

Smart Readiness Indicator (SRI)

The SRI platform
Plenary meeting #2



Disclaimer

- This document is provided in the frame of the SRI3 service contract launched by the European Commission and executed by a study team that consists of VITO, R2M solutions, Waide strategic efficiency Europe and LIST in order to provide technical assistance to the European Commission services and to Member States in the first phases of the testing and implementation of the SRI.



- This document has been prepared for the European Commission; however, it reflects the views only of the authors, and the Commission nor the SRI3 consortium can be held responsible for any use which may be made of the information contained therein.

Welcome to the SRI platform meeting

Welcome 😊

Some practicalities:

- This meeting will be recorded
- There is a Q&A session at the end of the meeting
→ Please write down your questions in the chat.





Agenda

- **Welcome and Intro** [Stijn Verbeke – SRI support team, VITO]
- **SRI in EU policy** [Stefan Moser – European Commission, DG ENER]
- **Activities of the SRI support team** [Stijn Verbeke - SRI support team, VITO]
- **LIFE Clean Energy Transition: LIFE-2021-CET-SMARTREADY projects** [Sylvain Robert – European Commission, CINEA]
- **The SRI test phase** - What is in the legal acts; how can the SRI be configured [Sophie Dourlens – SRI support team, R2M Solutions]

Break

- **Updates from the SRI Platform Working Groups**
 - **WG1: Member State SRI test phase (30')** [Sophie Dourlens (SRI support team, R2M Solutions); Jaakko Ketomäki (Motiva Ltd. - Representing Finland)]
 - **WG2: Maintenance & potential extension of the SRI calculation methodology (20')** [Mariana Duarte –EU.BAC / JCI]
 - **WG3: SRI value proposition and supporting measures (10')** [Andrei Litiu (Rehva – Chair of WG3)]
- **Q&A** [Moderator: Régis Decorme – SRI support team, R2M Solutions]
- **Closing remarks** [Brigitte Jacquemont – European Commission, DG ENER]



Poll

→ Please provide your answers to the following questions in the poll

- Did you already perform an SRI assessment yourself?
 - Yes
 - No
- For those that did, how many SRI assessments did you already complete using the assessment package?
 - 1-5
 - 6-10
 - 11-20
 - More than 20

Smart Readiness Indicator (SRI)

SRI in EU policy

Stefan Moser – DG ENER





Poll

→ Please provide your answers to the following questions in the poll

- How many requests came in for receiving the SRI Assessment package
 - 71
 - 136
 - 249
 - 430
- Which topic would you like to be covered next in the SRI fact sheets?
(Already covered: Ventilation, Lighting, EV charging systems)
 - Heating
 - Domestic hot water
 - Cooling
 - Dynamic building envelope
 - Electricity
 - Monitoring and control



Poll

→ The correct answer is

- How many requests came in for receiving the SRI Assessment package
 - 71
 - 136
 - 249
 - **430**

Smart Readiness Indicator (SRI)

Activities of the SRI technical support team

Stijn Verbeke – VITO/EnergyVille



SRI Technical support team

- SRI support team: 2 year service contract by the European Commission
- **Main aim:** provide technical assistance to the European Commission services and to Member States in the first phases of the testing and implementation of the SRI.
- **Consortium:** [VITO](#) (Belgium), Waide Strategic Efficiency Europe (Ireland), [Research to Market \(R2M\) Solution](#) (France) and [LIST](#), the Luxembourg Institute of Science and Technology
- **Timeline:** May 2021 – end of April 2023





Aims of the SRI Technical support contract

- TASK 1: Ongoing support for testing and implementation of the SRI.
- TASK 2: Support for the establishment and operation of the SRI platform.
- TASK 3: Technical assistance for the preparation of EU guidance on the implementation of the SRI.
- TASK 4: Investigation of additional EU support for the roll-out of the SRI.
- TASK 5: Awareness raising and dissemination.

Overview of some SRI Support team activities



Set up and update
of web resources



8458 visitors



Set up and
management of an
SRI helpdesk



**478 questions
received and
answered**



Provision of
trainings and
webinars



**6 trainings and
webinars
(EN x3/FR/IT/ES)**



Provision of an SRI
assessment package



**430 requests for
the SRI assessment
package**



EC SRI Newsletter



**9 newsletters
sent, currently
1152 unique
subscribers**

Overview of some SRI Support team activities

● Introductory brochure

The Smart Readiness Indicator (SRI)
for rating smart readiness of the European building stock

BACKGROUND AND VISION

- Digital innovations, such as the Internet of Things, are reshaping the society and economy we live in.
- We spend most of our time in buildings. They are at the core of our society, and they are crucial for the energy transition.
- Our buildings must be fit for the challenges and opportunities triggered by digital transformation technologies.
- The SRI is a key step forward in this direction.

POLICY CONTEXT

- With the **European Green Deal** and the **Renovation Wave**, the EU promotes the upgrade of the building stock.
- The potential of smart technologies in the building sector was heavily emphasised in the 2018 revision of the **European Energy Performance of Buildings Directive (EPBD)** and the SRI was introduced, followed by two legal acts [1][2] in 2020 which establish the SRI as an official EU instrument.
- The proposal for a revision of the EPBD adopted in 2021 foresees further strengthening the SRI to ensure its **widespread application in large new buildings**.

WHAT IS THE SRI?

- The SRI is a common EU scheme for rating the smart readiness of buildings.
- The SRI assesses how smart a building is in terms of:
 1. responding to the needs of the occupant (e.g. health, comfort, well-being, etc.)
 2. using energy efficient control strategies
 3. interacting with energy grids (energy flexibility / demand response and system integration)

WHY IS IT RELEVANT?

- Using smart technologies in buildings can be a cost-effective way to assist in creating healthier and more comfortable buildings with lower energy use and carbon emissions.
- For instance:
 1. Digital technologies such as smart thermostats and lighting control can pay back within 2 years.
 2. Smart technologies, such as automated sun shading control or ventilation control based on air-quality sensors, can also improve health, well-being and comfort.
 3. Intelligent scheduling of energy consumption (white goods, electric vehicles, etc.) can result in significant energy savings, and at the same time it contributes to grid balancing.
- The SRI provides a common language for building stakeholders (owners, designers, solution providers, policy actors, etc.) to discuss how to make buildings smarter, and what benefits this will bring.

THE SMART READINESS INDICATOR (SRI) FACTSHEET

WHAT ARE THE IMPACTS?

- At building scale, an **average 30% savings** of final energy can be obtained when implementing an advanced package of smart building technologies. Some of the single optimisation measures are easy to implement with a short payback period (e.g. exchange of thermostatic valves, boiler and pump adjustments, night setbacks, etc.).
- Depending on how it is implemented across the EU by 2040, the SRI has the potential to save annually up to: 160 TWh in primary energy consumption, 23 Mt of CO₂ emissions, €12.5bn in consumer energy costs and €1.4bn in energy system costs. In addition, it could deliver annual health and wellbeing benefits valued at €6.5bn and help create 76 thousand jobs [3].

HOW CAN I GET INVOLVED?

EU Member States

- EU countries, through national and local authorities, energy agencies, etc., are invited to **implement or launch a test phase of the SRI scheme**.
- The Commission provides support and guidance to committed Member States through a **dedicated SRI helpdesk**.

Building owners, manufacturers, sustainability professionals

- Request the SRI assessment package which includes a **SRI calculation sheet** and a **practical guide** to get started.
- A **training package** explains how to conduct an SRI assessment and **training webinars** are organised to facilitate the understanding of the SRI methodology.

Email your questions to the **SRI support team** at support@smartreadinessindicator.eu

FOLLOW US AND CONTACT US!

- SRI website, FAQ and resources: <https://ec.europa.eu/smart-readiness-indicator>
- European Commission Contact: Brigitte Jacquemont | brigitte.jacquemont@ec.europa.eu
- Subscribe to the **SRI newsletter**
- Twitter: @Energy4Europe

Several projects are developing Research & Innovation activities around the SRI. Stay updated by joining the European Smart Buildings Innovation Community at: <https://smartbuild4eu.eu/join-our-community/>

REFERENCES

[1] Implementing regulation on optional scheme for rating smart readiness of buildings | C(2020) 6929
[2] Delegated regulation on optional scheme for rating smart readiness of buildings | C(2020) 6930
[3] Final report on the technical support to the development of a smart readiness indicator for buildings | doi:10.28334/1100

European Commission | **SMART READINESS INDICATOR (SRI)**

Overview of some SRI Support team activities

● Factsheets for technical domains



A focus on ventilation systems (June 2022)



A focus on lighting systems (August 2022)



A focus on electric vehicle charging systems (October 2022)

SMART READINESS INDICATOR (SRI)
A FOCUS ON VENTILATION SYSTEMS

SRI is a common EU scheme for rating the smart readiness of buildings. Ventilation is one of the **nine technical domains** addressed by the SRI.

Ventilation systems in buildings replace 'used' air with fresh air from outside. This is often done using ventilation units: these consist of fans, motors, electronic controls and other devices (such as heat recovery systems) and are connected to buildings by air inlets and outlets or ventilation ducts. Alternatively, ventilation can also be provided by natural ventilation systems, e.g. consisting of windows with trickle vents and dedicated shafts purposely built to create a chimney effect.

Ventilation units consume more than 2% of all electricity in the EU, and are amongst the biggest consumers of indoor electricity, after heating and cooling, and lighting. Adequate ventilation is essential for the health and comfort of building occupants. Furthermore, the ventilation rates resulting from the ventilation system (be it mechanical or natural ventilation) also greatly impact the heating and cooling energy demand of buildings.

AN EXAMPLE OF SMART-READY SERVICE

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

Service group: Air flow control
Smart-ready-service: Supply air-flow control at the room-level

Standard: EN 15252

Functionality Level

0 (non-smart default) 1 2 3 4 (maximum smartness)

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	Measurement and feedback provision	Comfort	Convenience	Health, well-being and accessibility	Information and integration	Energy flexibility and storage
Level 0	0	0	0	0	0	0	0
Level 1	1	0	1	1	1	0	0
Level 2	1	0	2	2	2	0	0
Level 3	2	0	3	3	3	0	0
Level 4	3	0	3	3	3	0	0

Level 1 | Clock control - offers increased energy-efficiency, improved comfort, convenience and improved health and well-being for building occupants.

Level 2 | Occupancy detection control - offers a higher level of comfort, convenience and improved health and well-being for building occupants.

Level 3 | with its central demand control based on air quality sensors - combines increased energy efficiency and offers a maximum level of comfort, convenience and improved health and well-being for building occupants.

Level 4 | with its local demand control based on air quality sensors with local flow from/to the zone regulated by dampers - offers a maximum level energy efficiency 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 ventilation include: EUROVENT, EVHA, EVA, REHVA, AIVC.

FOLLOW US AND CONTACT US

- SRI website, newsletter, FAQ and resources: <https://ec.europa.eu/smart-readiness-indicator>
- European Commission Contact: Brigitte Jacquemont: brigitte.jacquemont@ec.europa.eu
- Twitter: [@EnergyEU](https://twitter.com/EnergyEU) #SmartReadinessIndicator

Several projects are developing Research & Innovation activities around the SRI. Stay updated by joining the European Smart Buildings Innovation Community at: <https://smartbuild4eu.eu/join-our-community>



Looking for more information?

● Web resources

<https://energy.ec.europa.eu/smart-readiness-indicator>

- Introductory video to the SRI
- FAQ
- Recording of webinars
- Training material
- Form to request assessment package
- ...

