behaviour of occupants without a deployment of large sensors network. Analysis are done by correlating facts and power consumption.