

Digitalization for Lifts & Escalators

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Introduction



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Agenda

1. Terminology
2. The EU's Digital Strategy
3. Relevant EU Legislations / Timeline
4. Smart Lifts & Escalators / SRI
5. Which Standards ?
6. ELA Digitalization Toolbox



Terminology

- **Cybersecurity**

- Measures taken to protect a computer or computer system (as on the Internet) against any unauthorized access or attack (not only remote).

- **Interoperability**

- Characteristics of a product or a system to work with other products or systems e.g. Building Management System, including remote systems.

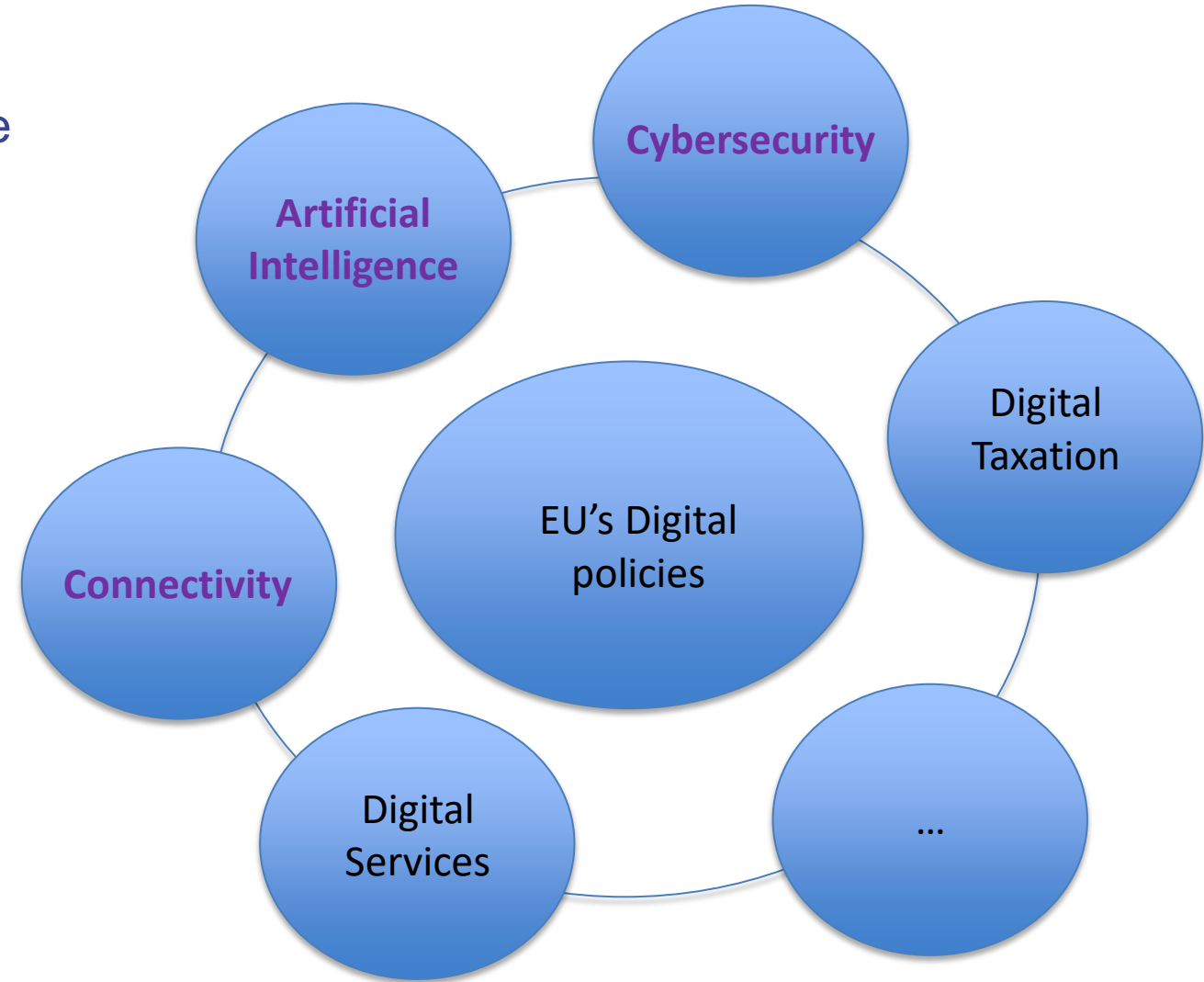
- **New definition of safety function in Machinery Regulation**

- a function that serves to fulfil a protective measure designed to eliminate, or, if that is not possible, to reduce, a risk, which, if it fails, could result in an increase of that risk (more than a safety component or SIL level functions).