● Helpdesk: support@smartreadinessindicator.eu



TASK 2: SRI platform

Multi-stakeholder SRI platform

“ *This platform shall be a permanent forum to allow all interested parties (the Commission services, Member States representatives, stakeholders) to exchange information and good practices on testing and implementation of the SRI.* ”

- Today: 2nd ‘plenary’ meeting of the SRI platform
- 3 Thematic SRI Platform Working Groups have been composed and initiated
 - *Working Group 1 - Member State SRI test phase*
 - *Working Group 2 - Maintenance & potential extension of the SRI calculation methodology*
 - *Working Group 3 - SRI value proposition and supporting measures*

LIFE CET

Presentation of the SRI projects

CINEA – LIFE Climate & Energy Unit

Sylvain Robert, Project Adviser



SRI Platform Plenary Stakeholders meeting #2
23 November 2022

EU programmes' smart building and SRI action – big picture

Innovative technologies, methods & processes



Policy (technical) support, capacity building, market uptake

A supportive framework for the SRI in Europe



Horizon2020
European Union Funding
for Research & Innovation



EU programmes' SRI-relevant action – recent history



Horizon2020
European Union Funding
for Research & Innovation

EU funding to support smart /
digital buildings
Calls with explicit reference to
the SRI



Innovation for smart /
digital buildings



Energy performance
and smart readiness
of buildings

Project mapping: 64
projects granted
450 million € under
35 topics

LC-SC3-B4E-2020
Smart buildings
> 30 million €

HORIZON-CL5-D4
Smart buildings
> 40 million €

**LIFE-CET-2022-
BUILDPERFORM**
6 million €



LC-SC3-EE-4-2019
10 million €

**LIFE-2021-CET-
SMARTREADY**
6-8 million €

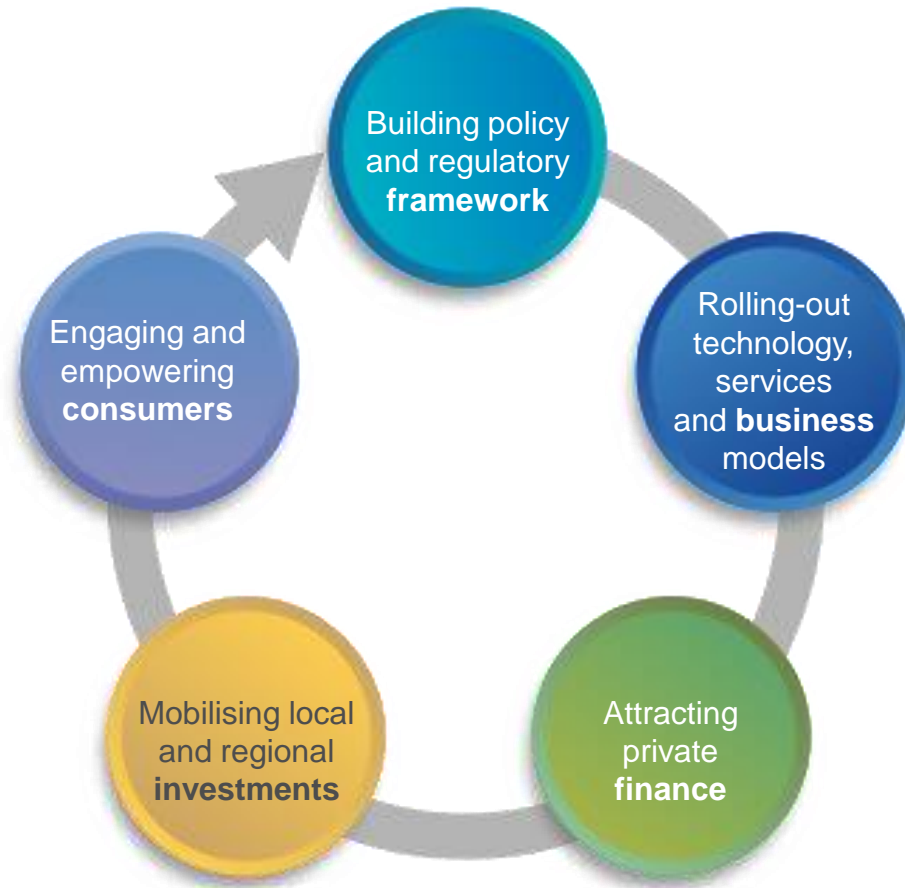
?



The sub-programme Clean Energy Transition



Clean Energy
Transition



- **Key programme for EU clean energy policy implementation and fill the gaps** between energy efficiency and renewables policy development and implementation
- Predecessor programmes: Intelligent Energy Europe and Horizon 2020 Energy Efficiency
- 2021-2027 budget of almost €1 bn



Focus: LIFE CET 2021 'SMARTREADY' topic

- Implementation of the Smart Readiness Indicator
- Market up-take of the Smart Readiness Indicator
- Rollout of ICT and smart-ready technologies
- Protection of privacy and cybersecurity of smart buildings
- Reduction of energy consumption linked to the use of digital technologies

Facts & figures

- LIFE Clean Energy Transition
- SRI – 'Global improvement of smart readiness of European buildings'
- 8 million € EU funding
- 4 projects



LIFE SRI projects – main activities

SRI policy support

- Policy dialogue
- Recommendations, guidance

SRI calculation framework

- Assessment / evaluation on real buildings
- Feedback and recommendations

Capacity building / market uptake

- Helpdesks & training
- Demonstration & testing

Digital tools

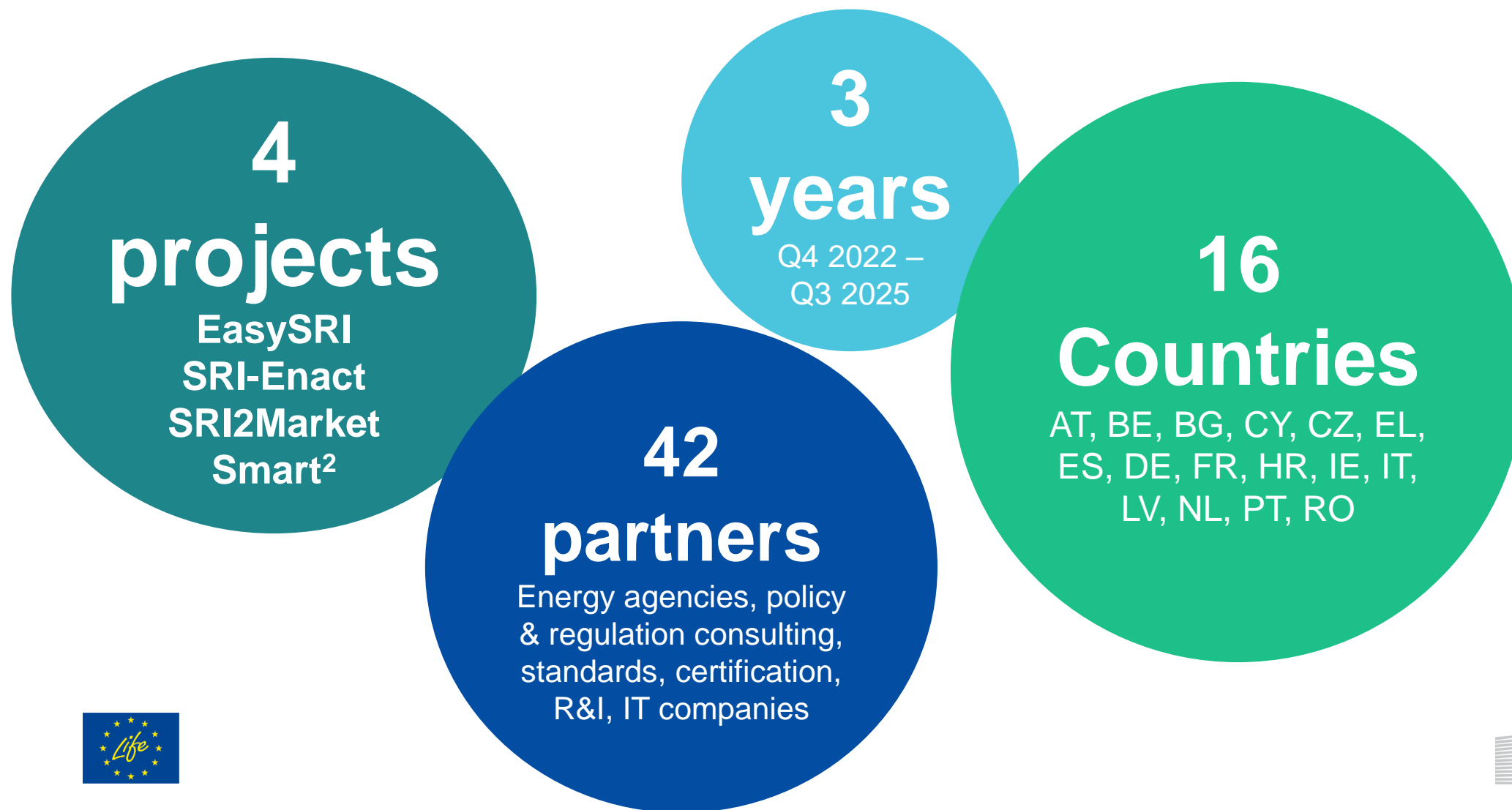
- Web interface
- Cloud-based platform
- SRI scores calculation

Smart capabilities

- AI-based generation of recommendations
- Self-assessment of smart readiness (real data)



LIFE SRI projects – facts & figures



Coordination with the SRI policy implementation work

- 4 SRI projects funded under LIFE CET 2021 calls – 8 million euros EU funding
- Bridging projects' developments and SRI policy implementation agenda
 - Ensuring communication and consistency between projects - clustering
 - Contribution to the SRI platform / coordination with EC DG Energy's service contract
 - Links with / support to Member States' authorities and relevant initiatives (e.g. CA EPBD)
- DG ENERGY supported by CINEA





30 years of bringing green ideas to LIFE

Keep in touch with us

Any questions on LIFE Clean Energy Transition call topics? Email us on:

CINEA-LIFE-CET@ec.europa.eu



https://cinea.ec.europa.eu/life_en



[LIFE Programme](#)



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[Clean Energy Newsletter](#)



