

# FINAL PROJECT REPORT





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# Co-creating tools and services for Smart Readiness Indicator uptake

The SRI-ENACT project has successfully delivered a holistic and practical solution to support the widespread implementation of the Smart Readiness Indicator (SRI) across Europe. By adopting a co-creative, multi-stakeholder, and evidence-based approach, the project addressed varying national contexts and needs through a tailored suite of practical digital tools, methodologies, training materials, and stakeholder engagement activities.

Over its 30-month duration, SRI-ENACT laid a strong foundation for the scalable and sustainable uptake of the SRI. Key achievements include the assessment of over 1,200 buildings, the training of more than 160 professionals, and the active involvement of thousands of stakeholders through events, workshops, and webinars. These efforts have significantly contributed to building market capacity and raising awareness of the benefits of smart-ready buildings. Through close collaboration with the broader SRI cluster and LIFE community, SRI-ENACT has created enduring synergies that will continue to shape the evolution of smart building policies and practices beyond the project's conclusion.

This report presents the key results and insights from the SRI-ENACT project: Co-creating Tools and Services for Smart Readiness Indicator Uptake. Spanning 30 months from December 2022, the project delivered a comprehensive solution to support the practical adoption of the Smart Readiness Indicator across Europe.

Achievements and key findings are structured across five main pillars.



A collaborative, bottom-up process delivering tailored national adaptations of the SRI methodology, fostering strong local ownership

Pillar 1 focused on shaping and tailoring the Smart Readiness Indicator methodology through a collaborative, bottom-up process across the eight pilot countries. By combining in-depth analysis of national contexts with extensive stakeholder engagement, Pillar 1 laid the groundwork for an inclusive and feasible adaptation of the SRI methodology at the national level.

One of the first major achievements was the successful completion of a comprehensive analysis of current SRI-related regulations, practices, and readiness levels across all participating countries. This provided a robust knowledge base for adapting the SRI methodology to diverse national contexts.

Building on this, a detailed Stakeholder Engagement Plan was developed and implemented early in the project, guiding the meaningful involvement of national actors and establishing the foundation for the co-creation process.



#### Comprehensive analysis of national contexts

A comprehensive overview of the current state of Smart Readiness Indicator adoption across the European Union was delivered, with a particular focus on the eight pilot countries. As part of this analysis, various methodologies and tools for calculating SRI scores and monitoring building smartness were examined, along with widely accepted practices and funding mechanisms supporting energy performance in buildings. Financial, technical, and social challenges were identified, as well as issues related to privacy, security, and system interoperability.



#### Stakeholder engagement strategy

A detailed Stakeholder Engagement Plan was designed and implemented, enabling the meaningful involvement of key national stakeholders across institutional, academic, policy, and market sectors. The effectiveness of the plan was demonstrated in practice through the strong participation of relevant stakeholders in the co-creation sessions.



#### Establishment of stakeholder liaison groups

Stakeholder Liaison Groups were established in each pilot country during the first round of co-creation workshops held at the pilot sites. These groups, comprising a mix of institutional, academic, policy, and market representatives, served as the main reference point for the national dialogue on SRI implementation.



#### Co-creation workshops and interviews

Two rounds of co-creation workshops were organised in each country, involving over 200 participants from diverse backgrounds and areas of expertise. Complemented by 113 semi-structured interviews, this effort successfully captured expert perspectives on the implications of the SRI, providing valuable insights for its customisation at the national level.



#### Tailored SRI methodology per country

Detailed adaptations of the SRI framework were delivered in each pilot country, at both contextual and methodological levels. This included the tailoring of smart service catalogues, weighting factors, and building typology considerations. The tailored methodologies were subsequently updated based on developments arising from the formal participation of pilot countries in the SRI Test Phase (e.g. Greece and Bulgaria). These updates were further informed by recent inputs gathered during the latest SRI-ENACT policy events. Together, they enabled the final refinement of the national tailoring processes, ensuring that the outputs of WP2 accurately reflect the most up-to-date developments and insights from the piloting activities.



# User-friendly digital tools and structured training, supporting auditors in assessing and enhancing smart building performance

Pillar 2 focused on the development of the SRI-ENACT toolkit, designed to evaluate and enhance the smartness of buildings across Europe. Key outputs included the creation of a web-based assessment tool and a decision support tool, helping users make informed decisions about building upgrades. These tools are tailored to the specific needs of various national contexts, ensuring broad applicability across EU Member States.