The EU's Digital Strategy

The European Parliament is helping to shape the policies that will strengthen Europe's capacities in **new digital technologies**, open new opportunities for businesses and consumers, support the **EU's green transition** and help it to reach **climate neutrality by 2050**, support people's digital skills and training for workers, and help digitalize public services, while ensuring the respect of basic rights and values.

The EU is working on several **key policies** to bring about the digital transformation:



Relevant EU Legislations

Machinery Regulation 2023/1230 ‘MR’ Regulation (EU) 2023/1230

The MR continues to promote harmonization through a combination of mandatory health and safety requirements and voluntary harmonized standards, as with the current Machinery Directive. It integrates provisions for machinery with safety functions that are AI-powered and provisions for cyber-safety for compliance-relevant software data and safety control systems.

Connectivity under Cyber Resilience Act ‘CRA’ Regulation (EU) 2024/2847

The CRA enhances cybersecurity standards of products that contain a digital component, requiring manufacturers and retailers to ensure cybersecurity throughout the lifecycle of their products.

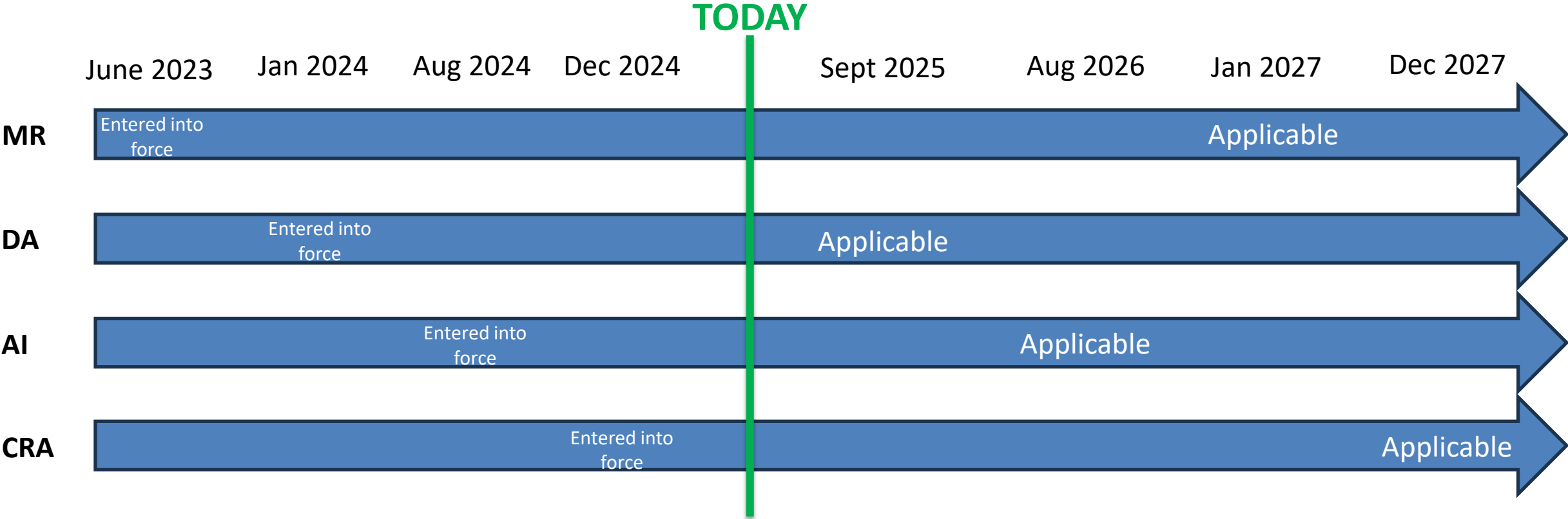
Artificial Intelligence under Artificial Intelligence Act ‘AI’ Regulation (EU) 2024/1689

The AI Act introduces a uniform framework across all EU countries, based on a forward-looking definition of AI and a risk-based approach. The Act aims to foster responsible artificial intelligence development and deployment in the EU.

Interoperability under Data Act ‘DA’ Regulation (EU) 2023/2854

The DA is a comprehensive initiative to address the challenges and unleash the opportunities presented by data in the European Union, emphasizing fair access and user rights, while ensuring the protection of personal data.

Timeline



Which Standards for Lifts, Escalators & Components ?

