

European Regulations & International Standards for Lifts

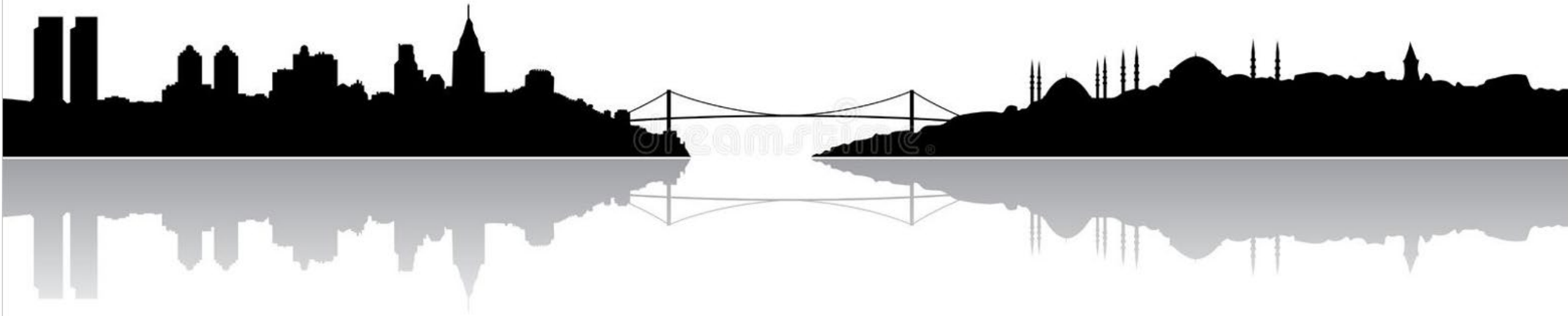
Esfandiar Gharibaan
Istanbul, May 16th, 2025

European Regulations & International Standards for Lifts

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European Regulations for Lifts

Recent Developments

European Regulatory Development

EU main current legislative developments



- Existing or emerging EU regulations, in particular affecting digitalization of lifts and escalators
 1. *Lifts Directive 2014/33/EU (LD)*
 2. *Machinery Directive 2006/42/EC (MD)*
 3. *Machinery Regulation 2023/1230 (MR)*
 4. *Radio Equipment Directive 2014/53/EU (RED) and it's supplementing Regulation 2022/30*
 5. *Cybersecurity Act (Regulation EU 2019/881)*
 6. *Data Act (Regulation EU 2023/2854)*
 7. *Artificial Intelligence Act (Regulation EU 2024/1689)*
 8. *Cyber Resilience Act (Regulation EU 2024/2847)*

European Regulatory Development

EU main current legislative developments



- Lifts Directive, 2024/33/EU
 - *As a part of regular review (5 year), the directive is being assessed for its relevance and application*
 - *If necessary, the directive will be amended*
 - *The result of the review will be published by Q2 2025*
- Machinery Regulation EU 2023/1230 (MR) replacing Machinery Directive, 2006/42/EC
 - *Machinery Directive has been revised and published as EU Regulation 2023/1230*
 - *The main change is the obligation for cybersecurity for the connected equipment*
 - *Entered into force on 29th June 2023*
 - *2006/42/EC will be repealed by 20th January 2027*
- Radio Equipment Directive (RED), 2014/53/EU & Delegated Regulation EU 2022/30
 - *Requirements that radio equipment does not harm the network or its functioning nor misuse network resources*
 - *Applies to any internet-connected radio equipment*
 - *Entered into force on 1st February 2022*
 - *Application from 1st August 2024*