European
Commission

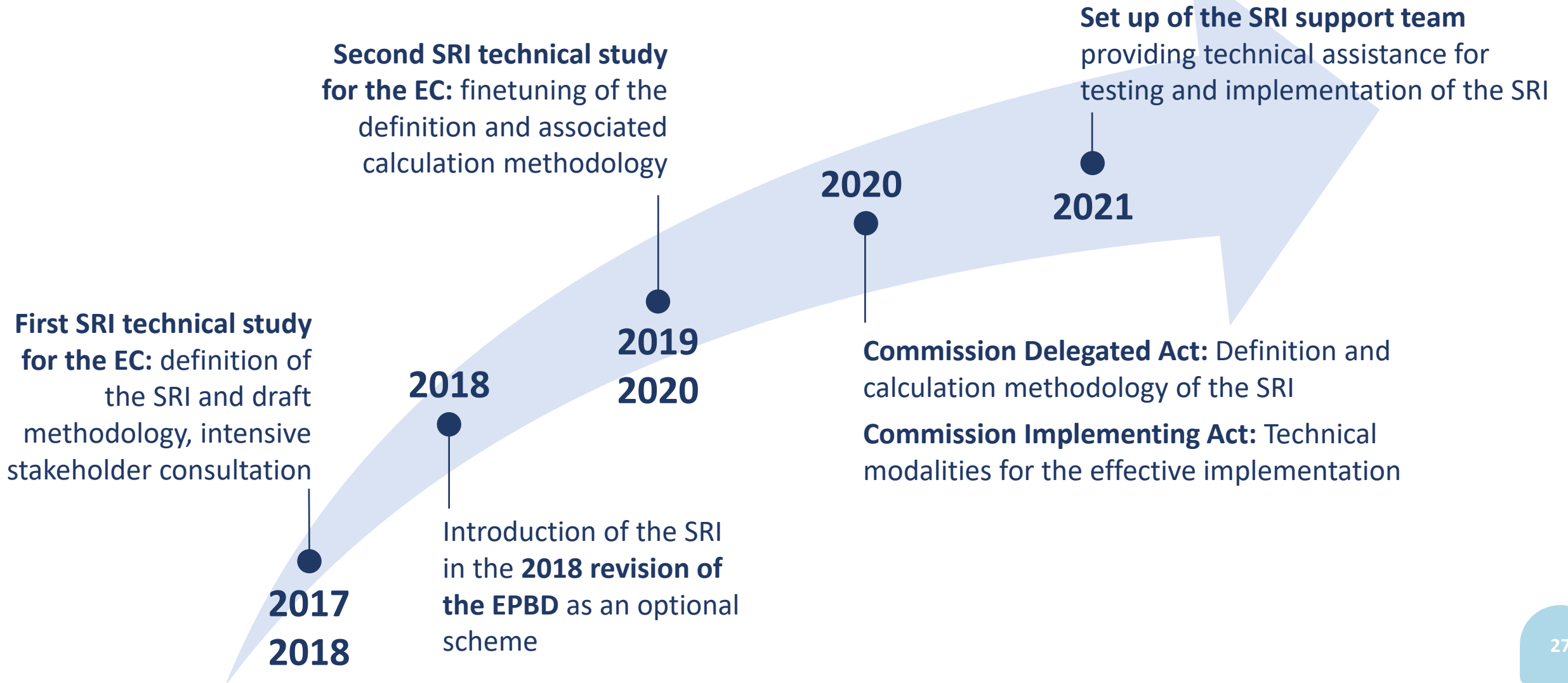
Smart Readiness Indicator (SRI)

The SRI test phase - What is in the legal acts; how can the SRI be configured

Sophie Dourlens— R2M



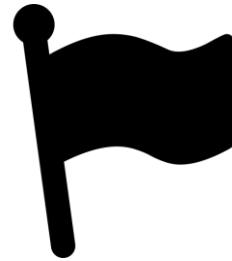
History of the SRI



Present situation

Launch of test phases
by voluntary
countries

2022



The decision to launch a test phase or implement the SRI belongs to EU Member States.

Only where a government decides to do so, formal SRI assessments can be conducted.




Private or research stakeholders not involved in official implementation or test phases are welcome to participate in discussions and to conduct informal SRI-related activities.

However, no formal SRI certifications can be issued without prior Member State agreement.



Required and optional features of the SRI at national level



**CORE OF THE SRI
METHODOLOGY -
REQUIRED**

Required and optional features of the SRI at national level



1

Optimise energy efficiency and overall in-use performance



2

Adapt their operation to the needs of the occupant



3

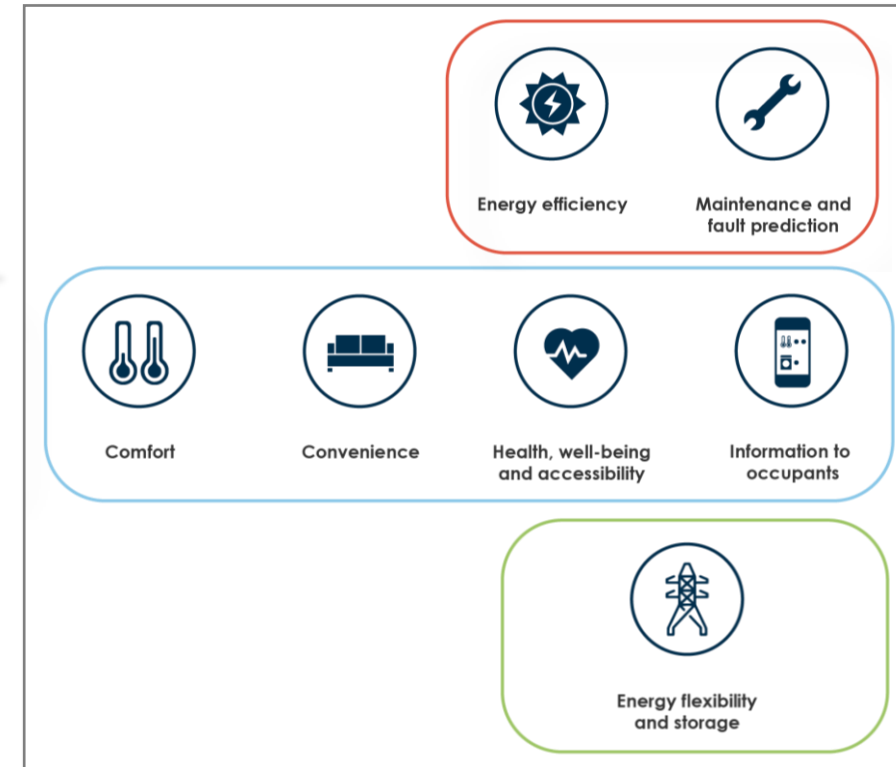
Adapt to signals from the grid (energy flexibility)

3 key functionalities

**CORE OF THE SRI
METHODOLOGY -
REQUIRED**

Required and optional features of the SRI at national level

3 key functionalities
7 impact criteria
**CORE OF THE SRI
METHODOLOGY -
REQUIRED**



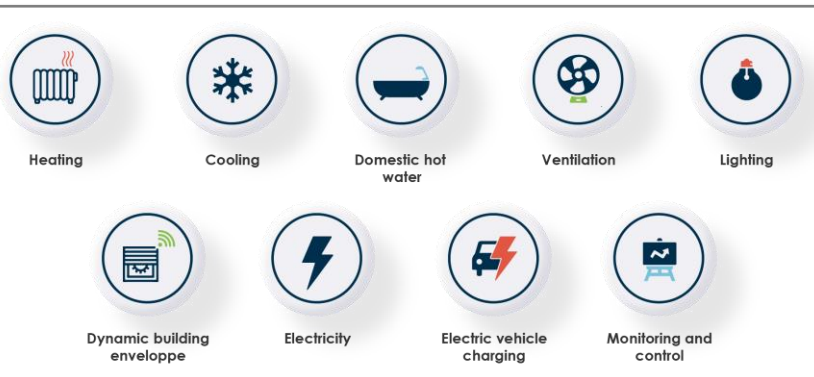
Required and optional features of the SRI at national level

