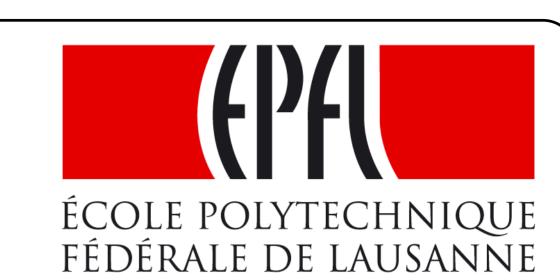


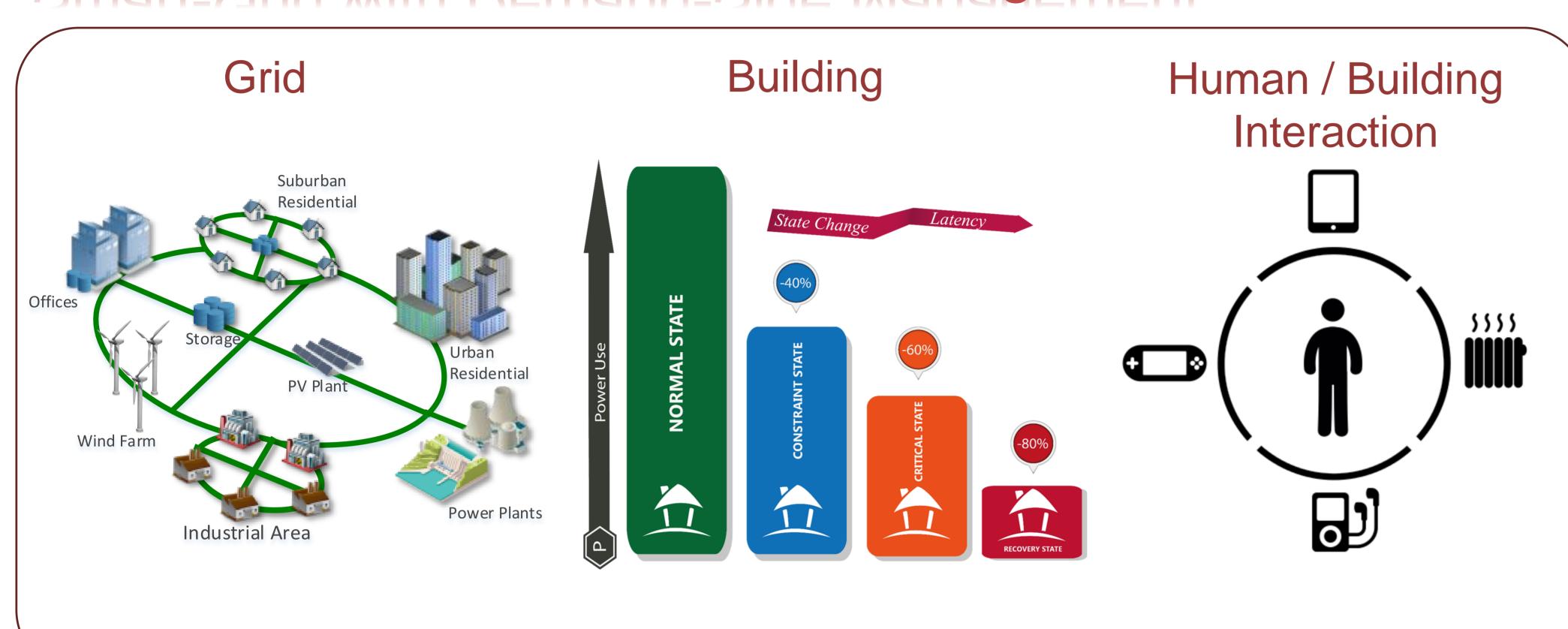
Smart Building Management and Control Environment