AI
CRA
DA

For New and Mod products

Lift & Escalators Standards

ISO 8102-20 (Cyber)
IEC 62443 (Cyber)
ISO 8102-21 (Remote)
Remote interactions
Local Cyber Regulations
EN 18031 (RED)

Digital Logbook
ETSI
BacNet
AI standards

Lifts Standards

ISO 8100-1
ISO 8100-2
EN 81-xx

EN 81-28 (Alarm)
ISO 8100-6 (Alarm)

ISO 8100-10 (BIM)
ISO 8100-11 (Interoperability)

Escalators Standards

ISO 8103-1
EN 81-xx

ISO 8103 - xx (Interoperability)
ISO 8103 -xx (BIM)

Definition for Smart Lifts & Escalators

A Smart Lift or Escalator is a system whose operation is optimized by integration of modern technologies such as **artificial intelligence** or sensor fusion. These systems offer advanced features such as predictive maintenance, automated fault diagnostics, personalized ride control, energy-efficient operation and more.

Smart Lifts or Escalators enable higher operational safety, optimized traffic, and improved user accessibility and experience.

The features of Smart Lift or Escalator can be further enhanced with **connectivity** in order to share information and be interoperable. This **interoperability** enhances serviceability, availability, sustainability and performance over the **full building life cycle**.

Smart Readiness Indicator 'SRI'

What ?

The SRI is a Commission initiative under the Energy Performance of Buildings Directive EPBD that measures a building's ability to use smart technologies/smart-ready services. These technologies aid in decarbonization of the building sector, while also offering more comfortable and efficient living environments.

The SRI rates the smart readiness of buildings (or building units) in their capability to perform 3 key functionalities:

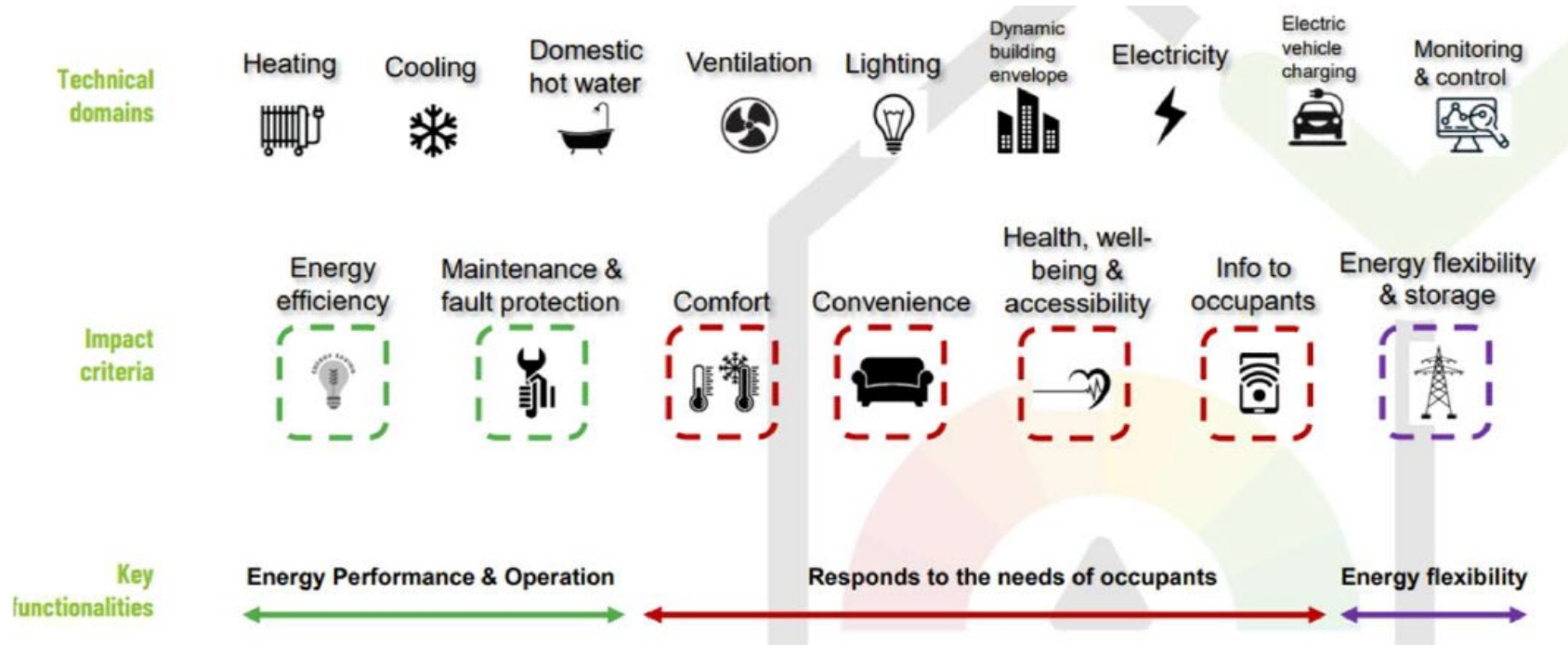
- Energy savings and operation
- Respond to user needs
- Respond to needs of the grid



Smart Readiness Indicator 'SRI'

How ?