European Regulatory Development

EU main current legislative developments



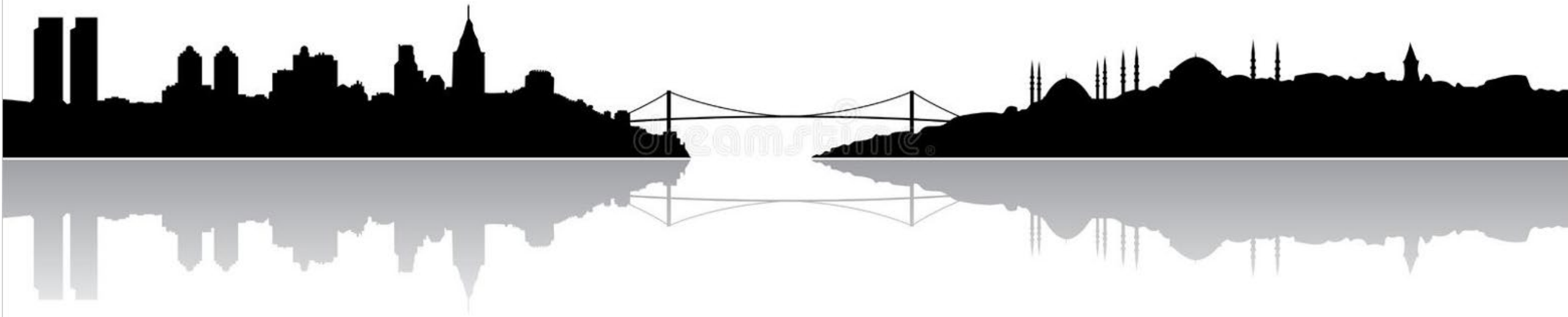
- Cybersecurity Act (Regulation EU 2019/881)
 - *Provides regulatory framework for cyber security certification for information and communications technology (ICT)*
 - *Entered into force on 27th June 2019*
 - *Application from 28th June 2021*
- Data Act (Regulation EU 2023/2854)
 - *Lays down harmonised rules for accessing and using data, for example*
 - making available of product data and related service data to the user of the connected product or related service
 - making data available by the data holders to the data recipients
 - introducing safeguards against unlawful third-party access to non-personal data
 - development of interoperability standards for data to be accessed, transferred and used
 - *Entered into force on 11th January 2024*
 - *Application*
 - From September 2025 for data sharing and data transparency obligations
 - From September 2026 for design obligations

European Regulatory Development

EU main current legislative developments



- Artificial Intelligence Act (Regulation EU 2024/1689)
 - *Gives harmonised rules on artificial intelligence (AI)*
 - *Artificial Intelligence in safety components is considered as high-risk system*
 - *Entered into force on 1st August 2024*
 - *Application from 2nd August 2026, except for the following specific provisions*
 - The prohibitions, definitions and provisions related to AI from 2nd February 2025
 - The rules on governance and the obligations for general purpose from 2nd August 2025
 - The obligations for high-risk AI systems from 2nd August 2027
- Cyber Resilience Act (Regulation EU 2024/2847)
 - *CRA scope covers any product with digital elements*
 - *It introduces mandatory cybersecurity requirements for manufacturers of those products*
 - *The protection against cyber risks extends throughout the product lifecycle*
 - *Entry into force: 10th December 2024*
 - *Application of reporting obligations: 11th September 2026*
 - *General entry into application: 11th December 2027*



European Standardization for Lifts

Overview of Work Program

Main strategies and objectives

Main standardization trends



1) Technical harmonization

- Technical harmonization in the form of global standards used across all countries worldwide, thus
 - *improving safety and accessibility for all*
 - *improving efficiency of the industry*
 - *facilitating flexibility of supply chain*

2) ISO standardization

- The most suitable means of achieving technical harmonization worldwide
 - *Many European standards are (being) adopted as ISO standards*
 - *Many ISO standards are (being) adopted by CEN as well as by other standardization organizations*
 - *Standards related to the new technologies and digitalization to be developed in ISO*

3) Digitalization

- New technologies and connectivity are being rapidly adopted by the industry and stakeholders
 - *Regulations are emerging around the world*
 - *Standards are being made when the technology is matured enough for standardization*