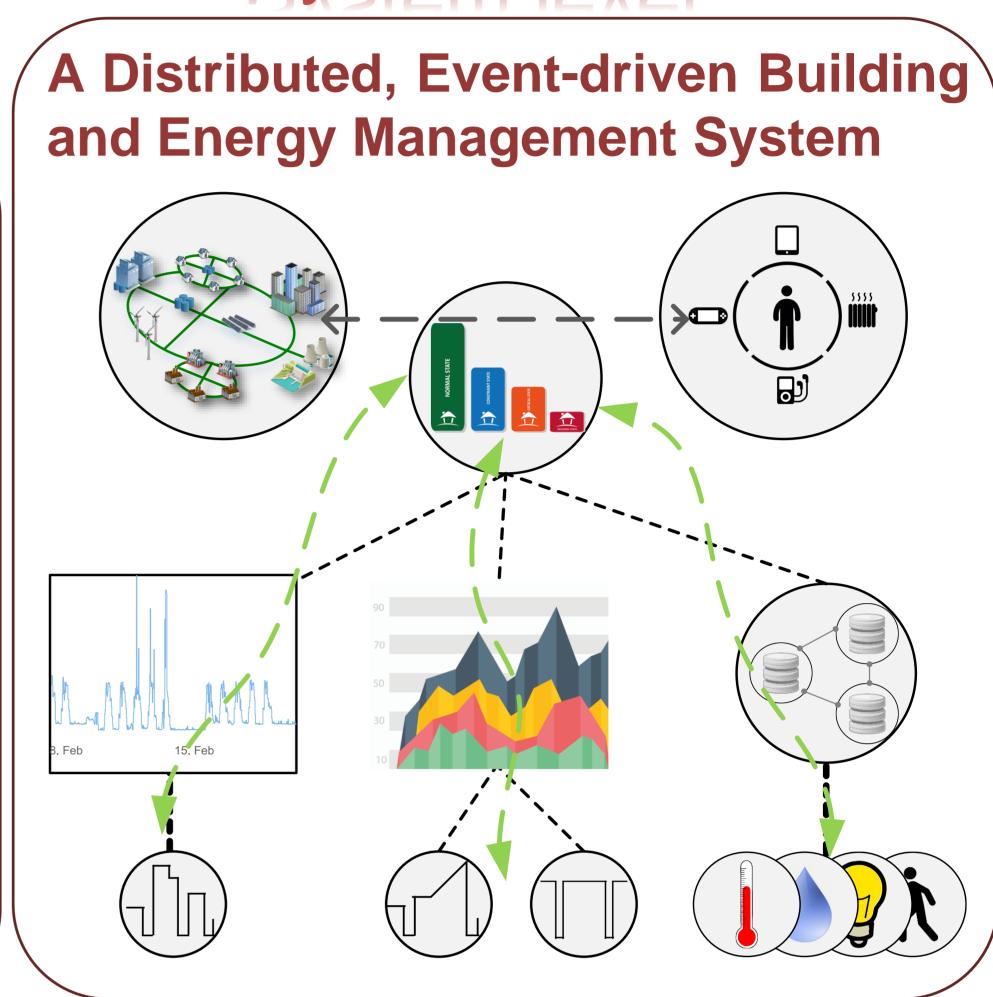
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Smart-Grid with Demand-Side Management