In addition to the technical tools, WP3 also prioritised training and capacity building. A guidebook and a set of capacity-building modules were developed to provide essential resources for SRI auditors, enabling them to effectively assess and enhance building smartness. These training materials were complemented by an online trainer library (available on www.srienact.eu), supporting the long-term sustainability of the project's educational objectives.

A flexible certification process was introduced, laying the foundation for tailored national training schemes to ensure that SRI auditors are well-equipped to address the unique requirements of different countries.



#### O1 Development of the SRI-ENACT assessment Tool

Created a web-based SRI assessment tool, that enables the Smart Readiness Indicator building assessments across different EU countries, so as to offer 8 pilot-national tailored SRI implementations.



# O3 SRI-ENACT guidebook & capacity modules

Created a training package that includes the SRI-ENACT guidebook and capacity modules for SRI auditors that concrete guidelines provide directions on applying the SRI-ENACT methodology across various building types and utilizing the SRI-ENACT toolkit to assess SRI scores and evaluate different scenarios. The training material (presentations) as well as the SRI-ENACT guidebook are available on the project website: (www.srienact.eu/sri-enact-tools/)



#### O2 Development of the SRI-ENACT decision support tool

Developed a decision support tool that based on a scenario-driven framework which builds on the results of the involved buildings' SRI evaluations drawn from the SRI Assessment Tool. It provides key insights and targeted solutions to the users regarding the smart-ready upgrades (or combinations of smart-ready upgrades presented as scenarios) that should be implemented, towards meeting a user-defined SRI target for the building under evaluation.



#### **04** Auditor's certification

Established a certification process for SRI auditors, including theoretical training, practical exercises, to validate expertise, adaptable to national contexts.



Validation of the methodology through real-world application and stakeholder engagement, strengthening the case for SRI adoption.

SRI Auditors Training successfully equipped 167 professionals across eight pilot countries with the knowledge and skills to apply the SRI methodology, enhancing their ability to assess and improve smart building performance. Informational events reached over 2,000 participants through more than 20 events, raising awareness and fostering stakeholder engagement crucial for national adoption of SRI tools.

Pilot operations assessed over 1,200 buildings of diverse types across 8 pilot countries in Europe, validating the SRI-ENACT methodology and revealing actionable insights to enhance building intelligence, energy efficiency, and grid interaction.

Monitoring and evaluation confirmed high satisfaction with the training and toolkit usability, while also demonstrating strong potential for smart technologies to reduce energy use and emissions, justifying initial investments through long-term benefits and policy support.



### SRI auditors training

SRI Auditors Training courses were conducted in all pilot countries, educating a total of over 160 auditors through both online and in-person formats. Based on the SRI-ENACT training package, these courses enhanced professional capacity by providing in-depth knowledge of the SRI methodology and how smart technologies can improve energy efficiency, occupant comfort, and building functionality.



#### nformational events

Informational events were held across all pilot countries to promote the Smart Readiness Indicator and engage key stakeholders in the assessment programmes. Over 20 events, including workshops, conferences, fairs, and webinars, reached more than 2,000 participants. These events attracted a diverse audience, from policymakers to technical experts, and introduced the SRI framework, national contexts, and SRI-ENACT tools, while also gathering valuable feedback to support national adaptation and broader uptake strategies.



## Pilot operations

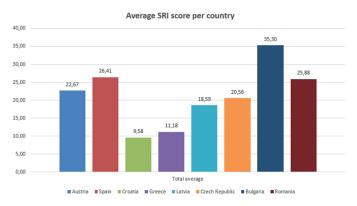
The pilot operations successfully validated the SRI-ENACT methodology, offering evidence-based insights into smart building readiness across Europe. Over 1,200 residential and non-residential buildings were assessed by 112 trained auditors in three engagement cycles, identifying key areas for technological, policy, and infrastructure improvements. These findings support the EU's goals of enhancing building intelligence, energy efficiency, occupant comfort, and grid interaction, and will inform further development of the SRI-ENACT toolkit and broader implementation efforts.



## Monitoring and evaluating success

The success of the SRI-ENACT training was confirmed through positive feedback from 96 participants, highlighting high satisfaction with the training's structure, relevance, and effectiveness. Similarly, 94 respondents rated the SRI-ENACT Toolkit, both the Assessment and Decision Support Tools, highly for usability and comprehensiveness. The evaluation also showed that smart building technologies offer strong potential for energy savings and emissions reduction. Despite significant initial investment, long-term benefits such as lower operational costs, increased property value, and regulatory compliance make the implementation worthwhile, especially when supported by policy and financing mechanisms.

