

Twenty years of ISO/IEC Guide 71

“Guide for addressing accessibility in standards”

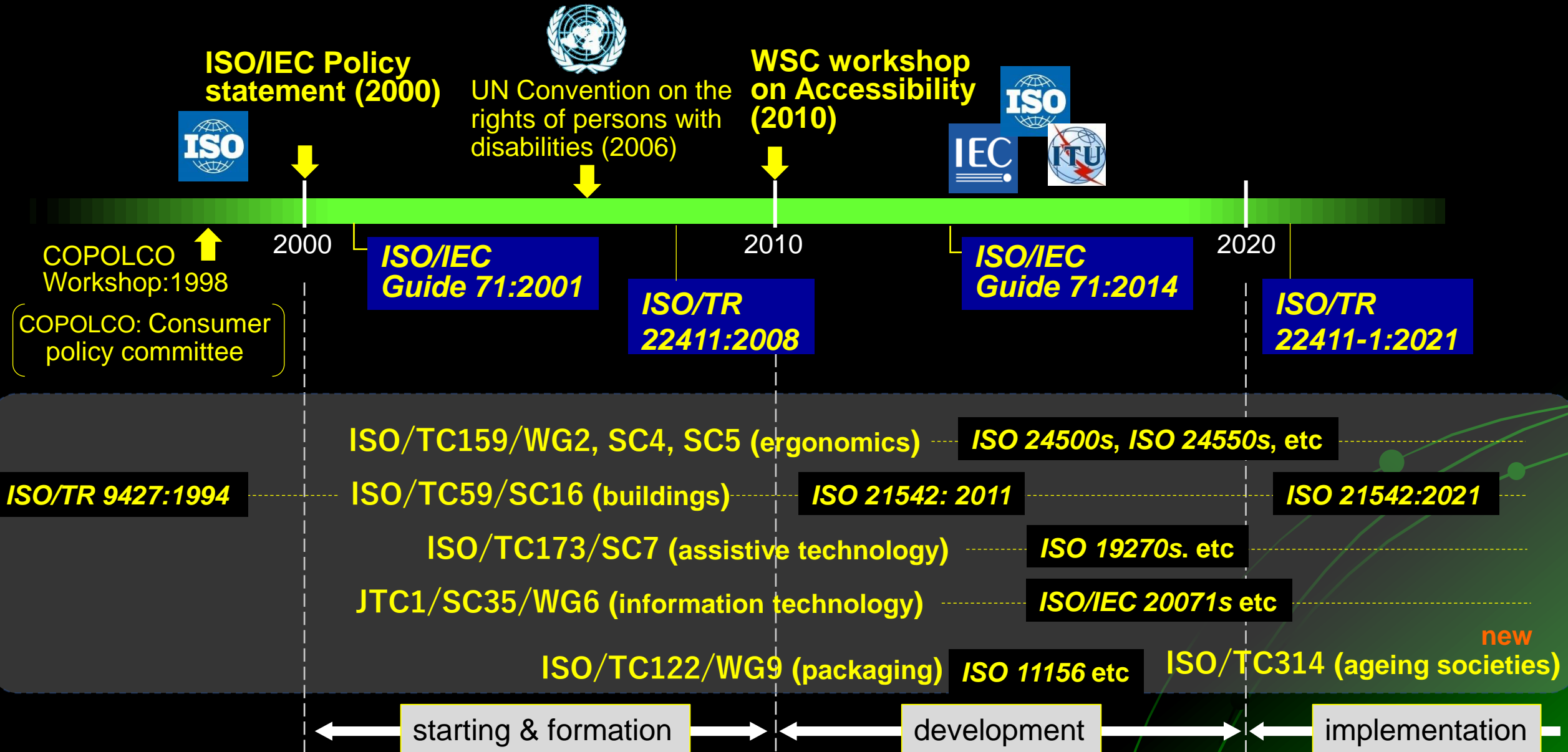
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The ISO history and related TCs on accessibility



ISO/IEC Guide 71 as guiding principles

■ ISO/IEC Guide 71: 2001

Guidelines for standards developers to address the needs of older persons and persons with disabilities.