European standardisation for lifts

CEN/TC 10 product coverage

Supporting documents

CEN/TR 81-10
CEN/TS 81-11
EN ISO 14798

CEN/TR 81-12
prCEN/TS 81-13
EN 81-20

EN ISO 8100-1
EN 81-21
EN 81-28
EN 81-50
EN ISO 8100-2
EN 81-58
prCEN/TS 81-60

EN 81-70
EN 81-71
EN 81-72
EN 81-73
EN 81-76

EN 81-77
EN 81-80
EN 81-82
CEN/TS 81-83

EN 12015
EN 12016
EN 13015

EN 12385-3
EN 12385-5
EN 13411-7
EN ISO 25745-1
EN ISO 25745-2

By
CEN/TC 168

Lifts



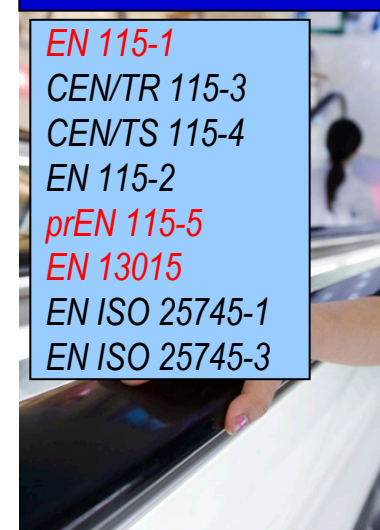
Inclined lifts

EN 81-22



Escalators

EN 115-1
CEN/TR 115-3
CEN/TS 115-4
EN 115-2
prEN 115-5
EN 13015
EN ISO 25745-1
EN ISO 25745-3



Building Hoists

EN 12158-1
EN 12158-2
EN 12159
prEN 16719



Goods only lifts

EN 81-3
EN 81-31



Lifting Platforms

EN 81-41
prEN 81-42
prEN 81-45
prEN 81-46



Stairlifts

EN 81-40



Lifts in Cranes

EN 81-43



Lifts in Wind Turbines

EN 81-44



Lifting Tables

EN 1570-2



Red marked are European harmonized standards.