3 key functionalities

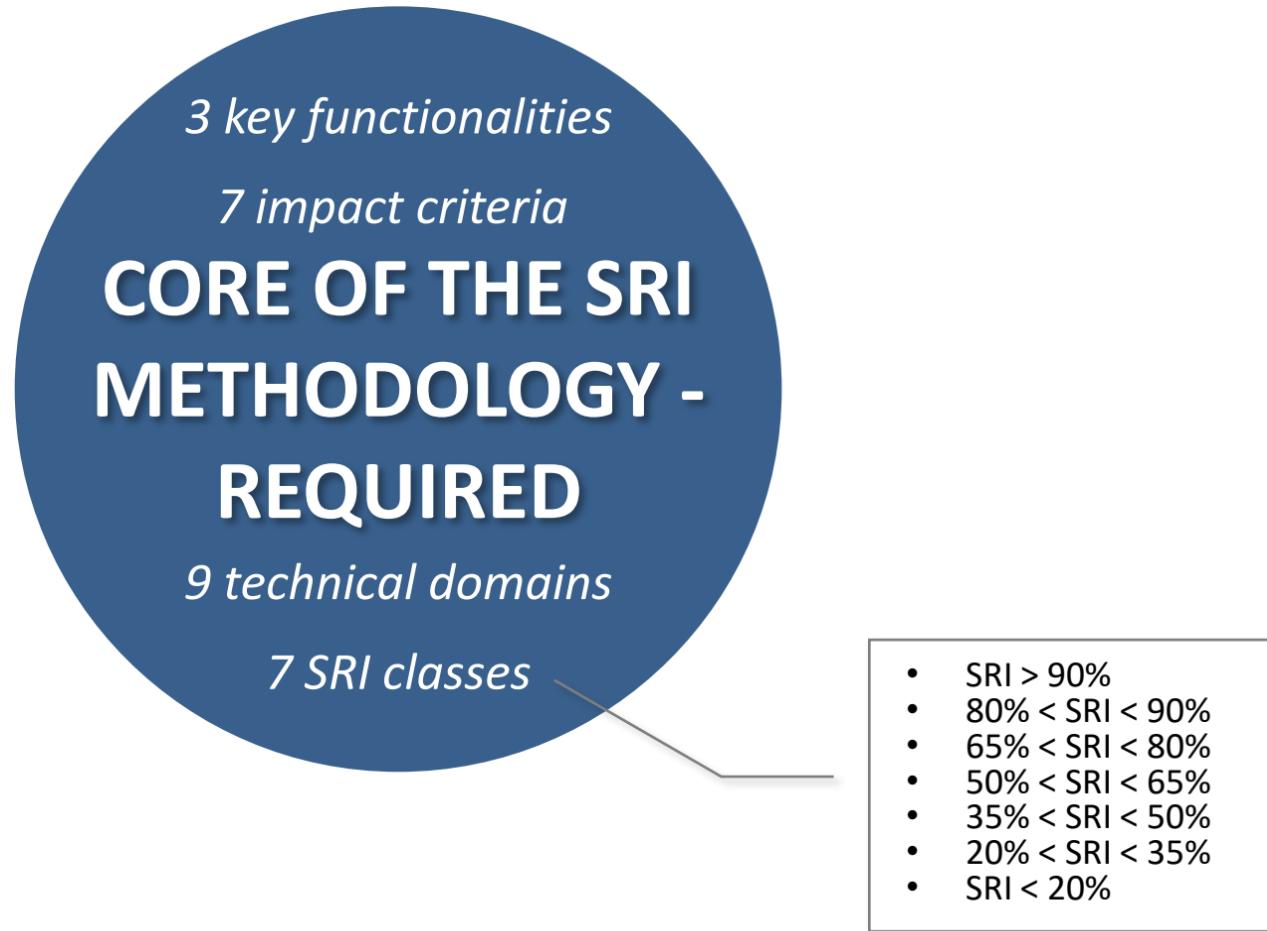
7 impact criteria

CORE OF THE SRI METHODOLOGY - REQUIRED

9 technical domains



Required and optional features of the SRI at national level



3 key functionalities

7 impact criteria

**CORE OF THE SRI
METHODOLOGY -
REQUIRED**

9 technical domains

7 SRI classes

- SRI > 90%
- 80% < SRI < 90%
- 65% < SRI < 80%
- 50% < SRI < 65%
- 35% < SRI < 50%
- 20% < SRI < 35%
- SRI < 20%



Required and optional features of the SRI at national level

3 key functionalities

7 impact criteria

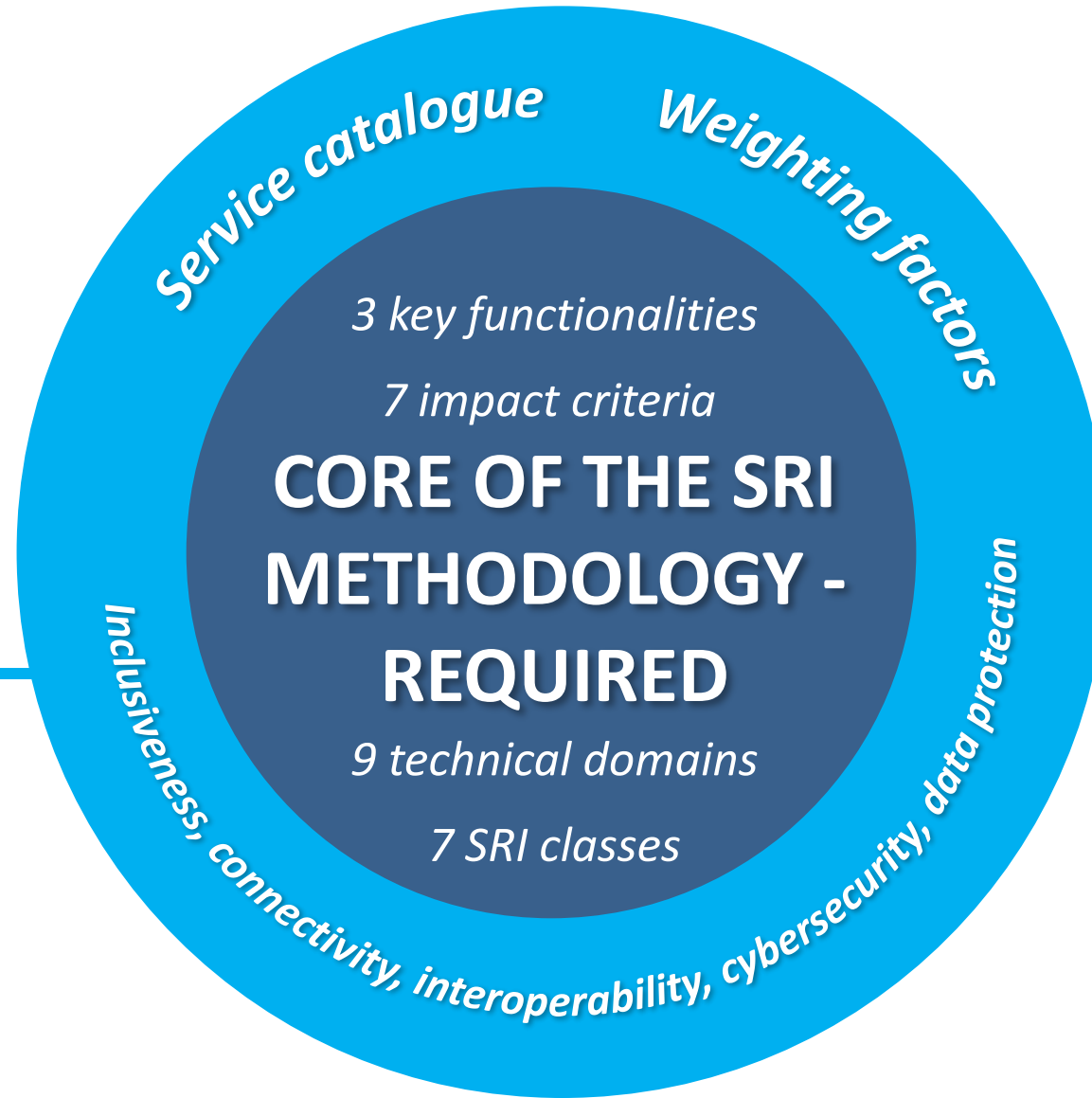
CORE OF THE SRI METHODOLOGY - REQUIRED

9 technical domains

7 SRI classes

Required and optional features of the SRI at national level

Potential
contextual
adaptations



Required and optional features of the SRI at national level

From non-smart...

... to a maximum smartness

	Level 0	Level 1	Level 2	Level 3	Level 4
Service A					
Service B					
Service C					
Service D					
...					

*Attribution of scores to each impact criterion
with some weightings factors*

**Detailed and aggregated values of the SRI
and SRI class**

Required and optional features of the SRI at national level

Within the
scope of
potential
contextual
adaptations

	<i>From non-smart...</i>			<i>... to a maximum smartness</i>	
	Level 0	Level 1	Level 2	Level 3	Level 4
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Required and optional features of the SRI at national level

Within the
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Required and optional features of the SRI at national level

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Required and optional features of the SRI at national level

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Service C					
Service D					
...					

*Attribution of scores to each impact criterion
with some weightings factors*

**Detailed and aggregated values of the SRI
and SRI class**

Break



Smart Readiness Indicator (SRI)

WG1: The ongoing official SRI test phases

Sophie Dourlens – R2M





Agenda WG1

- Overview of the ongoing national test phases
- National test phase in the spotlight: Finland
- Preliminary results and next steps

SRI WG1: Overview of the ongoing national test phases



Overview of the ongoing test phases



A first call for expressions of interest was sent by the EC to all Member States in October 2021



Four countries volunteered:



Austria



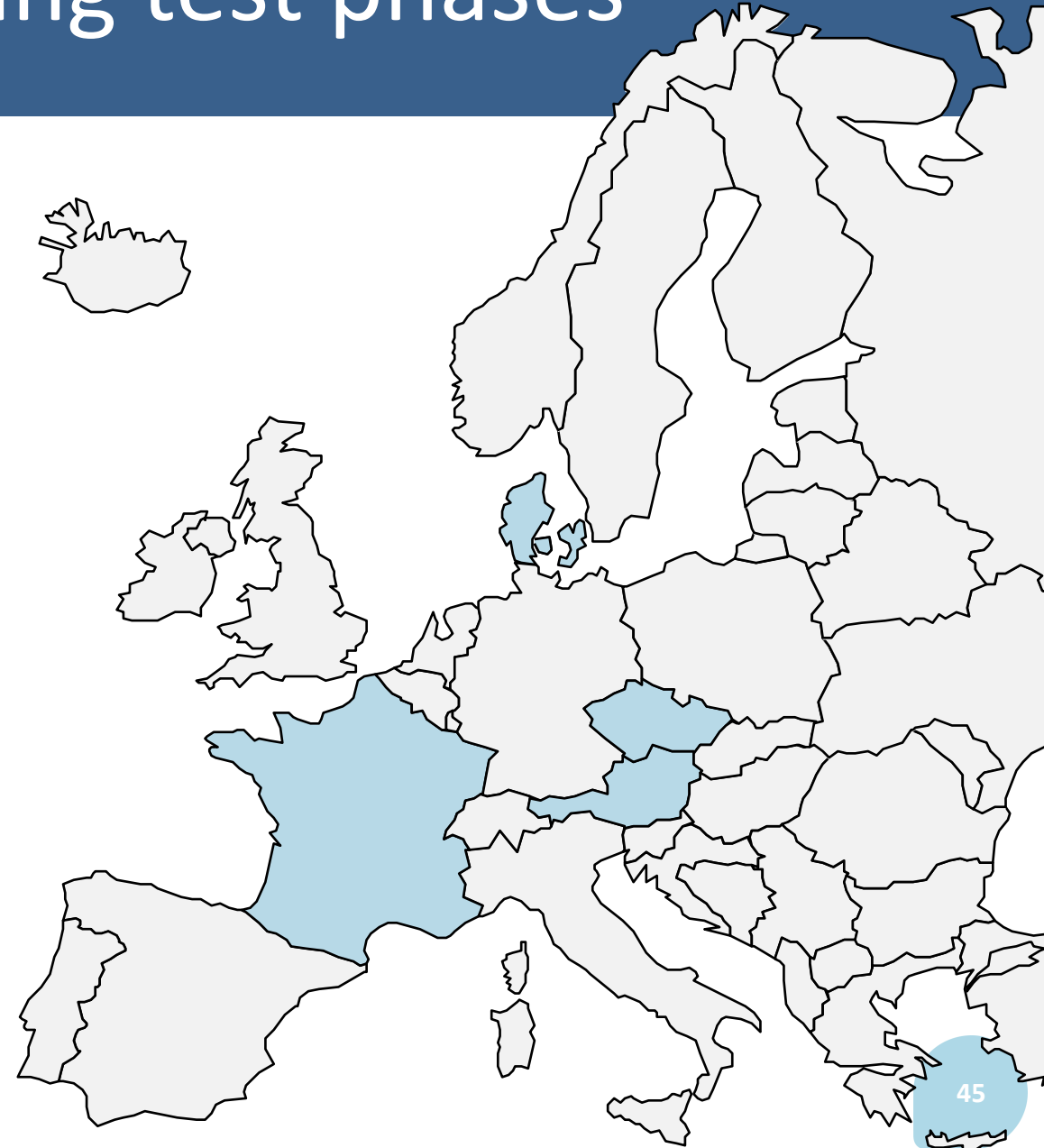
Czech Republic



Denmark



France



Overview of the ongoing test phases



A second call for expressions of interest was sent by the EC to all Member States in June 2022



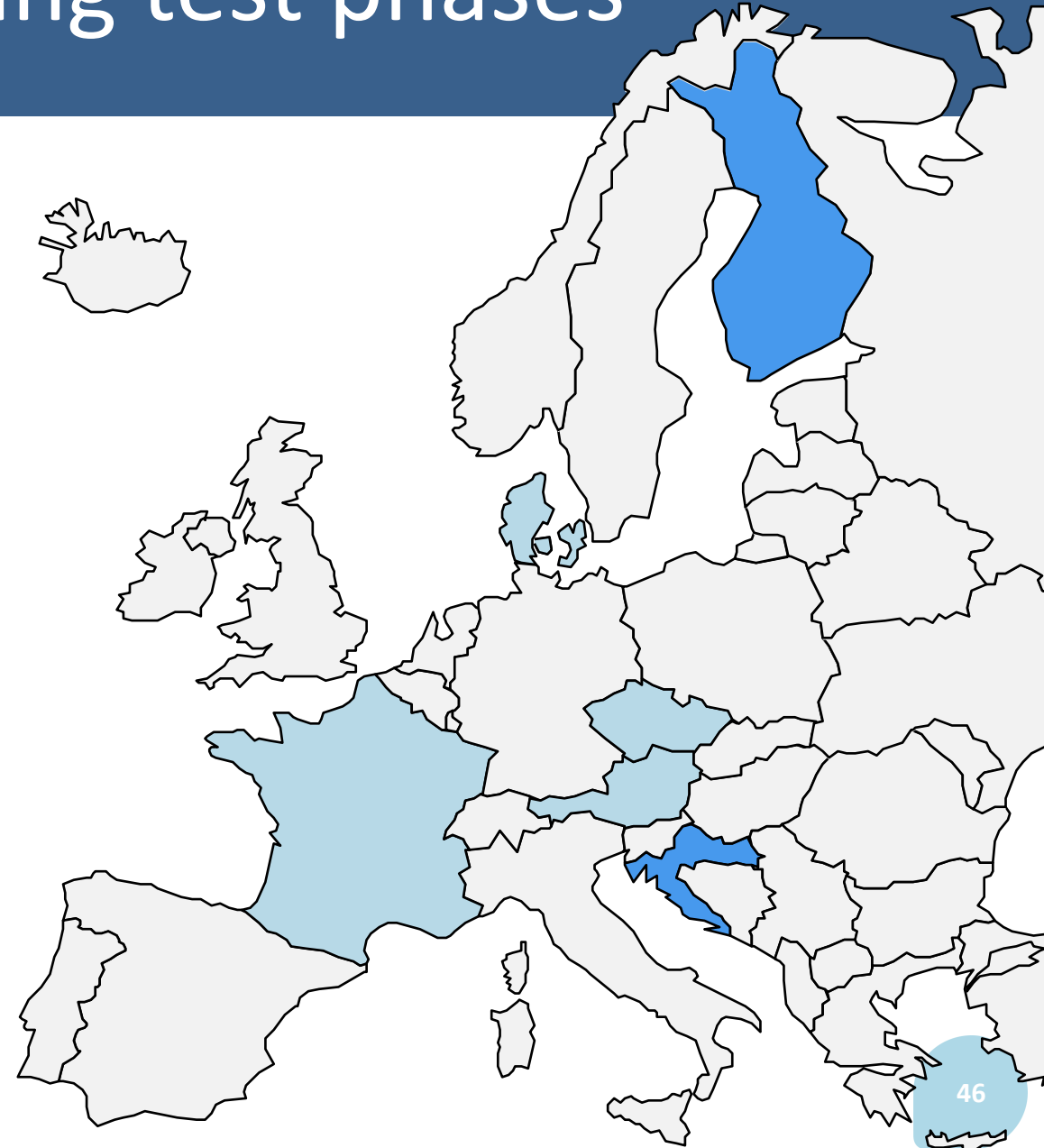
Two other countries volunteered:



Croatia



Finland



Three different stages and approaches

Assessments conducted by technical partners, preliminary results obtained



Austria



Czech Republic



Denmark

External assessors to be recruited, process being implemented



France



Finland

Under preparation, link with LIFE project



Croatia

SRI WG1: National test phase in the spotlight: Finland





SRI-test phase in Finland

Jaakko Ketomäki, Motiva Ltd



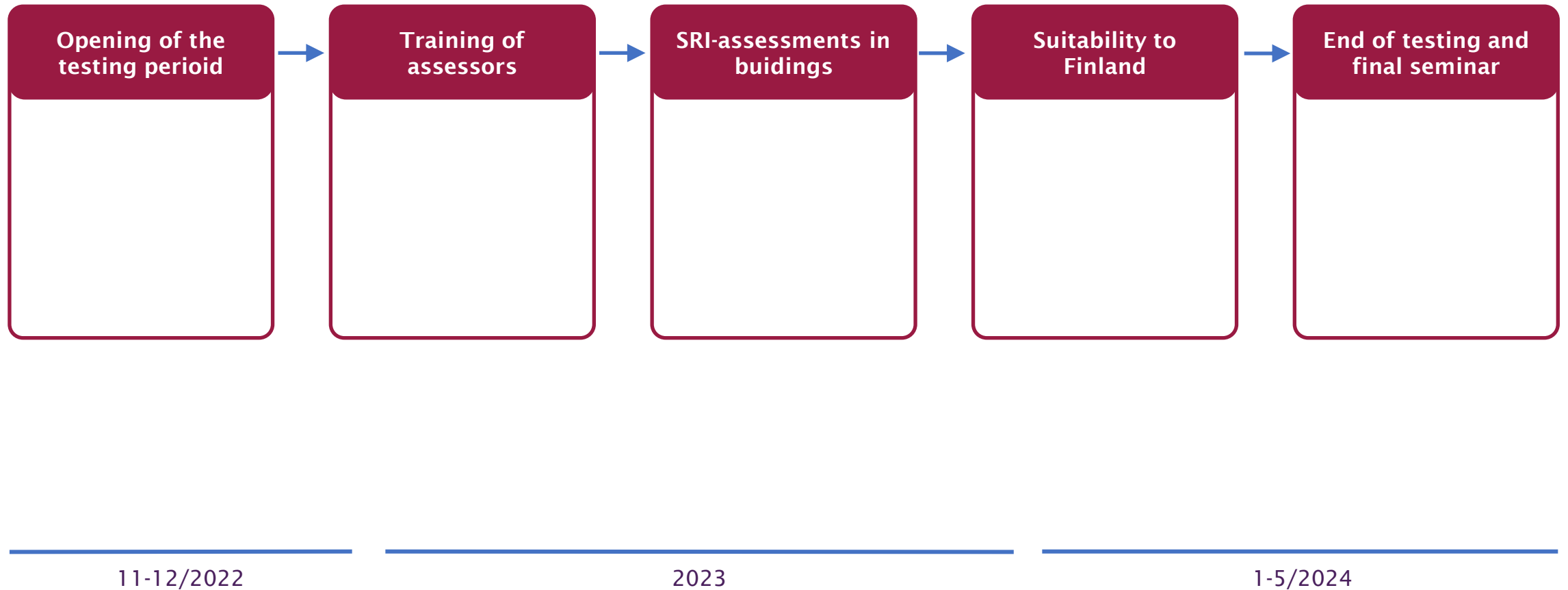
SRI-testing in Finland is...

- ...funded by Finnish Ministry of the Environment
- **Pekka Kalliomäki**, Senior technical adviser
- ...carried by Motiva Ltd
- **Jaakko Ketomäki** (project manager) + colleagues

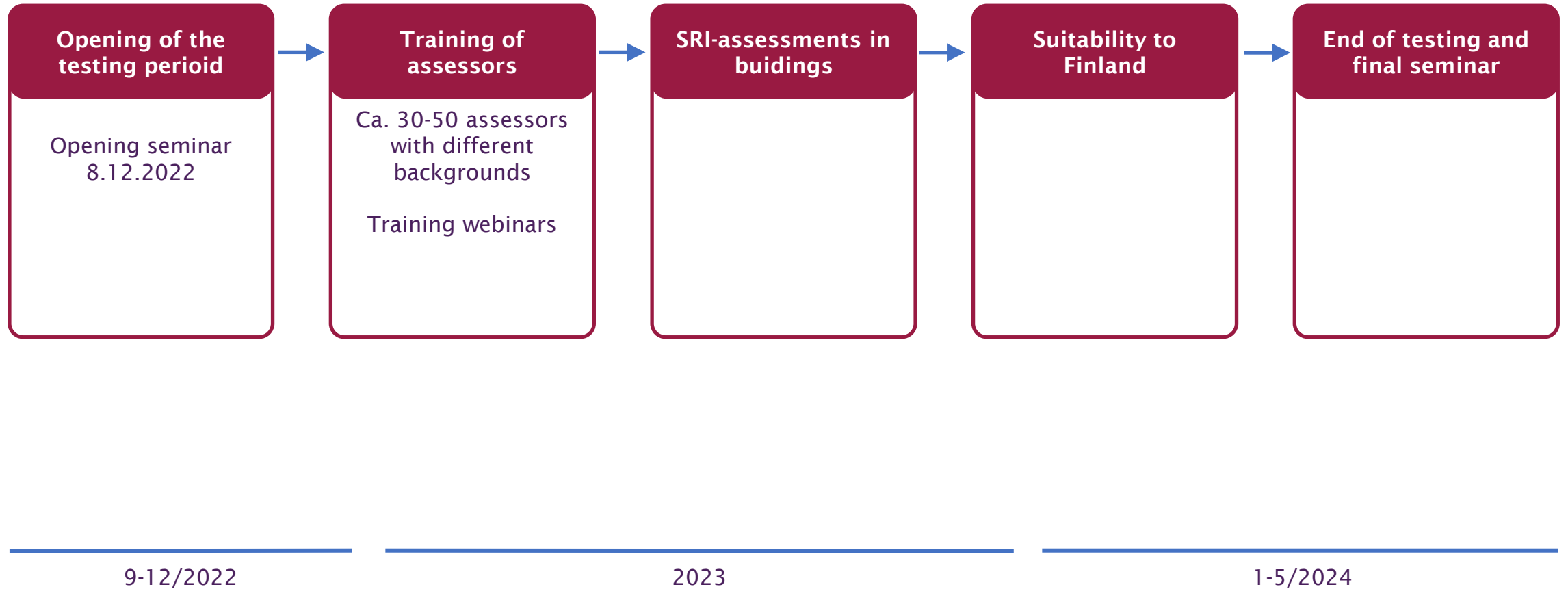
Idea of test phase in Finland

- *"To simulate SRI assessments as they will be made when SRI is implemented to legislation"*
- Real process with assessors and evaluated buildings – different approach than in some other countries
- BUT
- Because new draft of EPBD will give lot of weight to test phases, it is important that we have data collected using different methods

Plan for SRI-testing in Finland



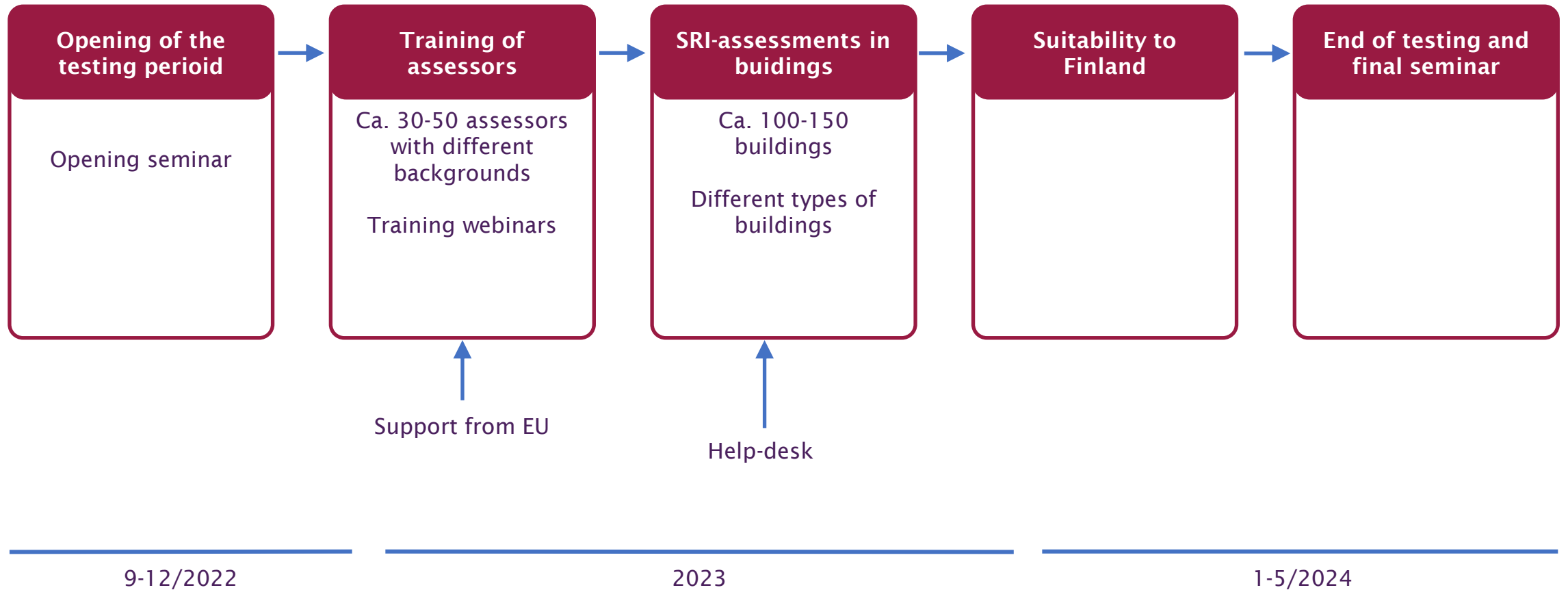
Plan for SRI-testing in Finland



Training

- 1,5 day webinar and 0,5 day workshop after first assessments
- SRI assessment is moderately easy for professional – hard thing is to give guidance, how to improve SRI with reasonable costs
- Goal is 30...50 assessors
 - Authors of EPC's,
 - Professional at area of building services
 - Etc.
- Support from EU