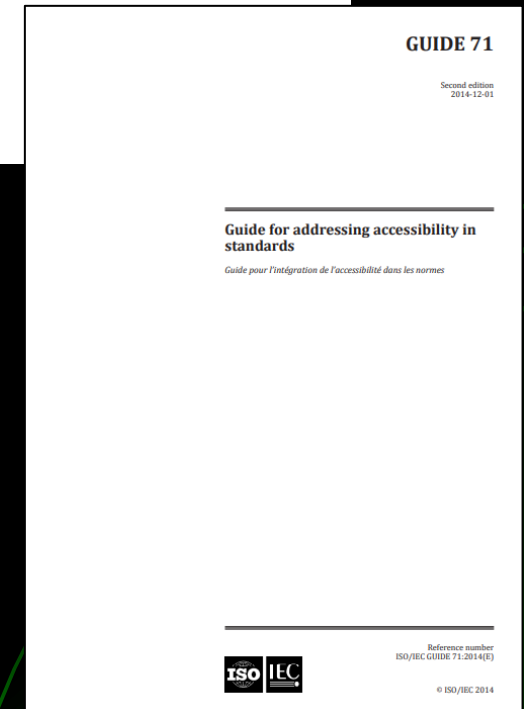
(factors to consider)



■ ISO/IEC Guide 71: 2014

Guide for addressing accessibility in standards

(goals and strategies)



ISO/TR22411 as technical guidelines

■ ISO/TR 22411: 2008

Ergonomic data and guidelines for the application of ISO/IEC Guide 71(2001) to products and services to address the needs of older persons and persons with disabilities.

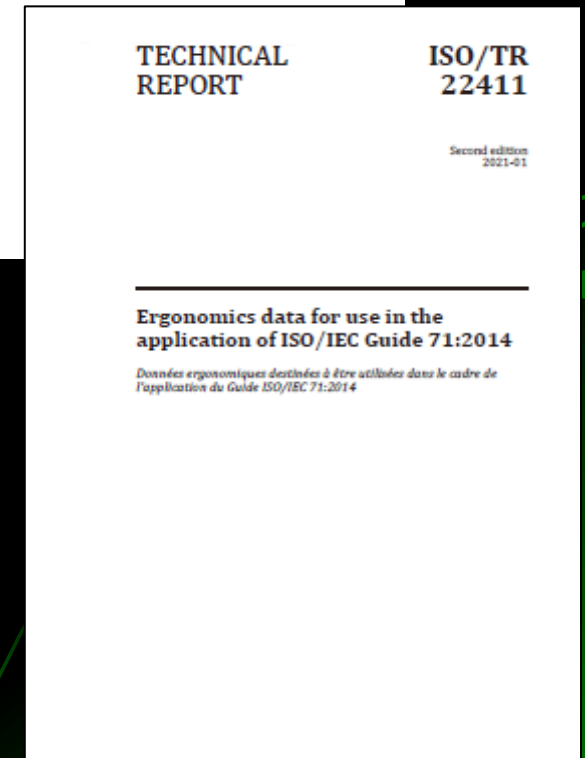
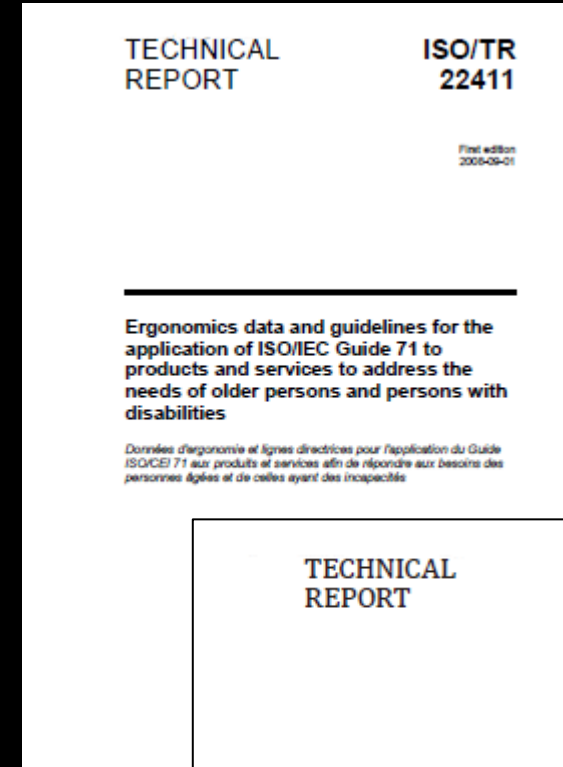