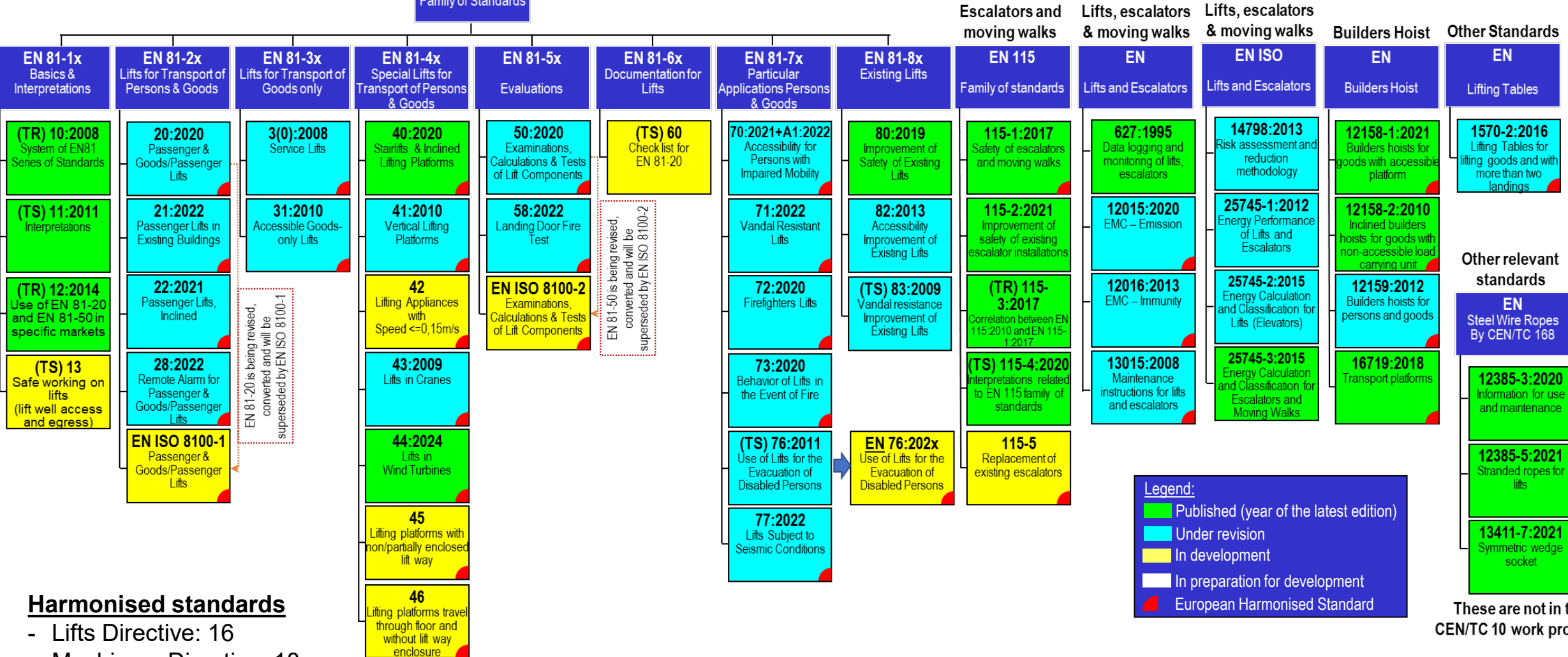


European standardisation for lifts

CEN/TC 10 Work Program



EN 81 Family of Standards



Legend:

- Published (year of the latest edition)
- Under revision
- In development
- In preparation for development
- European Harmonised Standard

Harmonised standards

- Lifts Directive: 16
- Machinery Directive: 18
- EMC Directive: 2

Total of 50 work items, 41 published and 9 under development

These are not in the CEN/TC 10 work program

European standardisation for lifts

Towards EN ISO standards 1/2



- CEN/TC 10 and ISO/TC 178 work together to achieve set of ISO standards used worldwide
 - *ISO to adopt EN standards as much as possible*
 - *ISO standards to become EN ISO standards*
 - *New standards related to digitalization to be developed as EN ISO standards*
- As a result, many of the standards for lifts will be EN ISO standards
- Overview of the projects:

1) Completed projects

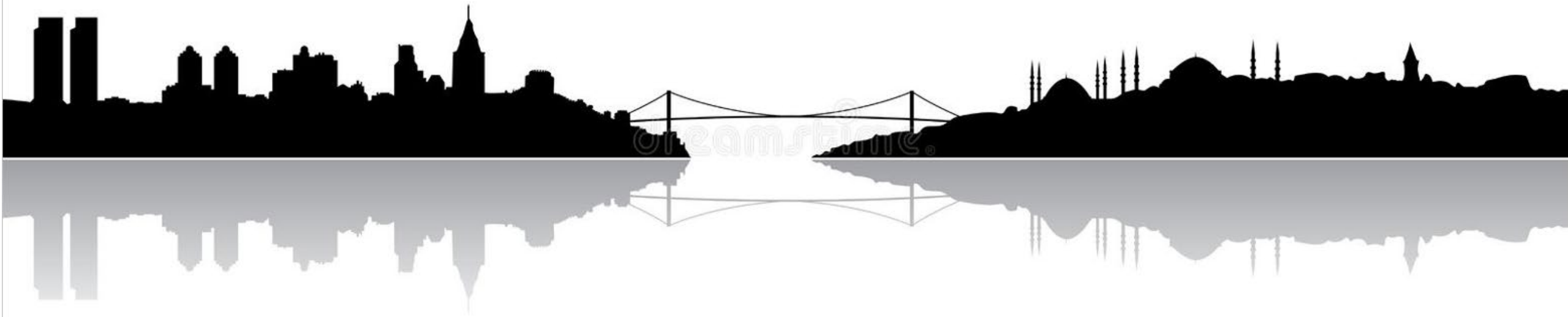
- ISO standards adopted by CEN
 - *EN ISO 14798 (Risk Assessment Methodology)*
 - *EN ISO 25745-1/2/3 (Energy Efficiency Measurement and Classification)*
- CEN standards adopted by ISO
 - *EN 81-20 -> ISO 8100-1 (General Safety for Lifts)*
 - *EN 81-50 -> ISO 8100-2 (General Safety for Lifts, Testing and Verification)*
 - *EN 81-70 -> ISO 8100-7 (Accessibility to Lifts)*
 - *EN 115-1 -> ISO 8103-1 (General Safety for Escalators)*