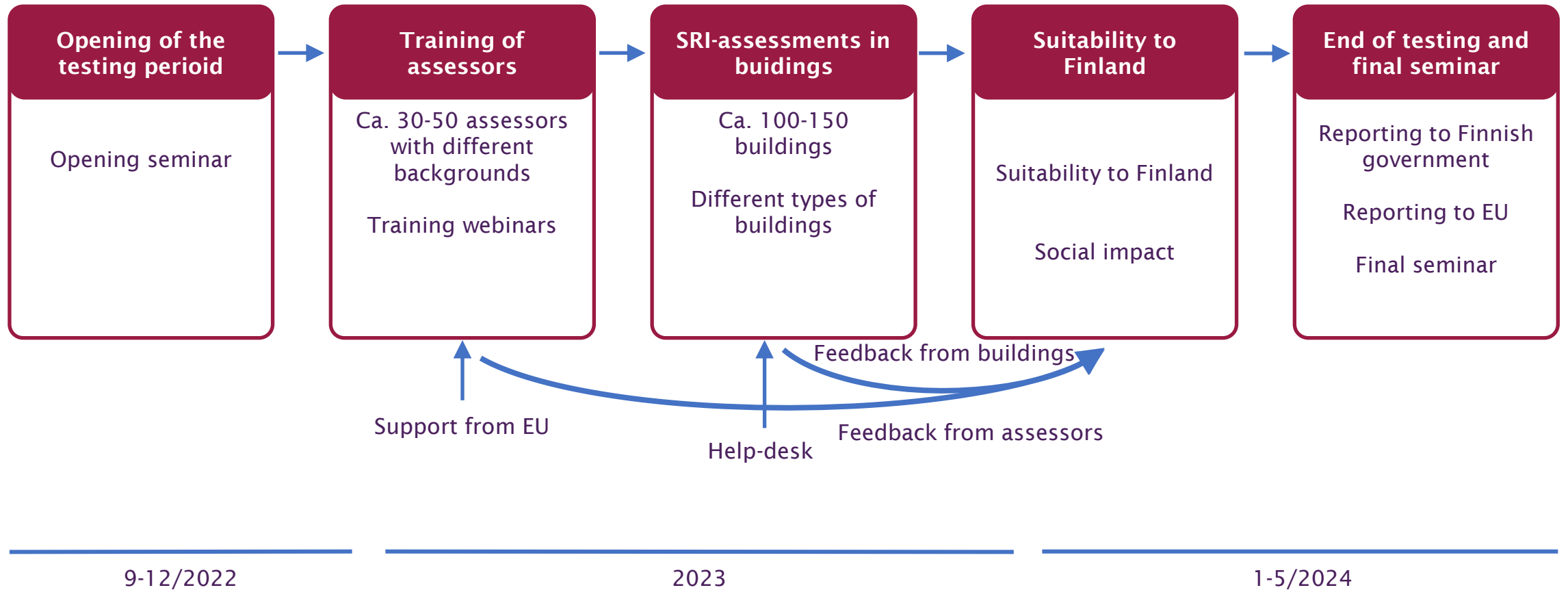
Plan for SRI-testing in Finland



SRI-assessments

- 100-150 buildings
- Different building types
- Result of pre-study of SRI-testing was, that building owners will have "almost a pleasure" to give their building under evaluation
- Three evaluations are included to the assessor training.
 - Risk is, that work load is too large
 - Interviews in pre-study indicated, that training + three assessments would be acceptable

Plan for SRI-testing in Finland





Thank you!



@MotivaOy



www.motiva.fi

SRI WG1: Preliminary results and next steps



The three test phases with preliminary results



Austria

The Austrian test phase is led by the [Austrian Institute of Construction Engineering \(OIB\)](#) and the [Austrian Climate Ministry \(BMK\)](#), with the involvement of [AEE Intec](#) and of the [University of Natural Resources and Life Sciences Vienna \(BOKU\)](#) who are conducting the assessments. The focus of the test phase is to benchmark the SRI methodology against other methods developed in Austria with a focus on energy flexibility. A large number of different building typologies are examined and assessed on the basis of detailed documented buildings from Austrian regions or the federal government.



Czech Republic

The Czech test phase is led by the [Ministry of Industry and Trade \(MPO\)](#), with support from the [Department of Environmental and Building Services Engineering of the Czech Technical University in Prague \(CTU\)](#). During the test phase the common SRI methodology is applied, and depending on the sensitivity of the results, some adaptations may be undertaken in a later phase. SRI evaluations are conducted by the team of the University. The test phase should last around one year.



Denmark

The Danish test phase is led by the [Danish Energy Agency \(DEA\)](#) in cooperation with the [Danish Technological Institute \(DTI\)](#). The purpose is to investigate potentials and opportunities for the SRI in a Danish context. Assessors from DTI will conduct the SRI assessment for 25-30 buildings, including offices, dwellings, multi-family homes, educational institutions – old and new, and with different energy supplies.

Assessments conducted so far



Austria

17 buildings assessed:

- 6 educational buildings
- 6 office buildings
- 1 double-family houses
- 5 multi-family buildings



Czech Republic

5 buildings assessed:

- 2 educational buildings
- 2 single-family houses
- 1 multi-family home buildings

Ongoing:

- 2 family houses
- 1 experimental high-tech building
- 1 office Building of CVUT
- 2 residential projects



Denmark

27 buildings assessed:

- 9 residential
- 5 apartment buildings
- 7 offices
- 5 education and institutions
- 1 shopping center



Common preliminary results of the three test phases

IMPORTANT: The 3 test phases have made use of the SRI methodology as described in the technical studies: no adaptation made to the service catalogue, the scaling of the functionality levels and the weightings.

ABOUT THE CONDUCT OF ASSESSMENTS:

- Issues with the availability of data, in relation with the size of the service catalogue
- Difficulties with the concepts of non-available and non-applicable services
- Sometimes smartness related to the building owner (for instance using cloud-based apps) rather than to the building itself

ABOUT THE RESULTS OF THE ASSESSMENTS:

- Limited differentiation in SRI scores between old (non-performing) and new (performing) buildings; all scores very low
- Development of recommendations to improve the SRI scores
- Communication issue with building owners, need for exemplary buildings



Next steps of the WG1

- Detailed analysis of the preliminary results of the test phases (ongoing)
- Setting up protocols to facilitate the comparison between the different test phases' outcomes
- Focus on how to issue recommendations following an SRI assessment, provision of exemplary buildings' assessment
- Possible reconfiguration of the methodology at EU level (simplification of service catalogue, changes in the scores corresponding to each functionality level, change in weightings, etc.) in compliance with the SRI methodology described in the legal acts
- Analysis of the relevant adaptations to be made at national levels
- Exchanges with WG2 & WG3 representatives
- Follow-up of the other test phases, experience sharing from the recruitment of assessors

Members of the WG1



Austria



Belgium / Flanders



Croatia



Cyprus



Czech Republic



Denmark



Finland



France



Germany



Greece



Italy



Poland



Slovakia



Spain

- **Secretariat:**
 - SRI support team
- **Other members:**
 - European Commission, DG Energy
 - BBRI / EPBD Concerted Action coordination team

Smart Readiness Indicator (SRI)

WG2: Maintenance & potential extension of the SRI calculation methodology

Mariana Duarte – WG2 Chair



Disclaimer

- This document is provided in the frame of the SRI3 service contract launched by the European Commission and executed by a study team that consists of VITO, R2M solutions, Waide strategic efficiency Europe and LIST in order to provide technical assistance to the European Commission services and to Member States in the first phases of the testing and implementation of the SRI.



- This document has been prepared for the European Commission; however, it reflects the views only of the authors, and the Commission nor the SRI3 consortium can be held responsible for any use which may be made of the information contained therein.



Agenda

- The WG2 Vision
- Topics raised and priorities
 - Overview on Prio 1
 - Overview on Prio 2
- Timeline of activities
- Working Group 2 team members

SRI WG2: The Vision



Our Vision is aligned with EU Goals

- SRI WG2 wants to support European Commission's energy reduction and sustainability ambitions by designing the SRI methodology's future, assuring longevity, consistency and cross-Europe implementation

REPowerEU:
Energy Savings and
Energy Efficiency

EU energy efficiency target by 2030

🎯 9% → 🎯 13%

compared to the 2020 Reference Scenario



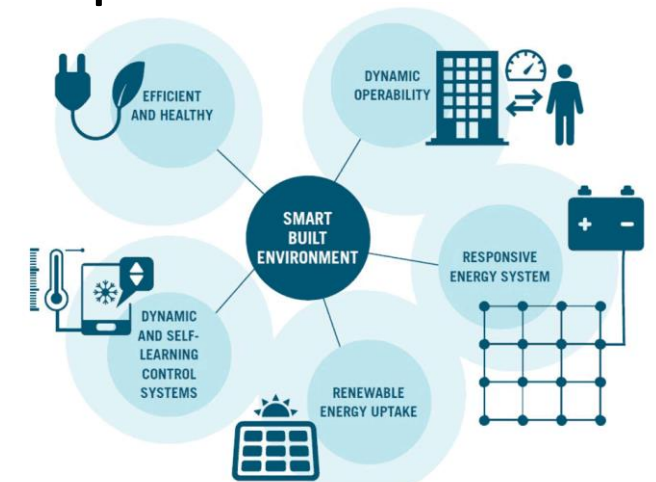
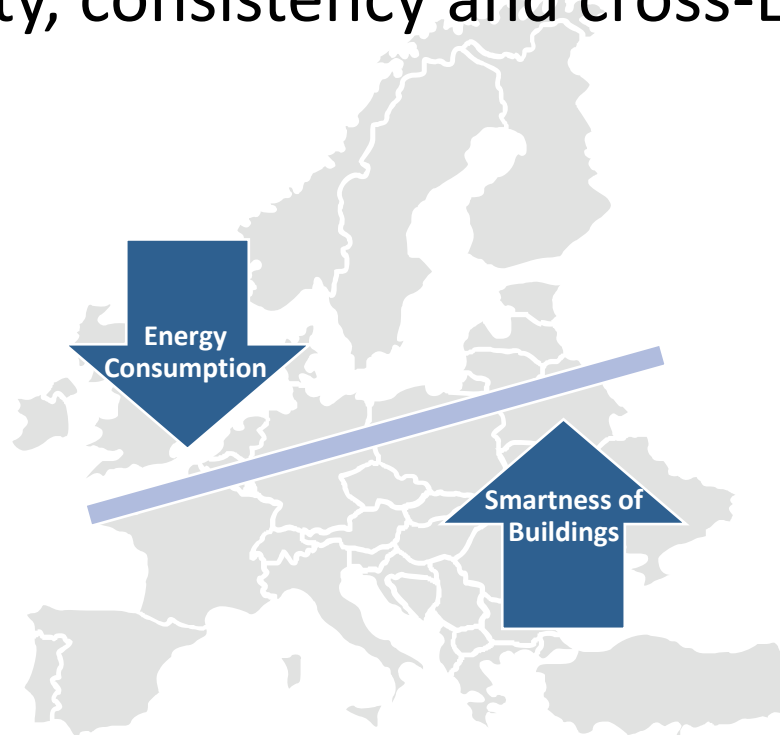
- Strengthening the **implementation of energy audit results**



- Extend **buildings Minimum Energy Performance Standards**



- Strengthen **national energy requirements of new buildings**



Five pillars of a smart built environment (Source: BPIE)**

Final Energy savings results by 2050 expected:
198 TWh energy saving***
→ equivalent to the final electricity
consumption of Sweden and Austria together
in 2020****

* REPowerEU Plan: [REPowerEU: affordable, secure and sustainable energy for Europe](https://ec.europa.eu/euro-observatory/en/repowereu-plan) | European Commission (europa.eu)

** Is Europe ready for the smart buildings revolution? Mapping smart-readiness and innovative case studies, Buildings Performance Institute Europe, BPIE

*** Final report on the technical support to the development of a smart readiness indicator for buildings ([Final report on the technical support to the development of a smart readiness indicator for buildings](https://publications.ec.europa.eu/publications-detail/-/publication/11111111-1111-1111-1111-111111111111) - Publications Office of the EU (europa.eu))

**** According to <https://www.iea.org/countries>

SRI WG2: The Prioritized Topics



6 Priorities were raised and classified

- A brainstorm session took place on May 12th
- Consolidation & Prioritization exercise ended in August 2022

New!

Additional Prio (Nov2022):

Discussion of SRI added values (why do we want a Smart Building and what fronts are the outcomes of a smart building? What is a Smart Building?), evaluation of an achievable scoring with current technology (what is a good SRI?) and possible suggestion on scoring system.