■ ISO/TR22411:2021 (Part 1)

Ergonomics data for use in the application of ISO/IEC Guide 71:2014

Part 1: human data

Part 2: design guidelines (in preparation)



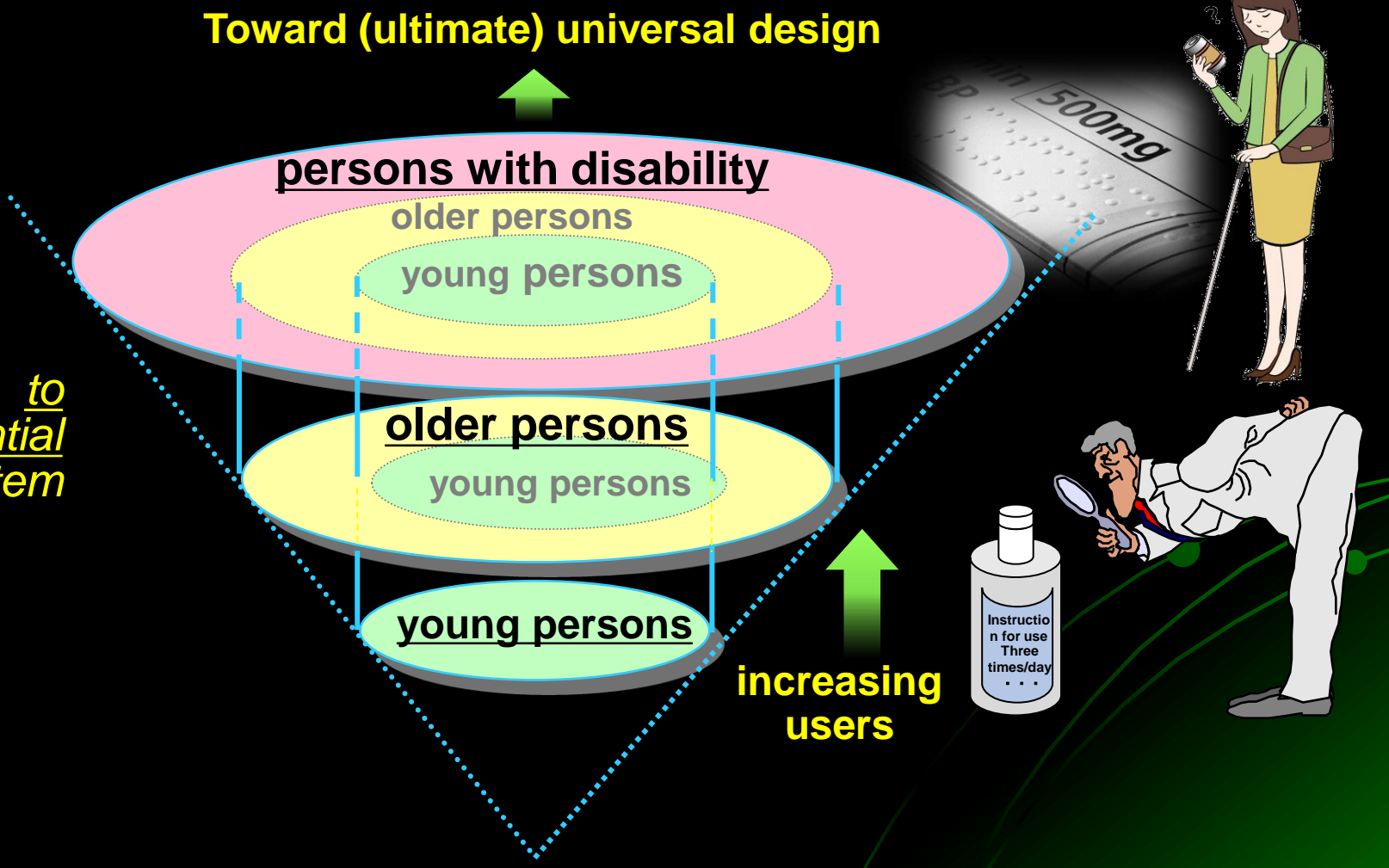
Accessible Design

— A concept of increasing users of products —

Accessible design:

