



BREEAM®



GRO

De nieuwe handleiding van Het Facilitair Bedrijf
Op weg naar toekomstgerichte bouwprojecten



SmartScore
CERTIFIED



ARCHITECTS
& ENGINEERS

Hoe passen labels, tools en certificaten het smart buildings principe toe?

Valerie Vergaert

15/09/2021

SMART READINESS INDICATOR

Measure the technological readiness of your building



Readiness to
adapt in response
to the needs of the
occupant



Readiness to
facilitate main-
tenance and
efficient operation



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



European
Commission

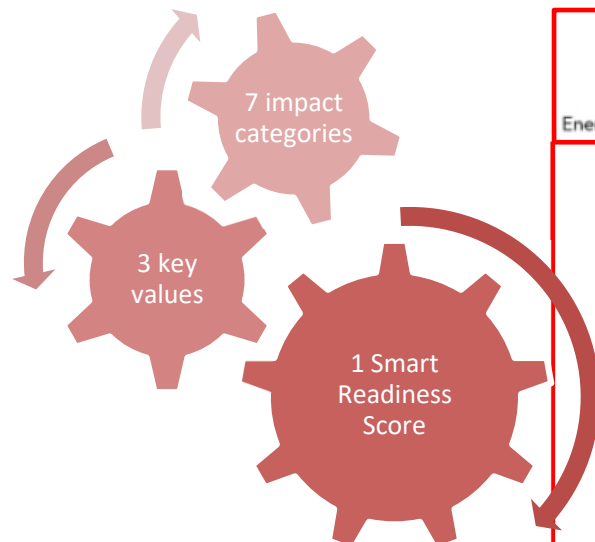
- Incorporating smart technologies and ICT in buildings can have many benefits, including better energy performance and greater comfort and well-being.
- The Commission has developed an optional '**smart readiness indicator**' to assess a building's ability to adapt to advanced technologies in terms of its performance capacity and energy flexibility.






















DEFINING SMART READINESS

Defining various levels of SMART

- Smart Readiness Indicator (simplified approach for first insights)
- Catalogue of **services** covering 9 service domains



 Energy efficiency	 Maintenance and fault protection	 Comfort	 Convenience	 Health and well-being	 Information to occupants	 Energy flexibility & storage
 Energy Savings & Maintenance		 Comfort, Ease & Wellbeing			 Grid Flexibility	

	Heating
	Sanitary hot water
	Cooling
	Controlled ventilation
	Lighting
	Dynamic building envelope
	Electricity
	Electric vehicle charging
	Monitoring and control

3 SMART SCENARIOS

LEGAL REQUIREMENTS



- EPB: electricity metering on equipment level
- BMS not included
- Low SMART added value

Heating	0%
Sanitary hot water	0%
Cooling	0%
Controlled ventilation	0%
Lighting	10%
Dynamic building envelope	0%
Electricity	16%
Electric vehicle charging	0%
Monitoring and control	0%

BREEAM EXCELLENT



- BMS with automated control & coordination between technical equipment
- Room control (lighting, thermal comfort, ventilation)
- Electric vehicle charging, 1-way controlled, for 3% of parking spaces

Heating	71%
Sanitary hot water	53%
Cooling	50%
Controlled ventilation	33%
Lighting	60%
Dynamic building envelope	0%
Electricity	31%
Electric vehicle charging	32%
Monitoring and control	41%