2) On-going projects

- *EN 81-20 -> EN ISO 8100-1 (General Safety for Lifts)*
- *EN 81-50 -> EN ISO 8100-2 (General Safety for Lifts, Testing and Verification)*
- *EN 81-70 -> EN ISO 8100-7 (Accessibility to Lifts)*
- *EN 115-1 -> EN ISO 8103-1 (General Safety for Escalators)*
- *EN 12015 -> EN ISO 8102-1 (EMC, Emission)*
- *EN 12016 -> EN ISO 8102-2 (EMC, Immunity)*

3) Under discussions

- *EN 81-28 -> EN ISO 8100-6 (Remote alarm)*
- *EN 81-44 -> EN ISO 810x-x (Lifts in wind turbines)*
- *EN 81-58 -> EN ISO 3008-2 (Fire test of landing doors)*
- *EN 81-72 -> EN ISO 8100-4 (Fire fighting lifts)*
- *EN 81-77 -> EN ISO 810x-x (Lifts subject to seismic conditions)*
- *EN 81-76 -> EN ISO 8101-1 (Evacuation of buildings using lifts)*
- *EN 81-80 -> EN ISO 8104-1 (Improvement of Safety of Existing Lifts)*



New European standards

New European standards

EN ISO 8100-1/2



- A joint project for CEN/TC 10 and ISO/TC 178
- One global (ISO) standard used around the world
- 67 countries are directly involved (34 European members of CEN + 33 non-European ISO members)
- Result of an extensive combined revision of EN 81-20/50:2020 and ISO 8100-1/2:2019
- Key dates

31st August 2025

- Launch of the Final Vote (FDIS) in ISO and Formal Vote (FV) in CEN
- Technical comments will be considered in the next revision

31st December 2025

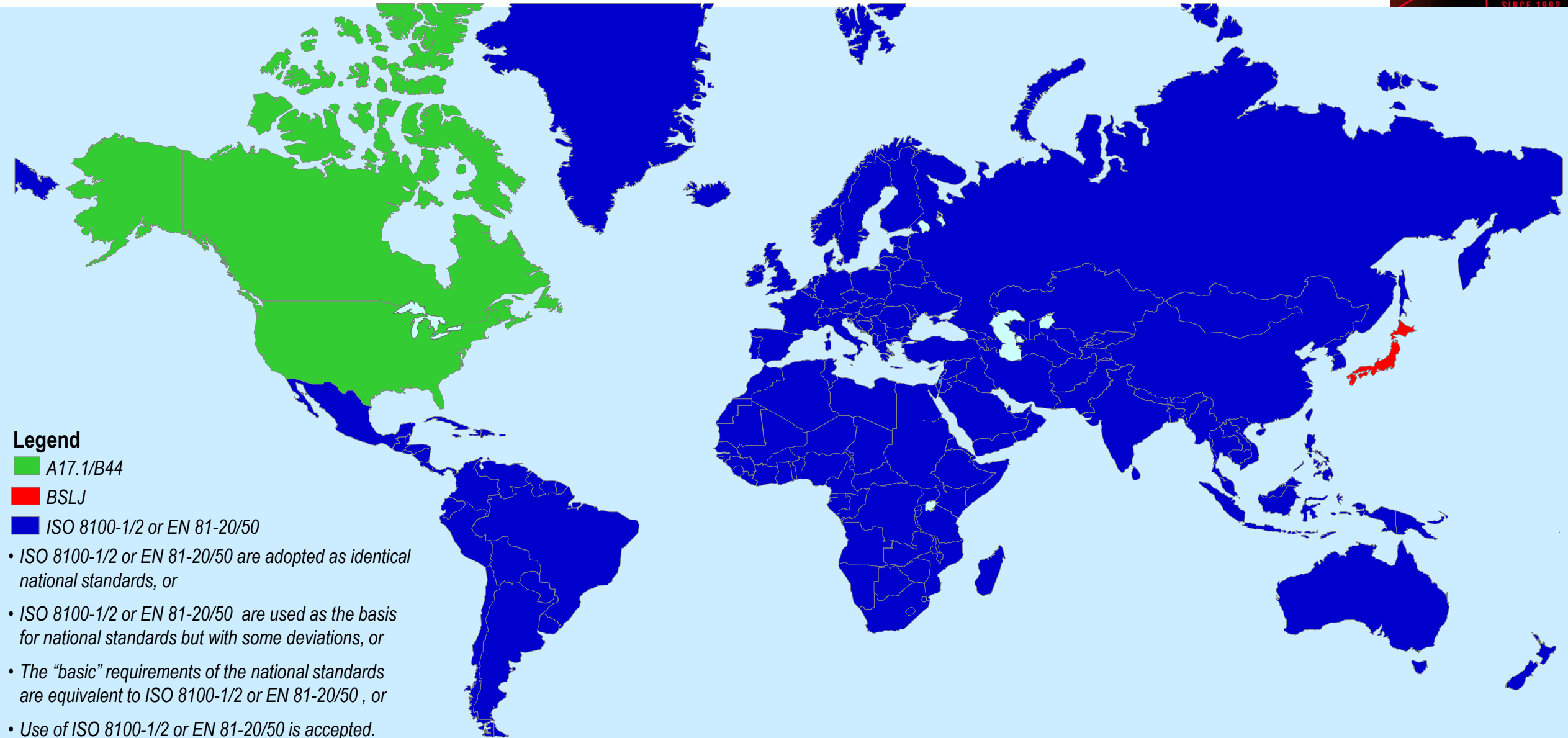
- Revised ISO 8100-1/2 will be published by ISO
- CEN will publish the standards as EN ISO 8100-1/2