#### Overall SRI score and classification per country



The total average SRI Score (%) represents how well the building utilises smart technologies across various domains. The figure above allows for a direct comparison of how "smart-ready" buildings are, on average, in different SRI-ENACT pilot European countries.

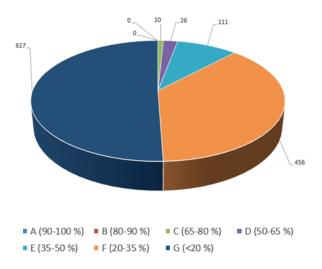
A higher bar indicates a higher level of smart readiness, according to the SRI metric. The SRI scores range significantly from 9.58 to 35.30, showing considerable variation in smart building adoption across these European countries.

Bulgaria has the highest average SRI score at 35.30, suggesting that, on average, the selected buildings in Bulgaria have implemented more smart technologies and functionalities compared to the other countries in the dataset. Croatia has the lowest average SRI score at 9.58, indicating a lower adoption of smart building technologies compared to the other countries. Spain (26.41) shows a relatively high average SRI score, Romania (25.88) is just slightly below Spain, Austria (22.67) and Czech Republic (20.56) have similar scores, Latvia (18.59) and Greece (11.18) have lower scores.

The graph provides a snapshot of the current state of smart building adoption across these European countries. Countries with higher SRI scores may have more supportive policies, greater investment in smart technologies, or a stronger focus on sustainability and energy efficiency in buildings. Countries can use this data to benchmark their performance against others and identify areas for improvement.

The differences in SRI scores involve examining factors such as building codes, energy efficiency standards, incentives for smart technology adoption, and the availability of skilled professionals in each country.

#### **SRI** class distribution



The SRI Class (A, B, C, D, E, F, G) categorises the building into a specific readiness level, helping to compare its performance with other buildings. The pie chart "SRI Class Distribution" is divided into slices, each representing a different SRI class. The size of each slice corresponds to the number of buildings in that class. The distribution is heavily skewed towards the lower SRI classes (E and F). This indicates that most of the buildings assessed are not highly "smart-ready" according to the SRI criteria.

The largest slice represents SRI class G (<20%), which contains 617 buildings. This indicates that the majority of buildings in the dataset have relatively low smart readiness scores. The slice representing SRI class F (20 - 35%) is the second largest, with 456 buildings, and the SRI class E slice (35 - 50%) is the third largest, with 111 buildings. This further reinforces the idea that a substantial number of buildings have only moderate levels of smart readiness. Classes A (90-100%) and B (80-90%) each have 0 buildings. There are only a few buildings in the higher classes: 10 in C (65 - 80%) and 26 in D (50 - 65%). This suggests that very few buildings in the dataset have achieved high levels of smart readiness.



# A roadmap and financial mechanisms to support scalable and sustainable SRI implementation across Europe

The objectives of Pillar 4 were to explore the design of new financing tools and lay the groundwork for new designs once SRI becomes more mature (1), to extract best practices and replication guidelines based on the lessons learnt from the pilot operations (2), and to promote activities on the replication of the SRI-ENACT approach and ensure the sustainability of the project results (3).

The implementation of Pillar 4 was largely based on the results of activities previously implemented in other work packages. In particular, the results of Pillar 3 "Development of the SRI-ENACT toolkit and training package" and Pillar 3 "Pilot evaluation of the SRI-ENACT methodology and platform" were taken into account.

01



#### Financing tools and business models to support SRI adoption

To support the adoption of the Smart Readiness Indicator (SRI), various cofinancing mechanisms have been explored. Existing support instruments were reviewed across different contexts, a comparative analysis was performed, and the most promising business models were selected for further research and development to promote the implementation. improvement, and practical application of SRI assessments in the coming years.

02



#### Policy recommendations, best practices, and replication guidelines

A set of good practices has been identified to showcase effective ways of implementing the Smart Readiness Indicator (SRI). Drawing from these insights, targeted recommendations have been developed for construction and energy policymakers in advancing SRI integration. Replicability guidelines have also been created for the wider use of SRI beyond the scope of the project. Eight nationallevel roadmaps were developed describing the necessary actions for the successful implementation of the SRI approach in various regional contexts.

03



# Exploitation and sustainability of the action

Plans have been developed to ensure the long-term sustainability and replicability of the project's results across various regions. These exploitation strategies outline clear pathways for continued collaboration with key stakeholders who will replicate the project results in a clearly defined and transparent way. Formal cooperation agreements (Memoranda of Cooperation) have been established with key local stakeholders to help ensure the project's outcomes are exploited after its implementation ends.