Net Zero Buildings x SRI: what is the relation?

SRI WG2 ⓘ ★				🔒	⌵
Main Table +					
New Element ▾				🔍 Search	👤 Person
				🔼 Filter ▾	↕ Sort
				👁 Hide	⋮
> SRI Working Group Definitions				Status	Datum
3 Elements				<div></div>	-
> Meetings' Documentation				Status	Datum
3 Elements				<div></div>	Oct 12 - 15
> Prio 1 - Streamlining a common EU approach				Status	Datum
1 Element				<div></div>	-
> Prio 2 - Change management process				Status	Datum
2 Elements				<div></div>	-
> Prio 3 - Assessment and Certification Process (e.g. t...				Status	Datum
2 Elements				<div></div>	-
> Prio 4 - Link to the standards. Compatibility Issues				Status	Datum
No Elements				<div></div>	-
> Prio 5 - Coupling SRI with EPC				Status	Datum
1 Element				<div></div>	-
> Prio 6 - Review the need for specific SRI service cata...				Status	Datum
No Elements				<div></div>	-

The currently tackled priorities

2 Priorities are being tackled at the moment:

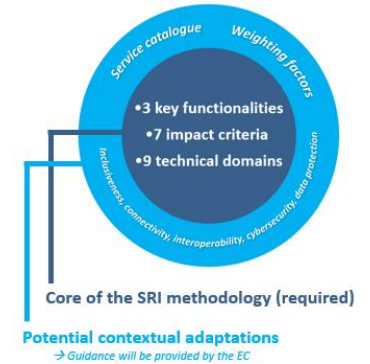
	TOPICS	FINAL PRIORITY
1	Streamlining a common EU approach (common x localization, what is important to have common and what can be localized). Variability of the SRI Methodology (Regions, Building Type, Building Age etc.). Impact of Piloting Results on SRI Progression.	1
2	Transparent change management process (reflect future process in case of calculation methods get changed). How to request for changes on the SRI? 1- How to maintain and update the Service Catalogue. Input: SRI to have a link with indoor environmental quality / occupant expectation/comfort. Consider the standards available. 2- How to maintain the Scoring and Weighting 3- Process of maintenance for the common part within EU	2
	Assessment and Certification Process (e.g. timeline, duration until reassessment). SRI Certificates (WG3): possible expansion with additional information. Timing / Duration of SRI: IF the SRI method gets updated over time, how will this affect scoring of buildings assessed prior? Is the score only valid for a few years? Is the year of assessment explicitly included in the certificate? Should it somehow be dynamically updated? (Re-write to better understand it, Discuss with WG3)	3
	Link to the standards. Compatibility Issues	4
	Coupling SRI with EPC (Re-write to better understand it)	5
	Review the need for specific SRI service catalogues for specific building types	6

Prio 1 – Streamlining a common EU approach



Prio 1 - Motivation and Approach

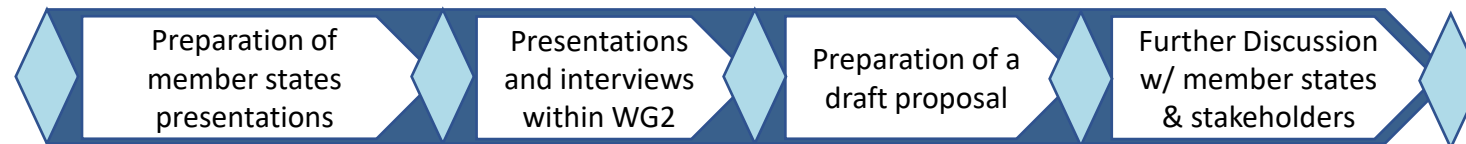
- Today's SRI methodology allows for localized adaptations in several areas.
- In order to be used as a KPI to support EU goals, the SRI should have an EU wide implementation and ideally be common within EU.
- Reasons why?
 - International property owners and investors need a common, consistent and comparable study to allow visibility of building valuation
 - A common methodology can be scaled much faster, supporting renovation of buildings stock
 - EU can have a holistic view of current picture of buildings stock supporting energy efficiency (compare apple to apple)
 - Technology providers / consultants can offer the right solution to improve energy consumption and people's wellbeing with a clear baseline definition
 - People in the field need to have a single understanding of the methodology



Approach: Assessment of the needed flexibility within the practice of SRI implementation together with member states and evaluate how to streamline the methodology

Prio 1 - Proposed Plan

- First phase: Interview with MS via WG1 to understand needed level of flexibility when implementing the SRI methodology
- Guiding questions for these presentations have been discussed by WG2 to give indication of the information needed
 - Necessity and support for an EU wide common approach
 - Experiences and decisions within the initial implementation(s)
 - Deviations from common methodology and needed flexibility
 - Benchmarking and conflicts with existing regulations or standards within member states
 - Member states expectations towards WG2
- Proposed Timeline



Provided Guiding
Questions

3rd Plenary Session
Mar 2023

Prio 2 – Transparent Change Management Process





Prio 2 - Procedure for SRI Change Request

- A draft procedure was designed including following elements:
 - Purpose/Scope
 - Responsibilities/Authorities
 - References and Definitions
 - Resources
 - Instructions
 - Forms and Documented Information

Further discussions on following topics needed:

- Who is responsible for different aspects of the procedure
- The criteria of assessing revision requests
- The exact content of the forms and documents

Draft of Procedure and Flowchart

4.0 Resources

1.0 Purpose/Scope

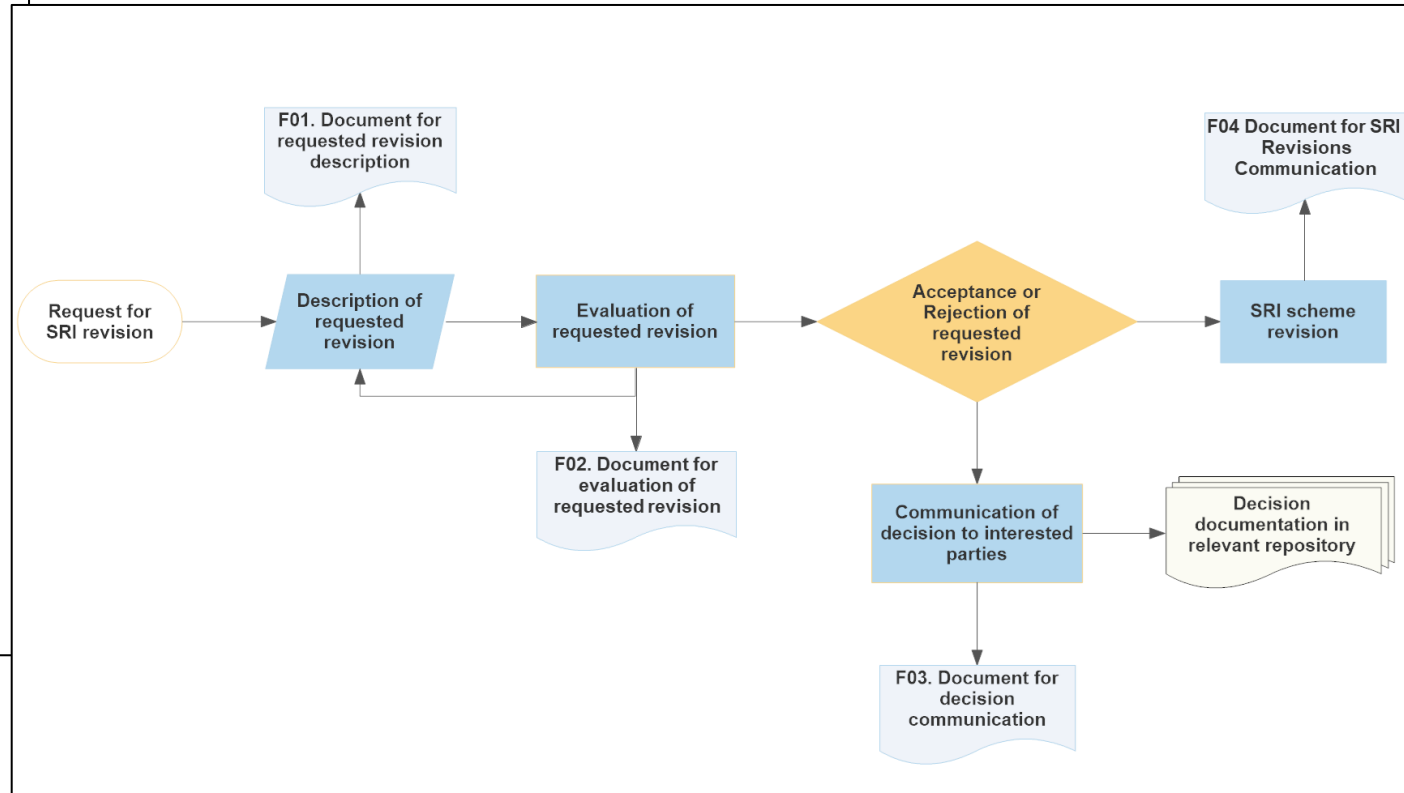
- 1.1 To develop and maintain a consistent procedure for revision of the Smart Readiness Indicator (SRI) scheme

2.0 Responsibilities and Authorities

- 2.1 Tbd (Note: Responsibilities should be assigned for
 2.1.1 SRI revision procedure overall management
 2.1.2 SRI revision requests evaluation
 2.1.3 Decision making
 2.1.4 Decision communication,
 2.1.5 Requests and decisions repository management
 2.1.6 Revision of SRI scheme)

3.0 References and Definitions

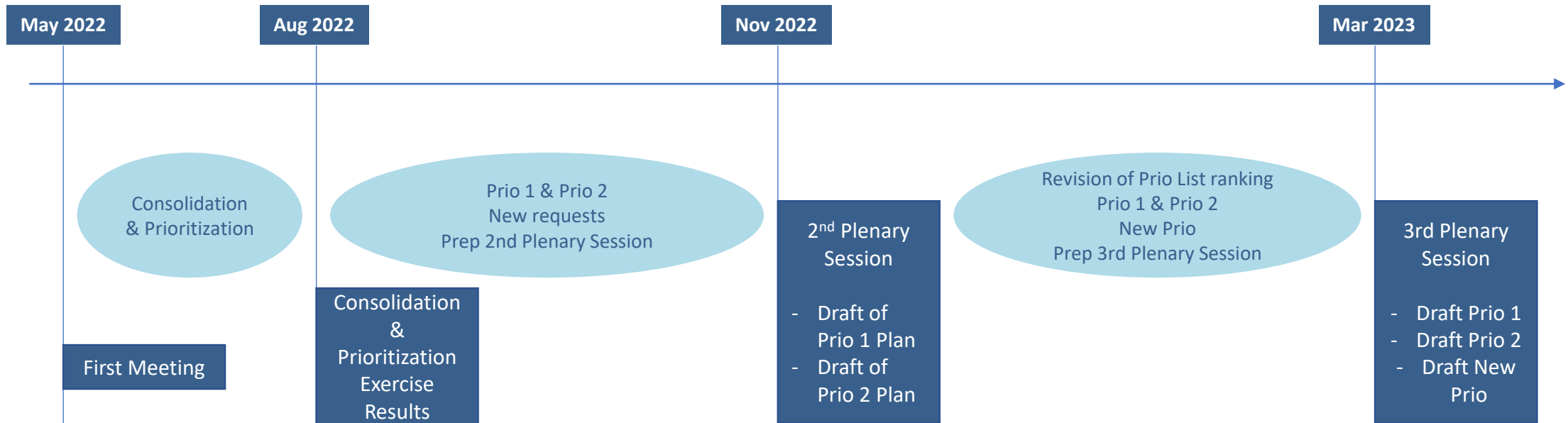
- 3.1 Reference
 3.1.1 Regulation (EU) 2020/2155 for the Delegated Act – establishing an optional common European scheme (definition and calculation methodology)
 3.1.2 Regulation (EU) 2020/2156 for the Implementing Act – detailing the different technical implementation modalities
- 3.2 Definitions
 3.2.1 For the purposes of this Regulation, the definitions in Delegated Regulations (EU) 2020/2155 and (EU) 2020/2156 shall apply.
 3.2.2 The following definition shall also apply:
 'Request for SRI revision means any request by any interested party or individual to revise elements of the smart readiness indicator scheme including the smart readiness rating methodology, smart readiness key functionalities, impact criteria, impact scores, technical domains, functionality levels and weighting factors.'



