



SMART READINESS INDICATOR (SRI)

A FOCUS ON COOLING SYSTEMS

SRI is a common EU scheme for rating the smart readiness of buildings.

Cooling is one of the **nine technical domains** addressed by the SRI.

Cooling is the fastest growing use of energy in buildings. Cooling and heating account for about 50% of total energy demand in the EU, and buildings represent 80% of this consumption. According to Eurostat's 2019 figures, approximately 75% of cooling and heating is generated from fossil fuels, while only 22% is generated from renewable energy.

The cold currently generated for space cooling can either be generated in each room by individual cooling devices, by central cooling in each building, or by district cooling systems in dense urban areas.

Smart cooling control systems will for instance save energy by adjusting functioning of the air conditioning system according to the actual temperature in a room. Advanced systems will run according to pre-defined schedules, and they will further optimise their running behaviour for instance by learning from the habits of buildings' occupants, and according to local predictions and grid signals.

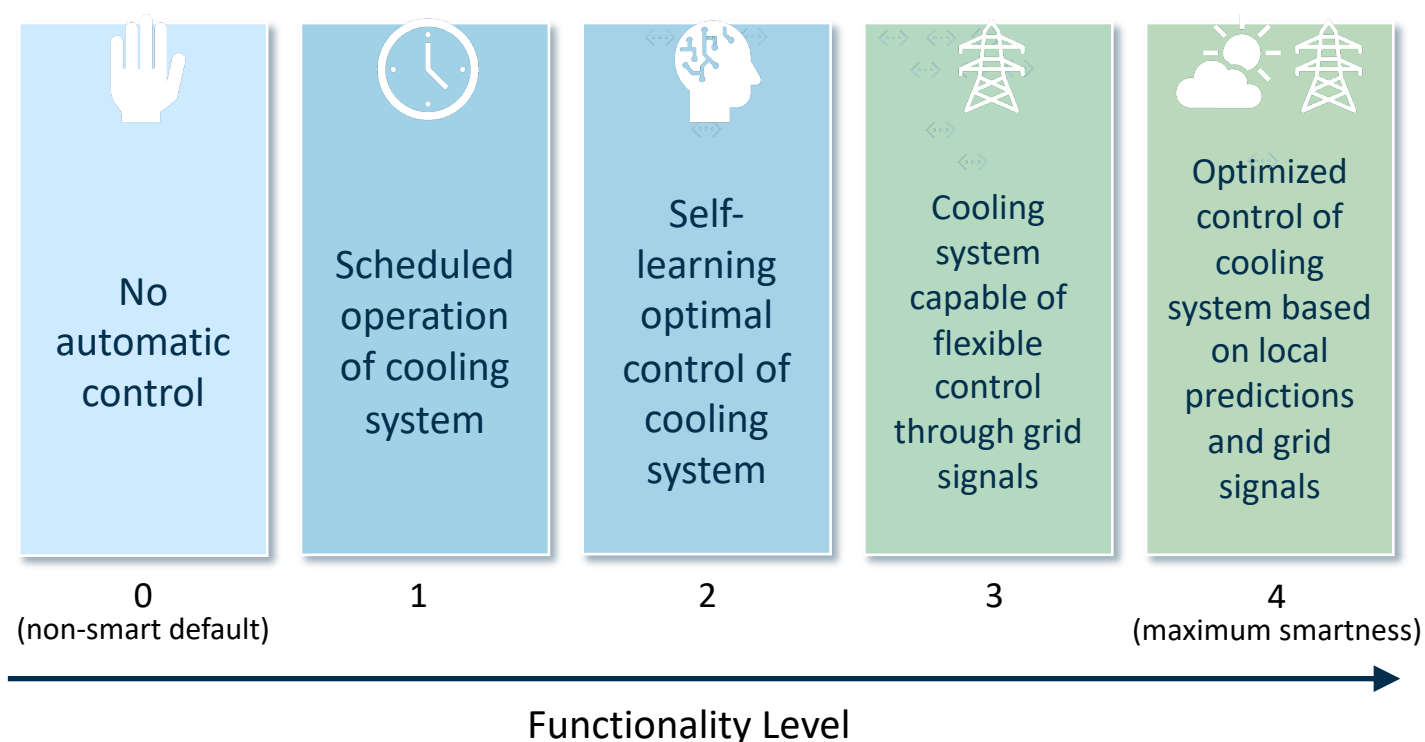
AN EXAMPLE OF SMART-READY SERVICE

The SRI implements a catalogue of smart-ready services. The next page provides one example of smart-ready service categorised under the Cooling technical domain. An example of a full Smart-ready-services catalogue can be obtained by requesting the SRI assessment package at:

<https://ec.europa.eu/eusurvey/runner/SRI-assessment-package>






Service group: **Flexibility and grid interaction**
Smart-ready-service: **Flexibility and grid interaction**

Standard : EN 15232



FUNCTIONALITY LEVELS CORRELATION WITH SRI IMPACT CRITERIA

Each functionality level of a given smart-ready service has corresponding individual scores for each of the **seven impact criteria** addressed by the SRI, as illustrated below.

	 Energy efficiency	 Maintenance and fault prediction	 Comfort	 Convenience	 Health, well-being and accessibility	 Information to occupants	 Energy flexibility and storage
Level 0	0	0	0	0	0	0	0
Level 1	1	0	1	1	0	0	0
Level 2	2	0	2	2	0	0	1
Level 3	2	0	2	3	0	0	3
Level 4	2	0	3	3	1	0	3

- **Level 1** | Scheduled operation of cooling system - offers increased energy-efficiency, improved comfort, and convenience for building occupants.
- **Level 2** | Self learning optimal control of cooling system - offers a low to moderate level of energy efficiency, energy flexibility and storage, comfort, and convenience for building occupants.
- **Level 3** | Cooling system capable of flexible control through grid signals (e.g. DSM) - offers an improved level of energy efficiency, and comfort, with a maximum level of energy flexibility and storage, and convenience for building occupants.
- **Level 4** | Optimized control of Cooling system based on local predictions and grid signals (e.g. through model predictive control) - offers a maximum level energy efficiency, energy flexibility and storage combined with maximum level of comfort, convenience and improved health and well-being for building occupants.

According to the SRI delegated regulation, Member States shall make available at least one smart-ready catalogue to be used by experts as the basis for identifying and assessing smart-ready services. Smart-ready service catalogue includes the list of smart-ready services to be considered for calculating the smart readiness score, related functionality levels, and corresponding individual scores for the impact criteria. Member States may decide to make available several smart-ready catalogues, for instance for different building types.

FURTHER READING

Examples of European and International associations to learn further about controlled cooling include: AREA, EPEE, EUROHEAT & POWER, REHVA.



**EUROHEAT
& POWER**



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- SRI website, newsletter, FAQ and resources: <https://ec.europa.eu/smart-readiness-indicator>
- European Commission Contact: Brigitte Jacquemont: ENER-BUILDINGS@ec.europa.eu
- Twitter: @Energy4Europe #SmartReadinessIndicator

Several projects are developing Research & Innovation activities around the SRI. Stay updated by joining the European Smart Buildings Innovation Community at: <https://smartbuilt4eu.eu/join-our-community>