

REGULATORY FRAMEWORK OF THE EUROPEAN UNION RELEVANT TO SMART BUILDINGS

This document presents a selection of the most relevant European Union legislative acts pertaining to smart buildings. For each item, a brief overview is provided to highlight its relevance in the context of smart technologies and energy performance. Students are encouraged to consult the linked official documents for a more comprehensive understanding of each legal act. This is not a requirement but a recommendation for those who would like to learn more about specific legal framework.

1. [Directive 2010/31/EU on the Energy Performance of Buildings \(EPBD\)](https://eur-lex.europa.eu/eli/dir/2010/31/oj)<https://eur-lex.europa.eu/eli/dir/2010/31/oj>

This directive introduces the concept of the Smart Readiness Indicator (SRI), aiming to assess the capability of buildings to adapt to occupants' needs and interact with the grid.

The evolving landscape of climate policy and sustainable development in the European Union (EU) has necessitated a comprehensive re-evaluation of the energy performance of buildings. In alignment with the Union's overarching climate neutrality objectives, the revised *Directive (EU) 2024/1275* of the European Parliament and the Council, dated 24 April 2024, represents a pivotal regulatory development. This directive, commonly referred to as the Energy Performance of Buildings Directive (EPBD), seeks to facilitate the complete decarbonisation of the building stock by 2050. Among its key innovations is the establishment of the Smart Readiness Indicator (SRI), a metric designed to evaluate the integration of advanced, interconnected technologies that enhance energy efficiency, operational flexibility, and overall building functionality.

This section outlines the Directive's primary provisions, with emphasis on the forthcoming Smart Readiness Indicator (SRI) methodology, and explores its implications for the built environment across the EU.

To further this objective, the European Commission is required, by June 2026, to establish both the definition and the calculation methodology of the Smart Readiness Indicator.

This indicator is designed to assess the extent to which buildings incorporate features that contribute to energy savings, enhanced functionality, and operational flexibility. These features stem from the growing use of interconnected and intelligent technologies.

The SRI calculation methodology will take into account multiple components, including smart meters, building automation and control systems, and self-regulating indoor temperature devices, including smart meters, building automation and control systems,

and self-regulating devices for indoor temperature management. It will also take into account built-in home appliances, electric vehicle recharging points, and energy storage systems.

Furthermore, it will evaluate the detailed functionalities and interoperability of these systems, emphasizing their contribution to indoor climate quality, energy efficiency, and flexible energy use, as well as the benefits they offer in terms of indoor climate quality, energy efficiency, performance standards, and flexible energy usage.

1. [Directive \(EU\) 2018/844 \(Amending the EPBD and EED\)](https://eur-lex.europa.eu/eli/dir/2018/844/oj)<https://eur-lex.europa.eu/eli/dir/2018/844/oj>

This directive marks a pivotal advancement in integrating digital technologies into the building sector. It formally introduces the Smart Readiness Indicator (SRI), which assesses a building's capacity to adapt its operation in response to occupant needs, grid interaction, and improved energy efficiency. The directive mandates provisions for building automation and control systems, electric vehicle charging infrastructure, and encourages deeper renovation strategies that align with smart technology deployment.

1. **Commission Delegated Regulation (EU) 2020/2155** (Smart Readiness Indicator – SRI definition & methodology)
2. https://eur-lex.europa.eu/eli/reg_del/2020/2155/oj

This regulation lays out the technical definition and core methodology for calculating the SRI. It establishes a harmonized EU framework for evaluating the smart capabilities of buildings in terms of energy management, operational performance, and responsiveness. The delegated act is critical for ensuring consistent SRI assessments across Member States and supports the uptake of intelligent building systems.

1. **Commission Implementing Regulation (EU) 2020/2156** (SRI implementation procedures)
2. https://eur-lex.europa.eu/eli/reg_impl/2020/2156/oj

Serving as a companion to the Delegated Regulation, this implementing regulation provides procedural details for SRI implementation. It specifies requirements for expert qualifications, assessment protocols, and the issuance of SRI certificates. Its primary function is to ensure the practical applicability and comparability of SRI ratings, contributing directly to the digitalization of the building sector.

1. **Directive 2012/27/EU on Energy Efficiency (EED)**

<https://eur-lex.europa.eu/eli/dir/2012/27/oj>

Although broader in scope, the EED plays an indirect but significant role in advancing smart buildings. It promotes the use of **energy efficiency technologies**, including **smart metering**, **energy management systems**, and **performance monitoring tools**, which are foundational components of intelligent buildings. Amendments to the EED have increasingly emphasized the role of digital solutions in achieving energy savings.

1. Directive (EU) 2024/1275 on the Energy Performance of Buildings

<https://eur-lex.europa.eu/eli/dir/2024/1275/oj>

This most recent revision reinforces the mandatory decarbonisation trajectory for buildings and scales up the ambition around smart technologies. It extends the SRI framework and tightens requirements for digital building logbooks, interoperability of energy systems, and demand response mechanisms. The directive positions smart buildings as central to the EU's climate neutrality and digital transition agendas.

Related EU-Funded Projects

In support of the regulatory and policy efforts detailed above, several EU-funded projects aim to facilitate the practical implementation and evolution of smart building frameworks.

Among these, the SRI2MARKET project, funded under Horizon 2020, plays a pivotal role. The project supports the rollout of the Smart Readiness Indicator (SRI) by developing national implementation roadmaps, proposing standardized methodologies, and addressing technical and administrative barriers to adoption. You can find more information about this project in the following link: <https://sri2market.eu/>

SRI2MARKET is one of these projects which are part of a wider ecosystem of projects designed to help EU stakeholders—from policymakers to building professionals—apply and refine the smart building legislative framework.

Such initiatives contribute to both conceptual and practical tools to accelerate digitalization, enhance energy efficiency, and align building practices with the EU's climate and energy goals.