



Digitalization, BACS and smart buildings in the revised EPBD

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REHVA priorities - EPBD review and implementation

Ensuring high indoor environment quality and energy efficiency at the same time

Quality, proper maintenance, and performance through mandatory inspection and technical monitoring

Promoting the harmonised application of EPB standards



Digitalization and BACS in the revised EPBD

- Mandatory equipment of non-residential buildings > 290 kW with building automation and control systems by 2025 (Art. 14-15 /4)
- Continuous electronic monitoring and effective control functionalities in residential buildings. (Art.14 &15/5)
- Simplified framework for inspection, incentivising digital monitoring. Buildings equipped with “EPBD-BACS” exempted from regular inspection.



Digitalisation changing HVAC system inspection/monitoring & maintenance

ICT and digitalisation enable cost efficient ways of inspecting & testing system performance shifting from regular physical inspection towards continuous digital monitoring.

continuous
monitoring

predictive
maintenance

operational
performance
monitoring &
benchmarking

ongoing
commissioning

technical
monitoring

- **Key requirement:** digital inspection/monitoring shall be based on pre-defined parameters & the data should be transparent and verified by independent third party.

HVAC/ENERGY Systems MONITORING FOR A “CONNECTED” BUILDING

5

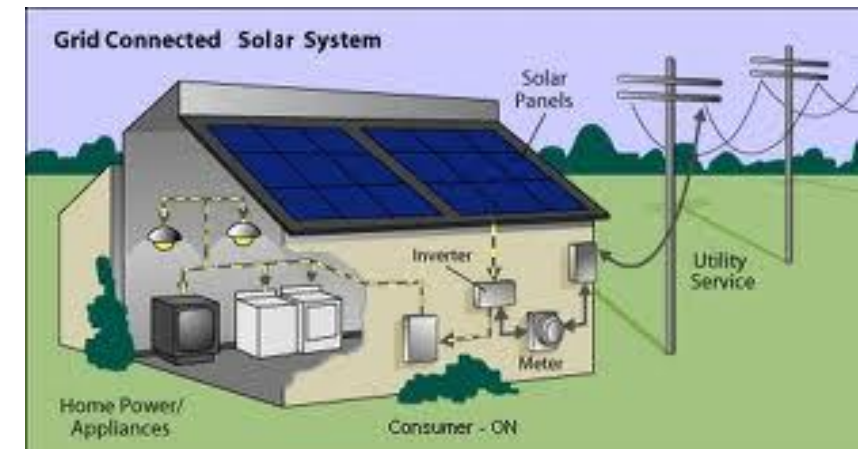


DIFFERENT NEEDS



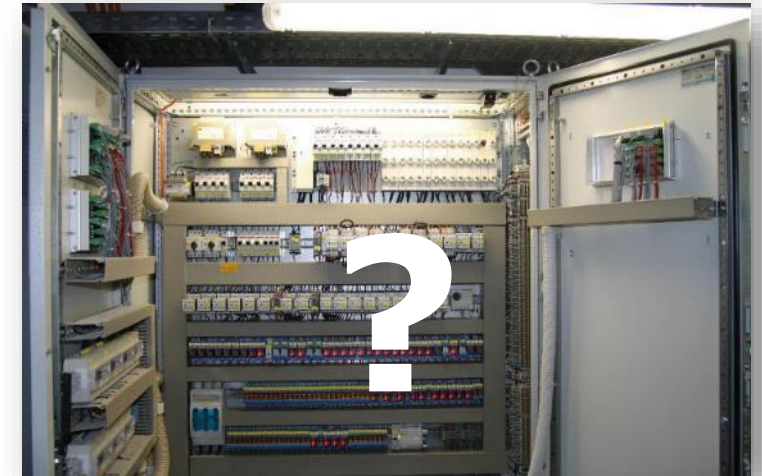
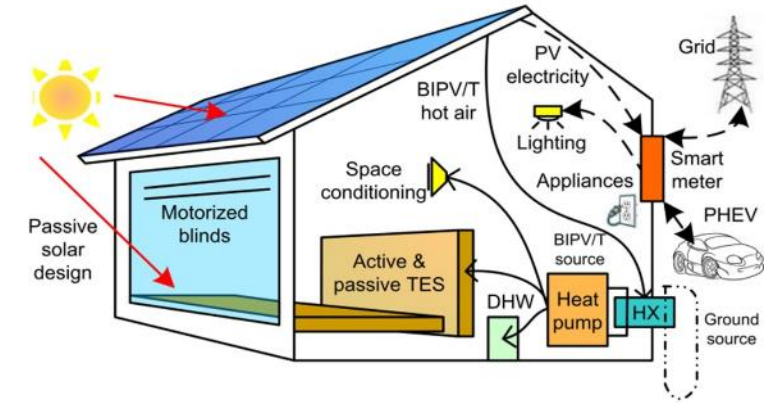
DIFFERENT SUPPLIERS

HVAC/ENERGY SYSTEMS INTEGRATION



Digitalization to increase energy performance and comfort levels

- Buildings are complex technical systems.
- Performance gap problem. High performing buildings need quality management using ICT based tools. Digitalisation make quality management services fast, transparent and cost effective.
- Digitalisation and IoT enable new ways of understanding building operational and interaction with the occupant.