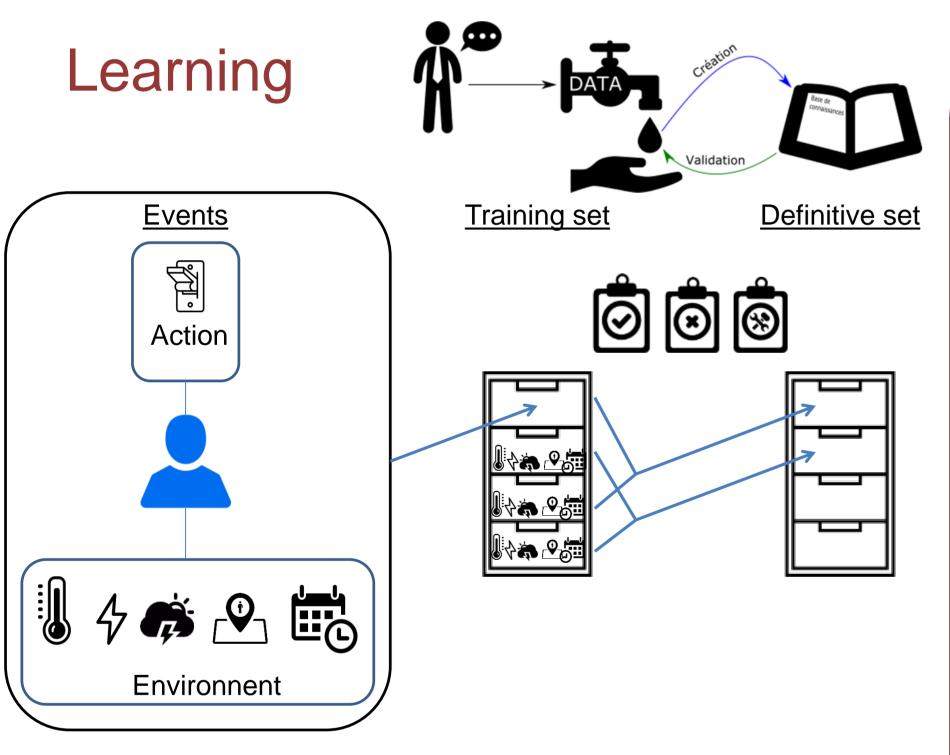


System level

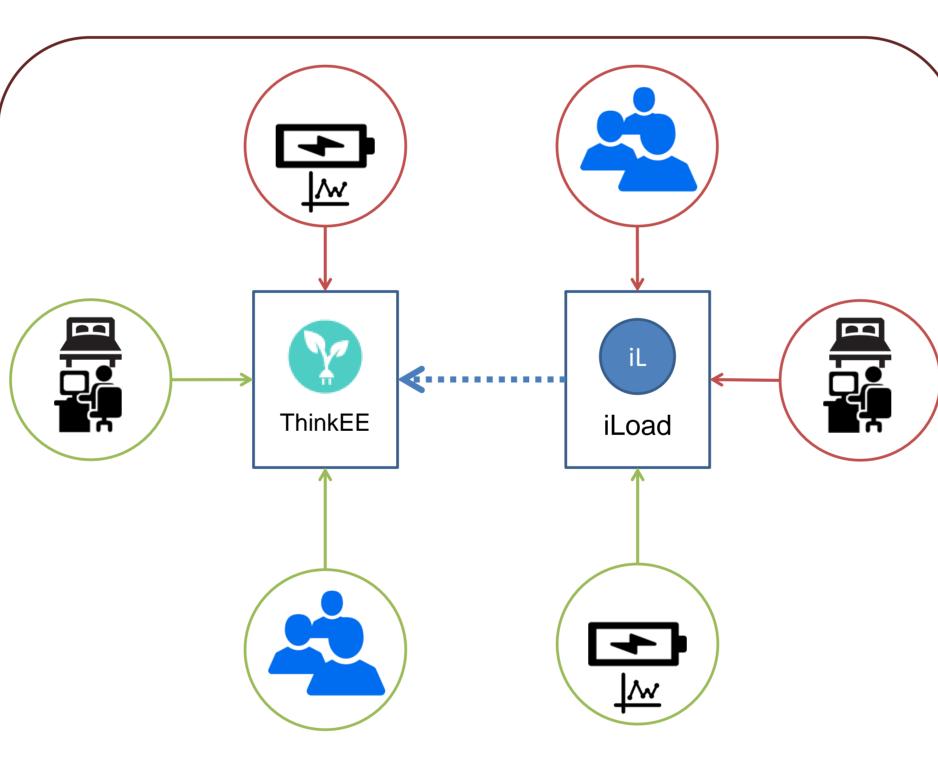


The building is a primary actor. Building operation states. Human comfort is a concern.

