



SMART READINESS INDICATOR (SRI)

A FOCUS ON DYNAMIC BUILDING ENVELOPE SYSTEMS

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

Dynamic building envelope is one of the **nine technical domains** addressed by the SRI.

A building envelope encompasses the entire exterior of the building system and serves to protect the interior while facilitating climate control of a building. This includes windows, roof, doors, floor, foundations, and insulation.

Buildings represent roughly 40% of energy consumption and 36% of energy-related CO₂ emissions in the EU. Building envelope performance improvements are critical to reducing thermal losses and operational CO₂ emissions.

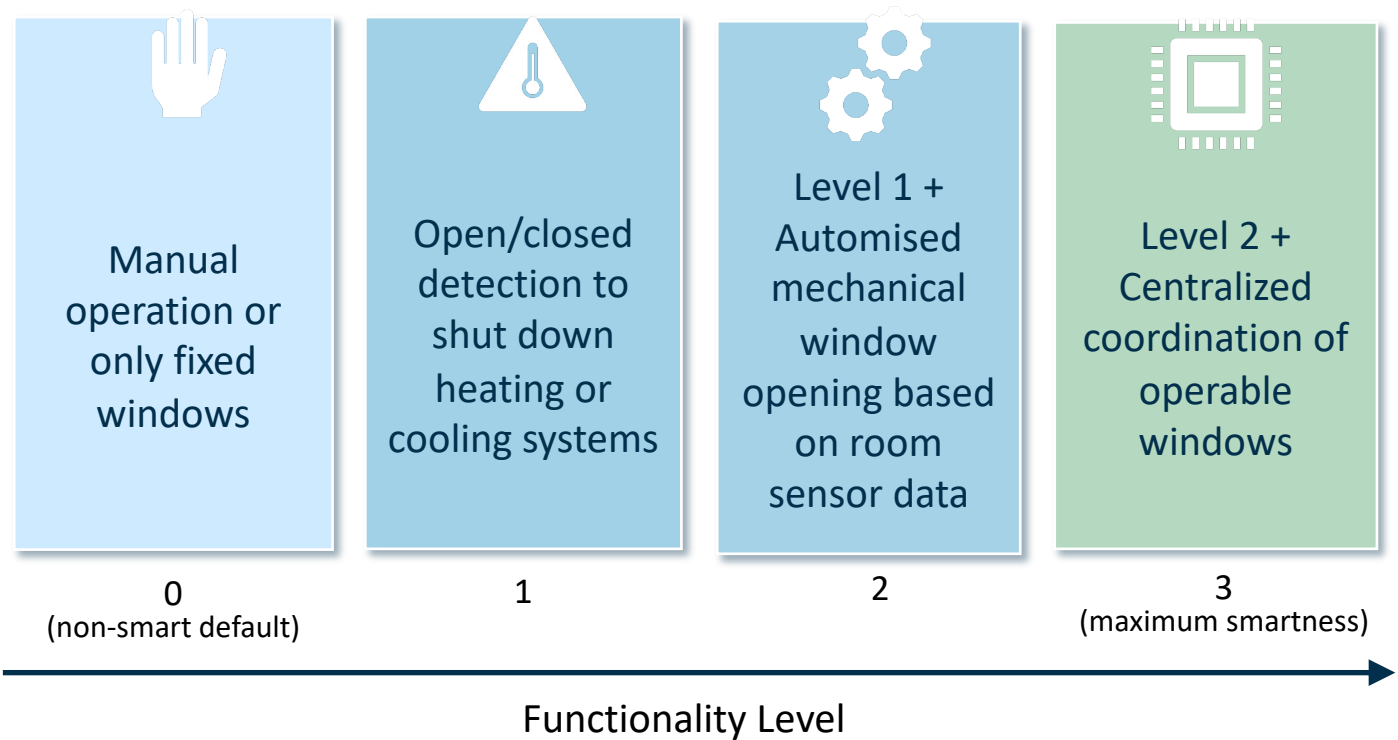
Dynamic building envelope technologies include for instance dynamic shading systems, or advanced smart windows such as electrochromic glazing. They provide a reliable means for reduced annual energy demands, improved control over the indoor climate, as well as an increased comfort and convenience for building occupants.

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 dynamic building envelope 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: **Window Control**
Smart-ready-service: **Window open/closed control, with HVAC system**



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 | 2 | 0 | 1 | 1 | 0 | 0 | 0 |
| Level 2 | 2 | 0 | 2 | 1 | 1 | 0 | 0 |
| Level 3 | 2 | 0 | 2 | 2 | 1 | 0 | 0 |

- **Level 1** | Open /closed detection to shut down heating or cooling systems – offers energy savings, and a higher level of comfort and convenience for building occupants.
- **Level 2** | Level 1+ Automised mechanical window opening based on sensor data - offers a higher level of comfort, convenience, and improved health, well-being and accessibility for building occupants.
- **Level 3** | | Level 2+ Centralized coordination of operable windows (e.g to control free natural night cooling) combines energy efficiency with a high level of comfort and convenience, as well as improved health, well-being and accessibility 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 dynamic building envelope systems include: E.D.S.F (European Door and Shutter Federation e.V.), ES-SO (European Solar Shading Organisation), EuroWindow, Glass for Europe



FOLLOW AND CONTACT US

- 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>