# **Expanded awareness, knowledge transfer, and strategic alliances to foster broad SRI deployment**

Pillar 5 focused on building capacity, disseminating knowledge, and fostering synergies to support the widespread uptake of the Smart Readiness Indicator across Europe. Key activities included the organisation of five training webinars, two EU-level events to showcase project outcomes, publication of regular newsletters, keeping active presence on social media platforms (mainly LinkedIn), and participation in external events to increase the project's impact and inspire other countries to join the SRI test phase. SRI-ENACT also played a role in coordinating the working group 'Joint communication and dissemination' of the SRI Cluster, a collaborative effort among four LIFE projects aimed at advancing SRI implementation (SmartSquare, easySRI, and SRI2MARKET).

These initiatives were complemented by national and European-level workshops, joint communication actions, and the creation of a lasting online training resource.

#### **Training webinars**

Five training webinars were organised to extend knowledge beyond pilot regions. Covering key SRI topics, the sessions provided lasting video material for future SRI Auditors. The content of the webinar was based on WP3 training modules and conducted in English. Recordings are available in the Online Trainer Library on the project website (www.srienact.eu), ensuring continued capacity building beyond the project's completion.



#### **EU-level events**

To enhance visibility and disseminate findings globally, two EU-level events were organised:

MIPIM 2025: SRI-ENACT, easySRI, and SmartSquare jointly introduced the SRI framework to the European real estate and sustainability sectors during the "Smarter Buildings for a Sustainable Future" session. The event showcased tools and methodologies supporting energy efficiency, user comfort, and grid responsiveness. A full recording of the session is available on the project website.

Final Conference: On 7 May 2025 in Brussels, alongside the 6th SRI Platform plenary meeting, the conference presented project outcomes and engaged stakeholders in discussions on the future of SRI implementation.



Four newsletters have been published, summarising the project's progress. The final edition will be released at the end of the project in May 2025.

# News New SRI Cluster report now available

#### Synergies and clustering activities

In collaboration with CINEA, SRI-ENACT joined forces with three other LIFE projects (easySRI, SRI2MARKET, and SmartSquare) to form the SRI Cluster, aimed at enhancing the effectiveness of the SRI across the EU. Each project led a dedicated working group, with SRI-ENACT, led by SingularLogic and supported by EHP, coordinating working group 'Joint communication and dissemination'.

Two annual Cluster reports, for 2023 and 2024, were produced to capture these efforts and were widely shared across social media, showcasing the collective contribution to advancing the SRI. The reports are available on the project website (www.srienact.eu).







Over its 30-month duration, SRI-ENACT laid a solid foundation for the operational rollout of the SRI framework. From the development of a digital SRI toolkit and extensive pilot activities to the creation of a policy-driven replication roadmap, every aspect of the project was designed for impact, scalability, and long-term relevance. With over 1,200 buildings assessed, more than 160 professionals trained, and thousands of stakeholders reached through events, workshops, and webinars, illustrating the project's significant reach and influence.

Through close collaboration with the broader SRI cluster and LIFE community, SRI-ENACT has fostered enduring synergies that will continue to shape the evolution of smart building policies and practices well beyond the project's conclusion.

The SRI-ENACT project has successfully achieved its overarching goal of providing a holistic solution to the widespread adoption and implementation of the Smart Readiness Indicator across Europe. Through a co-creative, multi-stakeholder, and evidence-based approach, the project has delivered a comprehensive suite of tools, tailored methodologies, training materials, and strategic insights that directly address the diverse national contexts and stakeholder needs across the EU.

## Key achievements

#### 8 national stakeholder liaison groups

gathering 101 stakeholders consisted of a blend of institutional, academic, policy, and market representatives

#### 110+ semi-structured interviews

to capture the experts' perspective on the SRI implications for the customisation of the SRI at national level

#### 1 integrated SRI toolkit

assessment and decision support web-based tool

#### 3 training modules

providing guidelines on applying the SRI-ENACT methodology across various building types and utilising the SRI-ENACT toolkit

#### 160+ SRI auditors trained

through courses based on the SRI-ENACT training package

#### 2,000+ participants

in more than 20 training seminars

#### 1,200 buildings assessed

by trained auditors identifying key areas for technological, policy, and infrastructure improvements

#### Lead 2 national SRI test phases

in Bulgaria and Greece

SRI-ENACT

IN NUMBERS



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www.srienact.eu



Singular Logic 7



