The SRI methodology is based on 3 key functionalities and 9 technical domains and 7 impact criteria.



Through the implementation of the SRI framework, technological innovation in the construction sector is supported, which creates an incentive for the integration of cutting-edge smart technologies in buildings.

Smart Readiness Indicator 'SRI'

Status

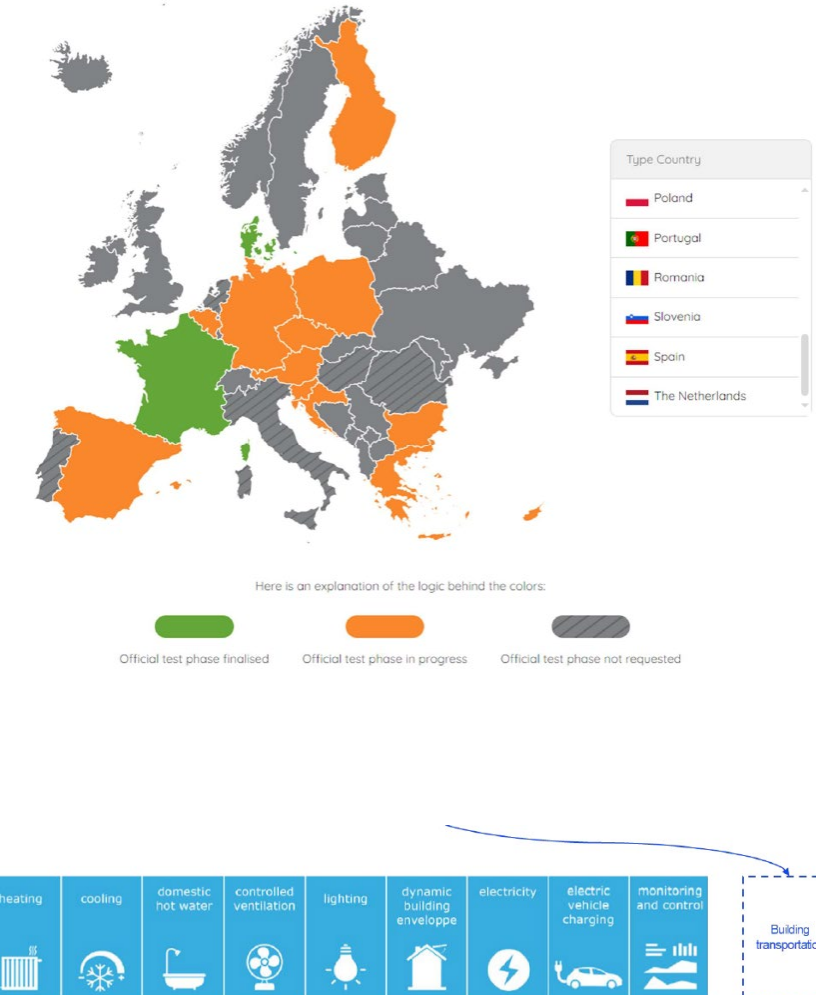
EU countries are now in the test phase of the SRI scheme, with the support of the European Commission and the SRI technical support team.

The revised EPBD of 2024 is setting ambitious requirements for energy efficiency and smartness in buildings. This is a significant step towards a decarbonised and digitalised building sector in the EU.

The Key Changes include also a delegated act mandating SRI application in large non-residential buildings by June 2027.

Therefore, EU countries and regions may decide to implement the SRI on (part of) their territory, for all buildings or only for certain categories of buildings.

The ELA SRI WG is currently working on a proposal for possible inclusion of Lifts and Escalators in the SRI methodology.



The Digitalization Toolbox

A couple of initiatives by ELA experts to support the industry:

- Phase out of legacy telecommunication technology (2G/3G/PSTN)
- Voice over IP for EN 81-28 communication system
- Digital Logbook
- Building Information Model (BIM)
- Others to come e.g.SRI white paper, CRA,...

THANK YOU !