WG2 Future Steps and Planning



Timeline Overview & Planning



WG2 Plan will need to continue further to be able to deliver suggestions/conclusions on all topics raised as priorities for the working group.

Get to know the SRI WG2 Members



WG2 supported by top-end specialists

Neil McLean
LightingEurope



Paris Fokaides
Euphyia Tech Ltd



Costas Balaras
IERSD-NOA



Rotating Chair & Vice-Chair

Mariana Duarte
Eu.bac / Johnson Controls



Bonnie Brook
SmartEn / Siemens



Armin Knotzer
AEE INTEC supporting
Austrian Federation
Climate Ministry



Alper Caliskan
European Lift Association



Boris Sucic
Josef Stefan Institute
Energy Efficiency Centre



Carsten Essler Helmer
Danish Energy Agency



Alfred Freitag
Belimo Automation AG



Peter D'Hedt
Buildwise



Michael Arndt
TH Mittelhessen



Yves Lambert
European Ventilation
Industry Association



Jan Magyar
Slovak Innovation
And Energy Agency



Jasper Meynen
Ingenium nv



Smart Readiness Indicator (SRI)

WG3: SRI value proposition and supporting measures

Andrei Litiu – WG3 Chair





Agenda WG3

- **Members**
- **Scope**
- **Previous work**
- **Process and outcome**

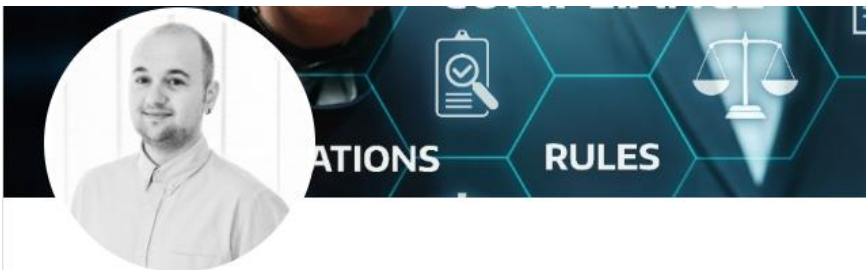
Members



Members



Christophe Grabielle, MRICS · 1st
Real Estate Expert - Managing Director



Andrei Vladimir Lițiu
Building Performance Adviser / Executive Director / PhD Candidate

Proptech

Housing

Energy communities

Skilled trades

Engineering consultancy

Heating industry

Automation industry

Innovation consultancy

Energy agencies

Smart ZEB consultancy

Electrical and electronics engineers

Smart buildings & cities

Scope



● Working Group theme and scope

- WG3: SRI value proposition and supporting measures
 - The scope of the working group on the SRI value proposition and supporting measures comprises all aspects related to the following topics:
 - **Clarification and communication of the SRI's value proposition**
 - Supporting SRI assessment
 - Professional training and capacity building
 - **Consideration of needs for a common online assessment tool**
 - SRI needs within the Single Market
 - Potential linkages between the SRI and other initiatives (e.g. EPC)

Previous work



Previous work

SRI Topical Group C (SRI TGC)

- 1st recommendations report –
(developed during January – May 2020)

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Executive summary

Overall, the SRI should serve towards the achievement of the EU Green Deal goals, and especially through the Renovation Wave initiative. It should not be just an image tag. Moreover, the SRI assessment should be incorporated in all phases of the building life cycle and furthermore be validated and tracked, therewith providing comfortable buildings at minimum use of energy and maximizing the flexibility potential buildings can deliver in a smart energy grid.

Specifically, for advancing the development in the field of smart buildings, especially in light of the need to continuously improve the SRI methodology and its implementation (as it deals with fast evolving building technology), it would be helpful to have a very basic acknowledged definition of a Smart Building e.g.

"A building that can leverage metadata from technical building systems (building services), occupants and surrounding environment to deliver all expected benefits associated with:

- *Satisfying the evolving needs of the people.*
- *Continuously improving the building's performance.*
- *Continuously improving the energy system's performance."*

This SRI Topical Group C (TGC) 1st recommendations report is work in progress and its content non-exhaustive. The aim is to provide an overview of the possible ways to ensure the SRI delivers all its promises and even more by outlining existing practices and proposing possible avenues to be further explored as SRI starts to be implemented at national level and the evolution process begins. Like building performance, the SRI should also be looked at as an ongoing process and not a one-time exercise.

The recommendations are structured under three main pillars:

- Updates to the existing methodology.
- In-use SRI - automated methods A and B (software synced with technical building systems).
- In-use SRI – a new method C based on measured data (real-time building performance).

Previous work

SRI Topical Group C members

The following organisations have actively contributed to the development of this SRI TGC 1st recommendations report and support its content with the consent to have their logo and website displayed. The order random, except the first three i.e. REHVA (chair), smartEn (co-chair) and TNO (co-chair).

Logos



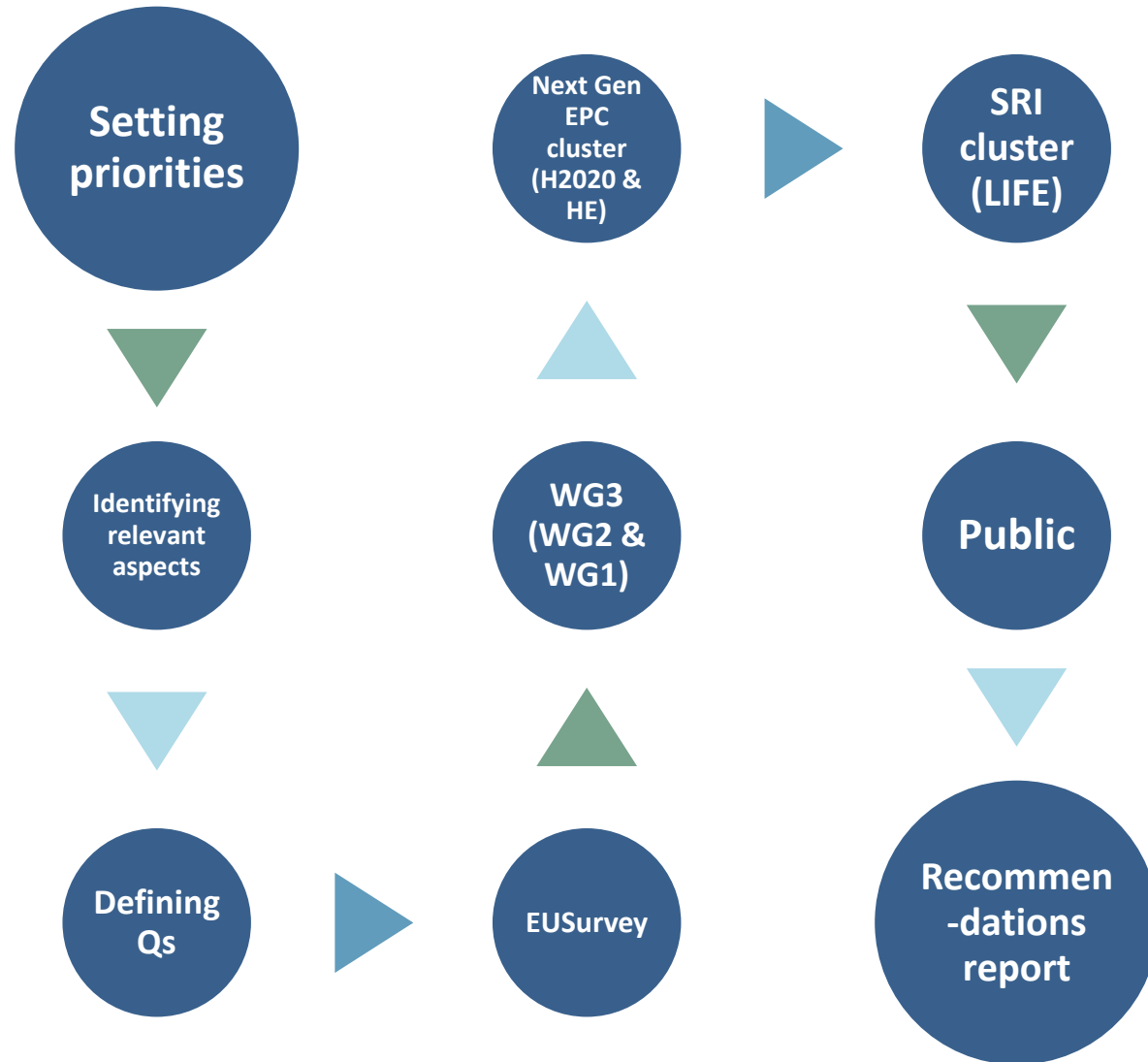
Websites

- **REHVA** (*Federation of European Heating, Ventilation and Air Conditioning Associations*)
 - <https://www.rehva.eu/>
- **smartEn** (*Smart Energy Europe*)
 - <https://smarten.eu/>
- **TNO** (*the Netherlands Organisation for applied scientific research*)
 - <https://www.tno.nl/en/>
- **Cerema** (*French Centre for Studies and Expertise on Risks, Mobility, Land Planning and the Environment*)
 - <https://www.cerema.fr/>
- **OiB** (*Austrian Institute of Construction Engineering*)
 - <https://www.oib.or.at/en/homeen>
- **Somfy Group**
 - <https://www.somfy-group.com/en-en/>
- **GCP Europe** (*EU level association of Building Services Installers: plumbing and HVAC*)
 - <https://gcpeurope.eu/>
- **EPEE** (*European Partnership for Energy & the Environment*)
 - <https://www.epeeglobal.org/>
- **EVIA** (*European Ventilation Industry Association*)
 - <https://www.evia.eu/>
- **APPLIA** (*Home Appliance Europe*)
 - <https://www.applia-europe.eu/>
- **Federal Ministry Republic of Austria**
 - <https://www.bmk.gv.at/en/>
- **ES-SO** (*European Solar Shading Organization*)
 - <http://es-so.com/>
- **Aalto** (*Aalto is a multidisciplinary technical, design and business university in Finland*)
 - <https://www.aalto.fi/en>
- **AEE INTEC** (*Institute for Sustainable Technologies*)
 - <https://www.aee-intec.at/>
- **ELA** (*European Lift Association*)
 - <https://ela-aisbl.eu/>
- **Lighting Europe** (*The voice of the lighting industry*)
 - <https://www.lightingeurope.org/>

Process and outcome



Process and outcome



Next Generation Energy Performance Certificates cluster



These projects have received funding from the European Union's Horizon 2020 and Horizon Europe research and innovation programmes. The European Union is not liable for any use that may be made of the information contained in this document, which is merely representing the authors' view."

- EasySRI
- SRI2MARKET
- Smart²
- SRI-Enact

Smart Readiness Indicator (SRI)

Q&A



Smart Readiness Indicator (SRI)

Closing remarks

Brigitte Jacquemont – DG ENER



Thanks for your attention!

Contact: support@smartreadinessindicator.eu

Web: <https://ec.europa.eu/smart-readiness-indicator>

#SmartReadinessIndicator