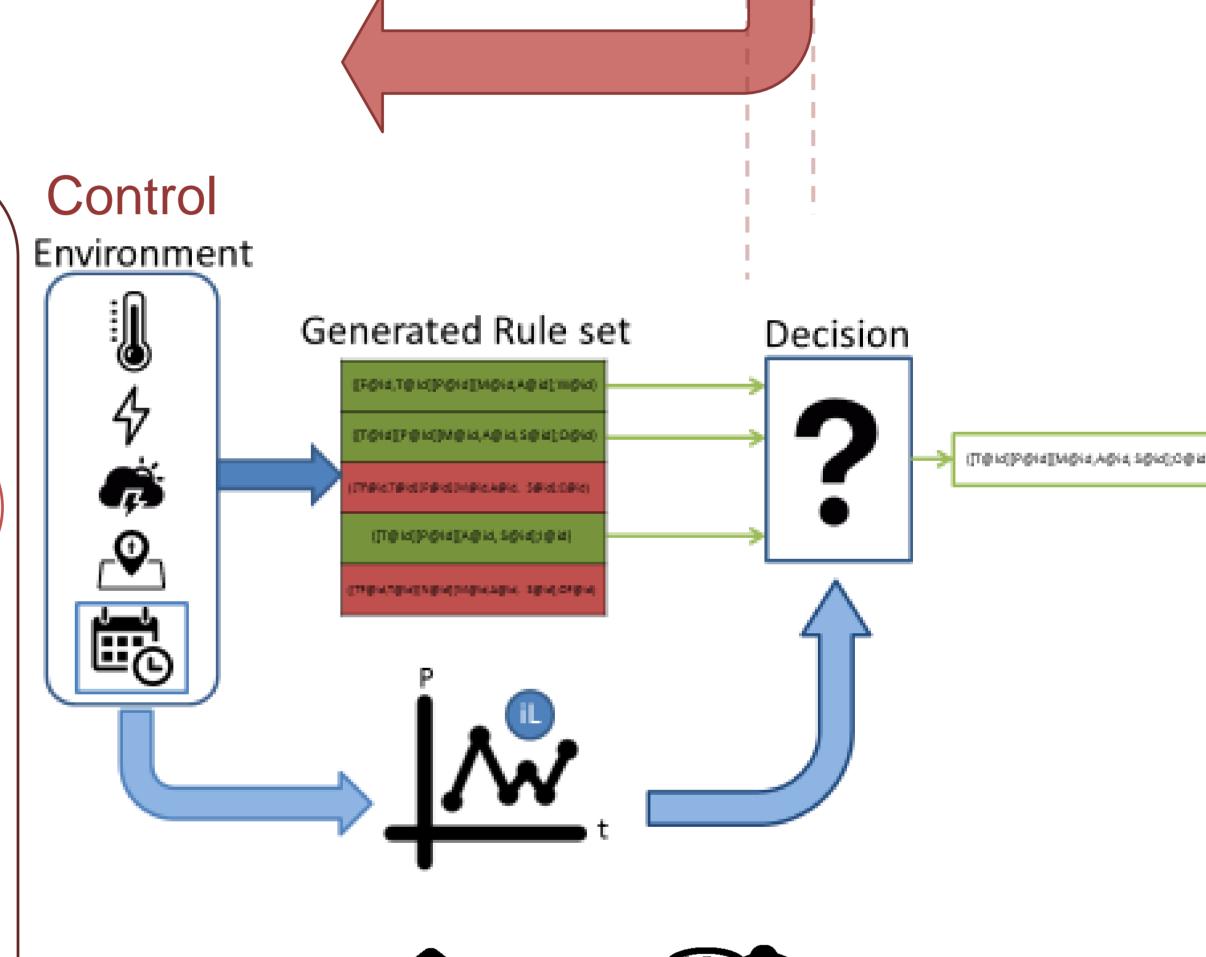
Building Management System (BMS)

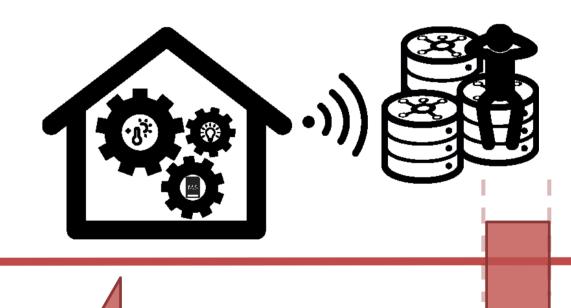


- ✓ Knowledge compromises occupants life-style experiences and intelligence of a building.
- ✓ Management decisions and control are performed.



✓ Dynamic and distributed knowledge based on "smart building" approach with learning mechanism.

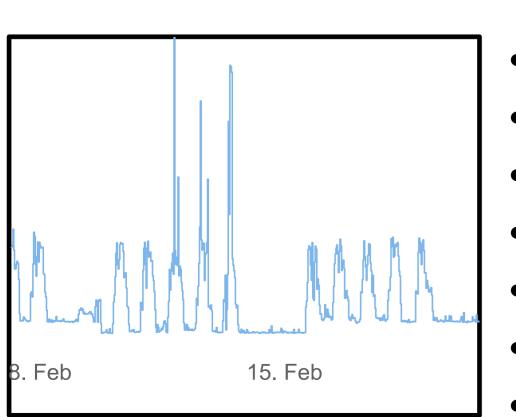




Intelligent Loads (iLoads)

Low Power Electronics for Loads Tagging, Control and Monitoring

Specification and capabilities



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

Power monitoring Load profile

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

Analysis (1) (2) (1) 1 = ON (presence) Pt (1) (2) (2) 2 = OFF (absence) Presence l = active mode (work) ~ 2 = sleep mode (break) Activity = Maximum (cold) (2) (3) 2 = reduce(keep) 3 = OFF(hot) Comfort

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.