31st December 2028

- EN 81-20/50 will be withdrawn

New European standards

Worldwide relevance of EN ISO 8100-1/2



Main changes and new requirements in EN ISO 8100-1/2

- Technical
 - *Inclusion of several new technologies and solutions*
 - *Extensive revision of requirements for PESSRAL (Functional Safety)*
 - *Wide-reaching amendments to the mechanical and electrical requirements*
- Editorial
 - *Almost all clauses are revised to provide higher clarity and easier verification*
 - *Sections and annexes are restructured*
 - *Fully aligned with the requirements of the Lifts Directive and the Machinery Regulation*
- As the result
 - *EN ISO 8100-1/2 may have an impact on design and certification for lifts*
 - *Recommended to study the standard as soon as it is available (December 2025)*

New European standards

Other new standards



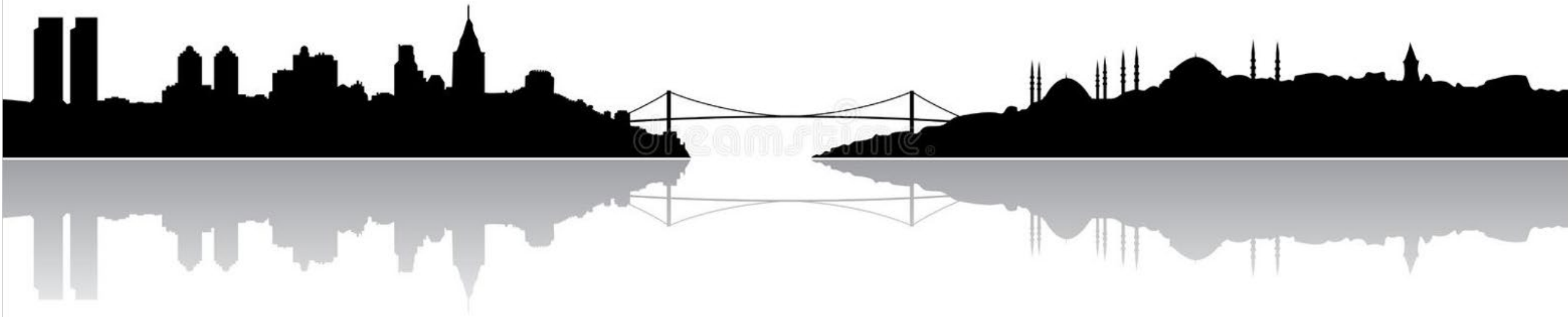
- **EN 81-76**, Evacuation of disabled persons using lifts
 - Explaining method of evacuation of buildings using lifts
 - Being prepared to publication in Q2 2025
- **prEN 115-5**, Replacement of existing escalators
 - Provides solutions where due to restrictions in the existing building, e.g. dimensions for pit, an existing escalator can not be directly replaced with an escalator according to EN 115-1
 - Being prepared for Enquiry
- **EN 81-42**, Vertical lifting appliance intended for use by persons, including persons with disability
 - Speed $\leq 0,15$ m/s, with fully enclosed carrier and automatic control
 - Being prepared for the Formal Vote
- **prEN 81-45**, Lifting platforms with non/partially enclosed lift way
 - Speed $\leq 0,15$ m/s (under the Machinery Directive)
 - The work has been started