AMBITIOUS



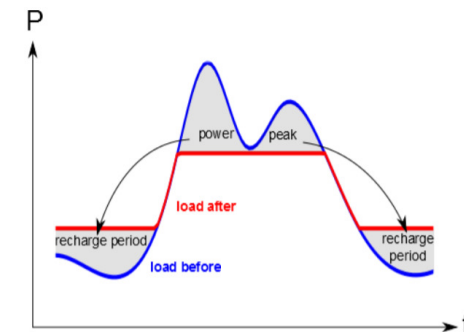
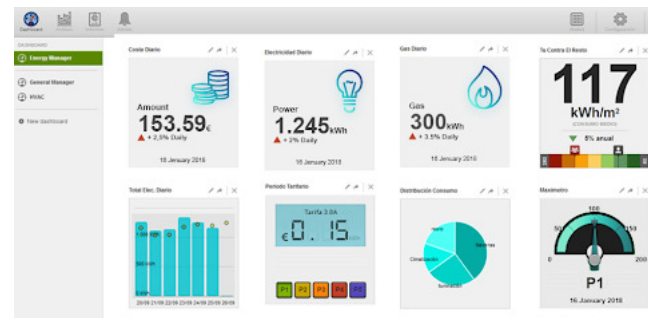
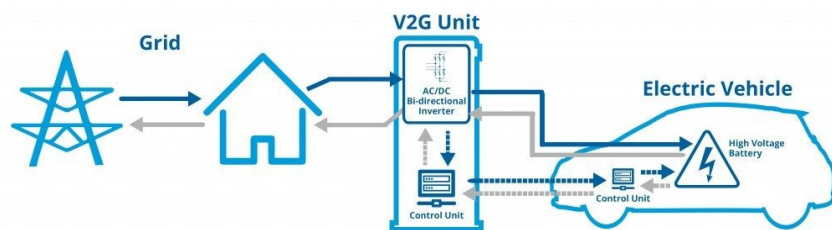
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Heating	88%
Sanitary hot water	64%
Cooling	73%
Controlled ventilation	33%
Lighting	75%
Dynamic building envelope	0%
Electricity	67%
Electric vehicle charging	58%
Monitoring and control	69%

PATHWAY TO AMBITIOUS



- Room control with user interaction
- Exterior automized dynamic sun shading devices
- Electric vehicle charging for 10-50% of parking spaces, 2-way controlled charging
- Monitoring with real-time interface including benchmarking
- BMS with optimization of energy flows based on occupancy, weather and (internal) grid signals
- Model predictive control
- On site storage of energy with controlled optimization
- Interaction with signals from the public electricity grid



BREEAM Excellent



Quartz, Brussels
Renovation office building
2014 - 2020
for Cofinimmo – arch. POLO Architects
VK M&E, structural, acoustical, facade, sustainable design

BREEAM®

- **Room control** (lighting, thermal comfort, ventilation)
- **Demand-driven** ventilation strategy
- Maximized daylight **autonomy**, presence/absence lighting **control**
- BMS with **automated control & coordination** between technical equipment
- **Data collection** : energy and water consumption
- **Seasonnal commissioning** - comfort measurements via the BMS
 - HVAC : temperature, relative humidity, ventilation rates
 - Sanitary equipment : temperature to determine the risk of legionellosis
 - Electricity : comfort lighting : measurements in representative rooms

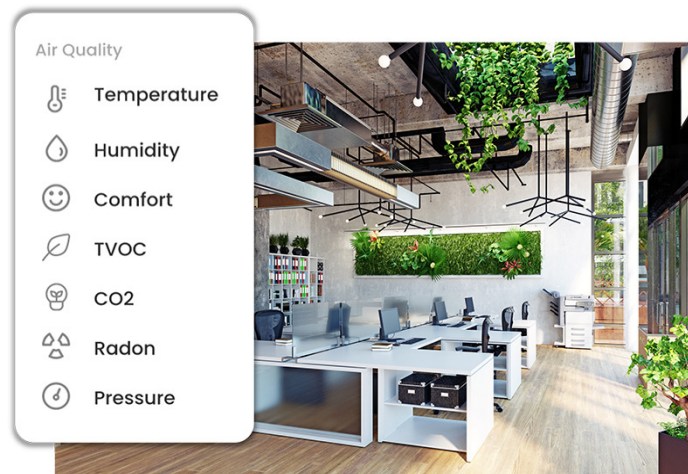
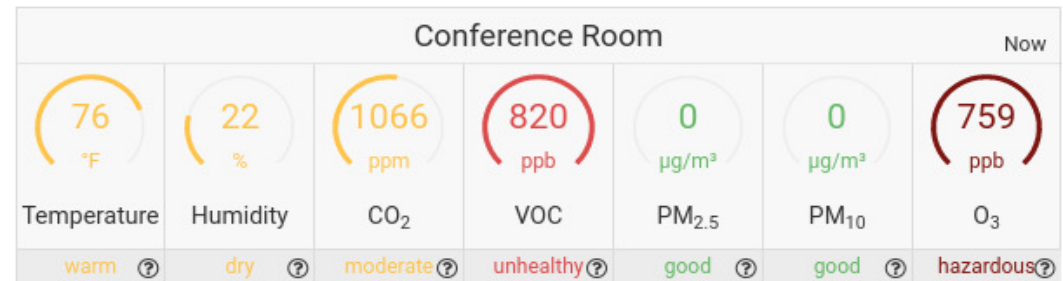
WELL Silver



