

Technical sheet #8

Technology solution package

Energy efficiency		Comfort, health and well-being
Smart grid readiness	✗	Informed users

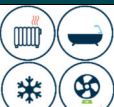

Building typology

✗	Residential	Office
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Short description

Solution package focused on providing information on building operation to occupants or to facility managers, such as indoor air quality, production from renewables, and other building performance data.

Solution package specific services

Domain		Standard configuration		Proposed configuration
	Heating, DHW, cooling and ventilation	Generation: actual values (heating, DHW, cooling and ventilation).	➔	Generation: actual values and historical data (heating, DHW, cooling and ventilation, IAQ) including benchmarking.
	Monitoring & control	Central reporting for energy use.		Central reporting for energy use and DSM (if available).
		Faults detection.		Faults/alarms detection + diagnosis function.

SRI Score¹

	Information to occupants	+20-30%
	Maintenance and fault prediction	+10-20%
	Health and well-being and accessibility	+10-20%

Main impacts and co-benefits

- Providing information can positively influence occupant behavior; its interaction with the building is one of six influencing factors of energy-related building performance.
- Frequent feedback contributes significantly to motivating and supporting change in occupant behavior. Several studies show that feedback to end-users can reduce a household's final energy consumption between 5% and 10%. In addition, confirming that direct feedbacks are more effective than the indirect ones.
- In many cases, users are not aware of incorrect behaviors, for instance excessive ventilation of some rooms, wrong use of the thermostatic valves or domestic appliances. IoT technologies can serve as a tool to enhance user awareness on energy consumption in residential buildings, by impacting on long-lasting positive behavior.
- Continuous monitoring of actual building performance prevents the energy performance gap between design and operation phase and allows to reduce maintenance costs by reducing faults and failures.
- An informed user is key for the acceptance of BACS. Studies showed that occupants' comfort feeling was correlated to control perception over the indoor environment.

¹ Calculated using SRI assessment package v4.4.

https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/smart-readiness-indicator_en