New European standards

Other new standards



- **prEN 81-46**, Lifting platforms travel through floor and without lift way enclosure
 - Speed $\leq 0,15$ m/s (under the Machinery Directive)
 - The work has been started
- **prCEN TS 81-13**, Safe access to the lift well for lifts in service
 - Describes use of safety devices and procedures to safely access and egress from the lift well
 - The work has been started
- **prCEN TS 81-60**, Specification for means of determining compliance with EN 81– 20
 - Provides check lists for recording compliance of the installed lift to EN 81-20 requirements
 - The work has been started



International Standardization (ISO) for Lifts

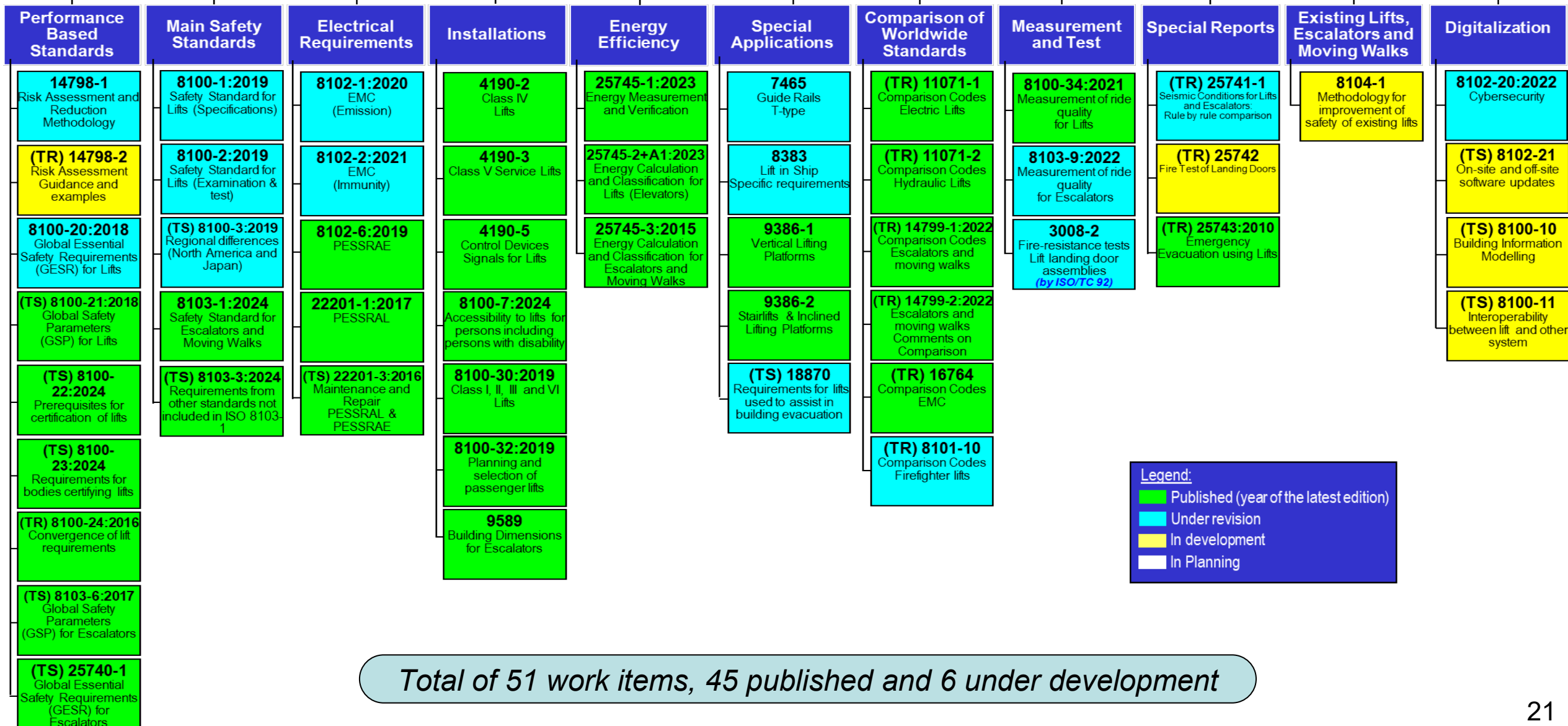
Overview of Work Program

International Standardization (ISO) for Lifts

ISO/TC 178 Work program



ISO
Standards for
Lifts and Escalators



Legend:
 Published (year of the latest edition)
 Under revision
 In development
 In Planning

Total of 51 work items, 45 published and 6 under development

International Standardization (ISO) for Lifts

Standards in support of digitalization



- **ISO/TS 8102-20:2022**

- Cybersecurity for lifts and escalators
- Under revision to fully cover Cyber Resilience Act (CRA) and Machinery Regulation (MR) in Europe

- **ISO/TS 8102-21**

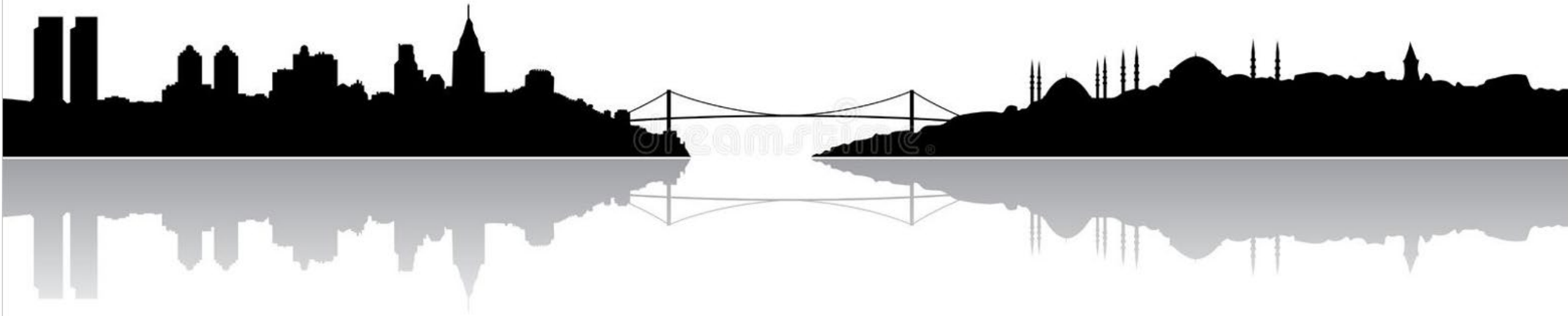
- On-site and off-site software update
- *Under development*

- **ISO/TS 8100-10**

- Building Information Modeling (BIM)
- *Under development*

- **ISO/TS 8100-11**

- Interoperability between lift and other system
- *Under development*



Summary

European Regulations & International Standards for Lifts

Summary



- Standardization work for lifts and escalators has intensified in the recent years
 - There is increasing need for participation of experts into the standardization work
- Many of the European standards are being revised for technical or regulatory alignment reasons
 - User of the standards should expect many new or revised standards
- Increasingly, standards are being developed in the International standardization (ISO) environment
 - Avoiding duplicate work
 - Achieving higher technical harmonisation around the world
- Standardization in digitalization for lifts is emerging
 - Standards developed by other sectors may also affect lifts and escalators
- Standards have impact to all market players
 - You are invited to participate in the standardization work or at least actively follow the developments

European Regulations & International Standards for Lifts

Status of Türkiye in CEN and ISO



- Türkiye (Turkish Standards Institution, TSE) is an important member of CEN and ISO
- TSE may appoint members to the Technical Committees and Working Groups
- Receive draft standards for comments
- Cast a vote to accept or reject the final version of the standards
- Publish and sale EN and ISO Standards in Turkish language as TS EN or TS ISO standards
- Implement TS EN standards



Thank you!