Park 7, Diegem
New office building for a mixed-use futureproof project
2018 – 2022
for Immogra – arch. Stephane Beel Architecten, Jaspers-Eyers Architects
VK M&E, structural, acoustical, fire safety, sustainable design



- Room control with user interaction
- Monitoring of internal environmental quality with real-time interface including benchmarking



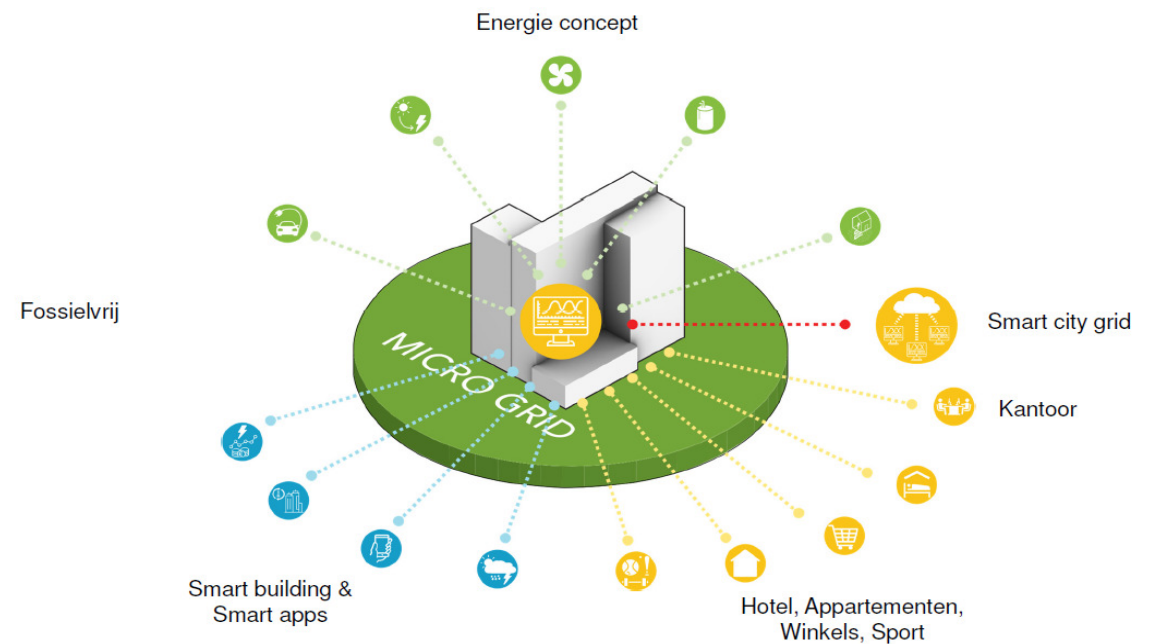
Ambitious SMART Building



ZIN in No(o)rd, Bruxelles
Mixed-use project
2018 - 2023
for Befimmo – arch. 51N4E, l'AUC, Jaspers-Eyers
VK M&E, acoustical, fire safety, facade, sustainable design, computational design

- Smart app for building user
- Smart grid approach between different building functions
- BMS with optimization of energy flows based on occupancy, weather and (internal) grid signals
- On site storage of energy with controlled optimization

“Smart Buildings put the people back in the centre without compromising on their efficiency, comfort and happiness.”



SMARTSCORE

Six functions that define a smart building with SmartScore:

- Individual and collaborative productivity
- Health
- Community and services
- Sustainability
- Security
- Maintenance and optimization



SmartScore
CERTIFIED





SMART BUILDINGS