



## Technical sheet #6







### Technology solution package

	Energy efficiency	✗	Comfort, health and well-being
	Smart grid readiness		Informed users
<b>Building typology</b>			
✗	 Residential		 Office

### Short description

Solution package focused on thermal and visual comfort and indoor environmental quality, in order to improve the physical and emotional health of building occupants by better controlling ventilation and shading systems.

### Solution package specific services

Domain		Standard configuration		Proposed configuration
	Ventilation	Supply air flow clock control		Variable air flow control based on air quality sensors (CO <sub>2</sub> ) in exhaust air for HR
		Supply air temperature control with constant setpoint		Supply air temperature control with variable setpoint
	Dynamic Envelope	Manual shading control		Shading control on room sensor data (illuminance levels)
SRI Score <sup>1</sup>				
	Comfort	+20-30%		
	Health, well-being and accessibility	+10-20%		
	Convenience	+10-20%		

### Main impacts and added values

Advanced ventilation systems in residential buildings, beyond energy efficiency and condensation risk aspects, addresses issues related to health and comfort of building occupants:

- Main pollutants responsible for chronic health impacts are: PM2.5, mould/moisture, radon, environmental tobacco smoke, and formaldehyde.
- The main exposures to airborne pollutants that a person experience in its lifetime, happens in homes. Effective air supply and humidity control reduces the transmission levels.
- Control of shading devices helps to limit negative impacts on visual comfort such as glare, overheating due to excessive solar thermal gains.

<sup>1</sup> Calculated using SRI assessment package v4.4.

[https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/smart-readiness-indicator\\_en](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/smart-readiness-indicator_en)