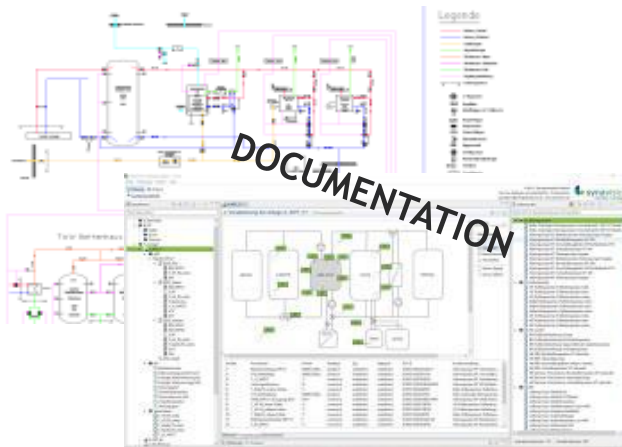


Digitalization in Technical Monitoring

1

Digital Engineering

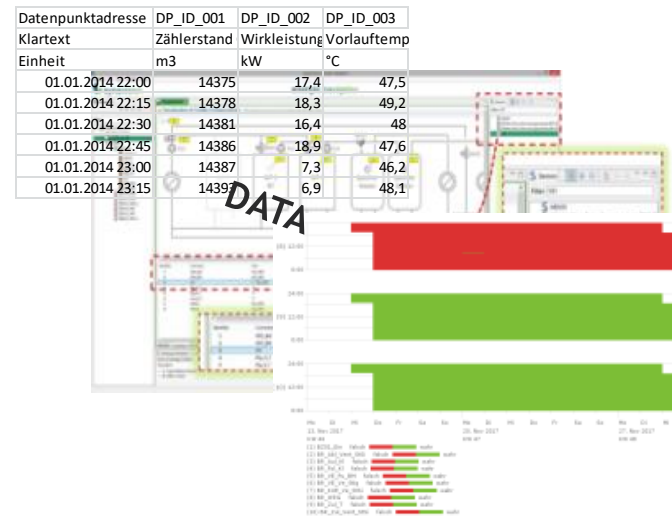
Fast functional specification on the level of actors and sensors through templates



2

Digital Analyses

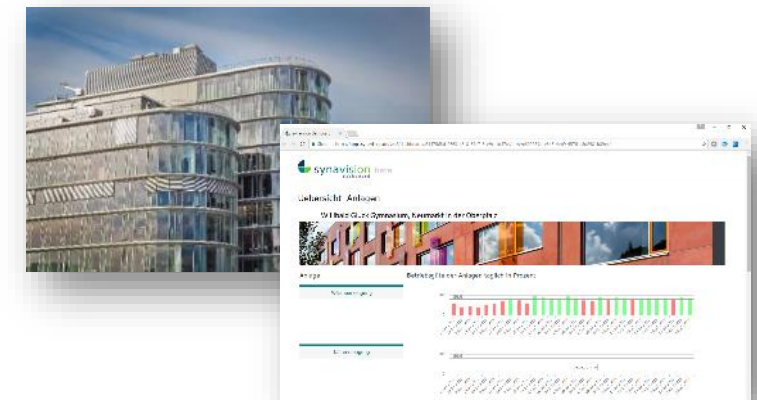
System-independent data import-plugins for maximum compatibility and automated mass data analysis



3

Digital Supervision

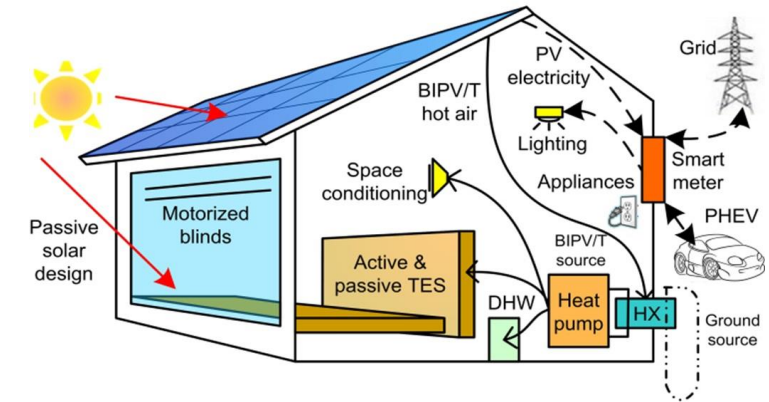
Reporting of optimization potential and continuous monitoring of building performance



synavision

Smart buildings & smart technologies in the revised EPBD

- Increasing role of optimized TBS, individual control and self-regulating devices
- Smart Readiness Indicator assessing ability to
 - Adaptation of energy consumption to maintain energy performance
 - Adaptation of operation in response to occupant needs
 - Demand-response and grid flexibility
- Enabling interoperability & user-friendliness



Measure the technological readiness of your building



1 Readiness to adapt in response to the needs of the occupant



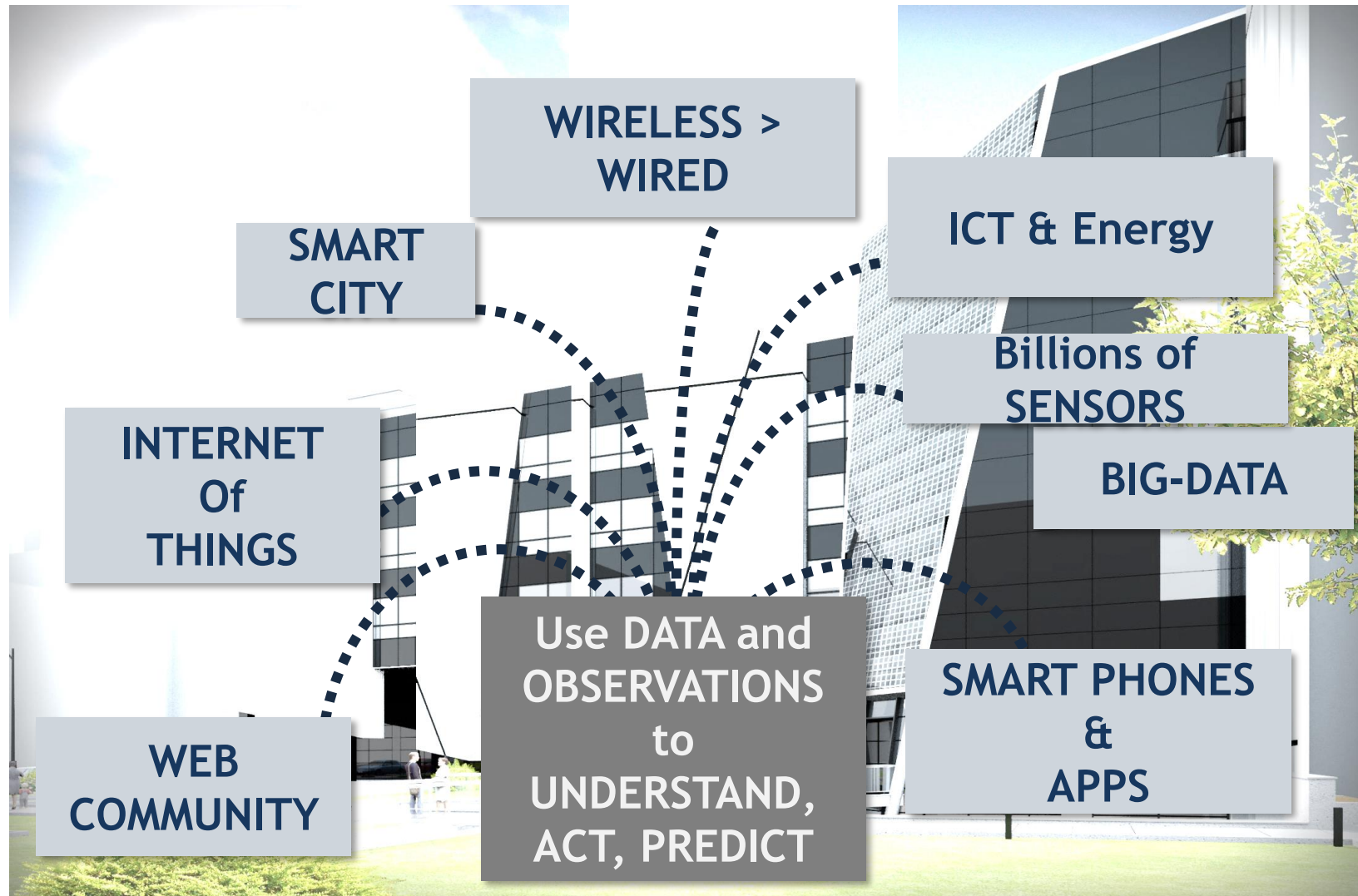
2 Readiness to facilitate maintenance and efficient operation



3 Readiness to adapt in response to the situation of the energy grid

CONNECTED BUILDINGS in a CONNECTED WORLD

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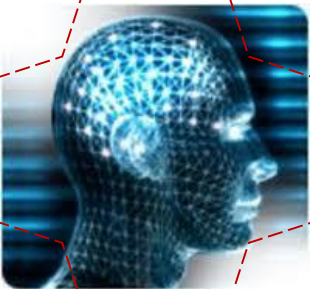
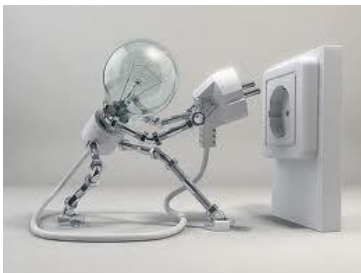


Smart buildings, smart users. ICT & IoT changing the HVAC sector

Measure / Monitor



Control / Act



Info / Advice

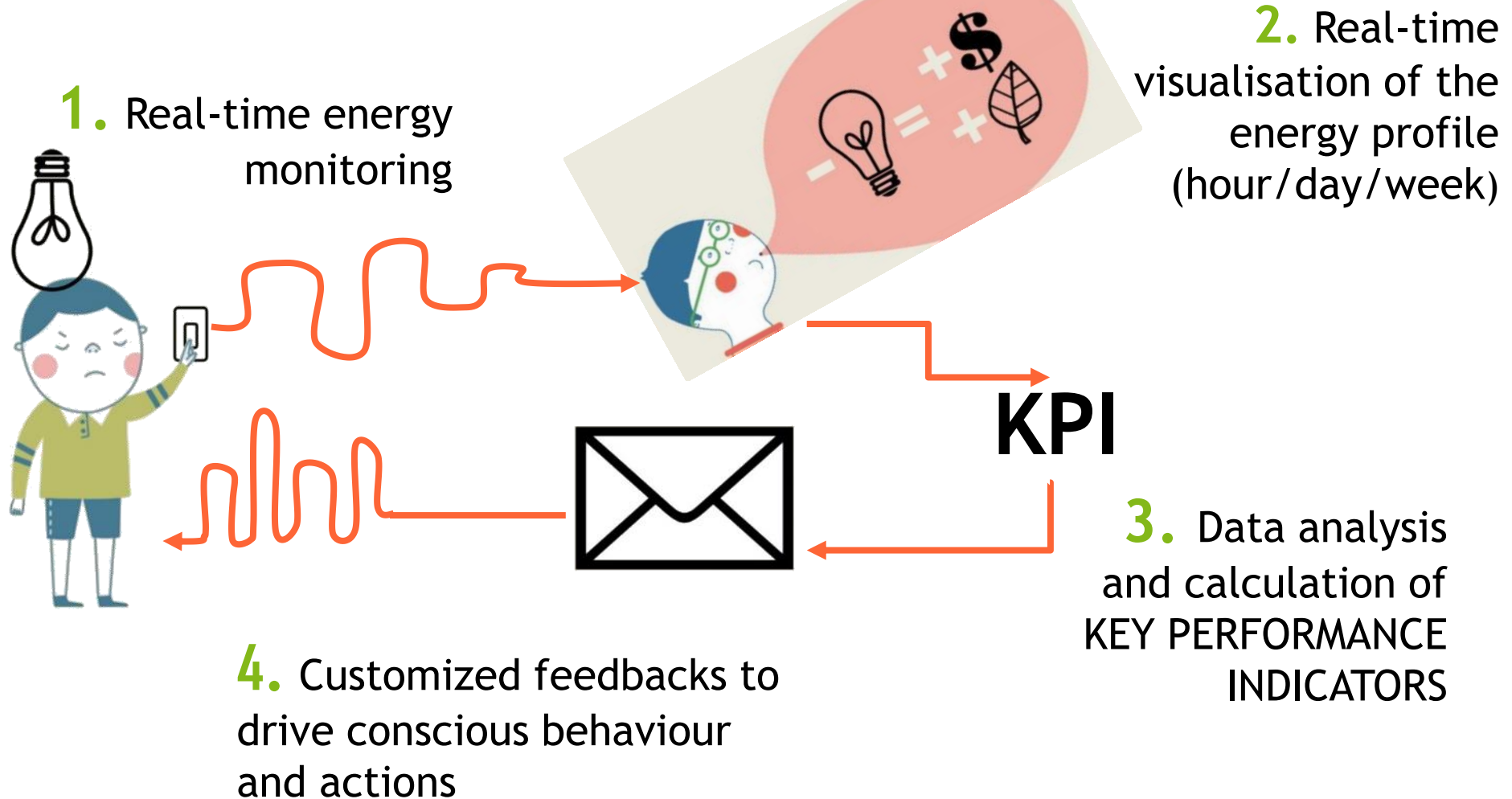


Integration / flexibility



Digitalization and user behaviour

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Thank you for your attention!