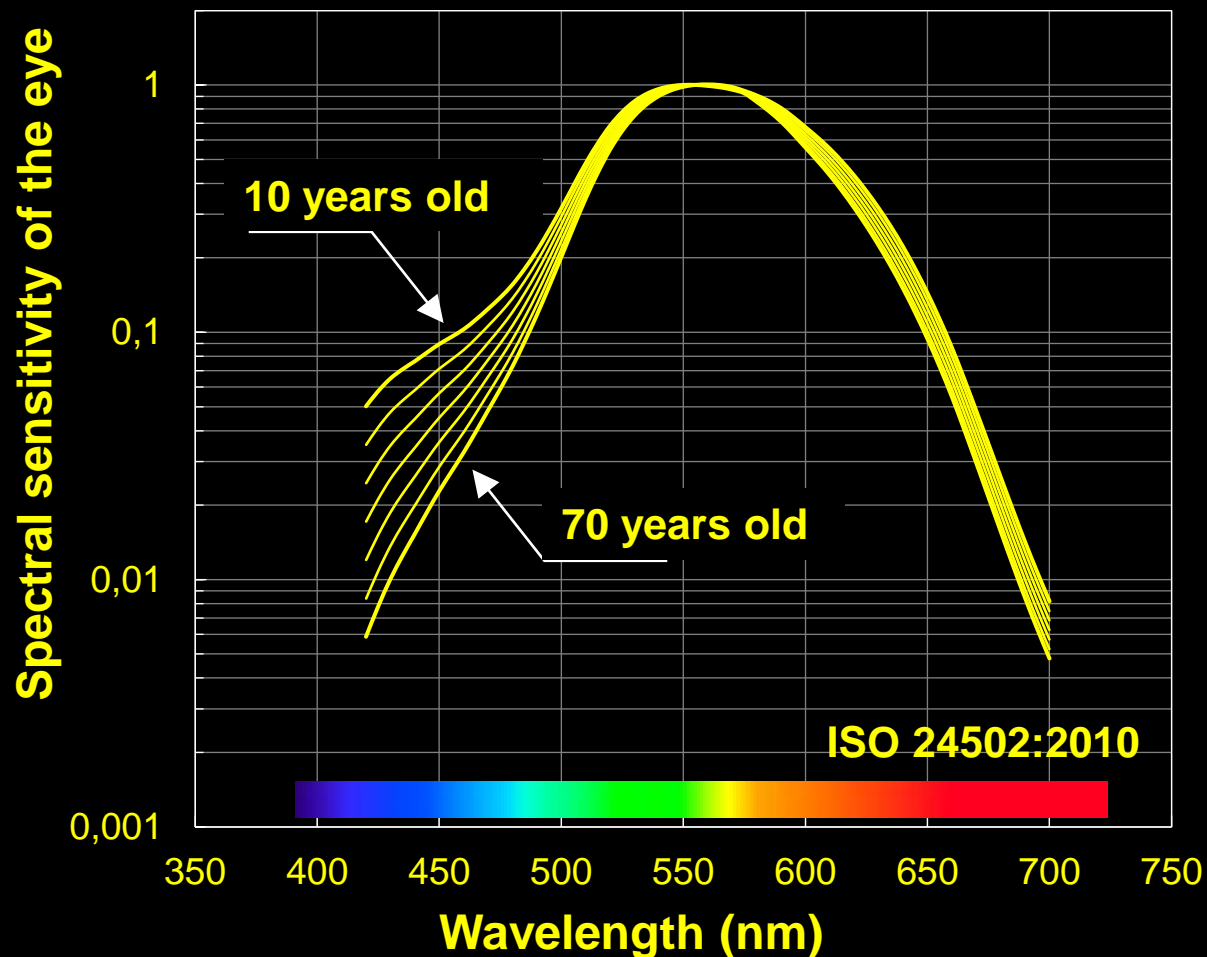
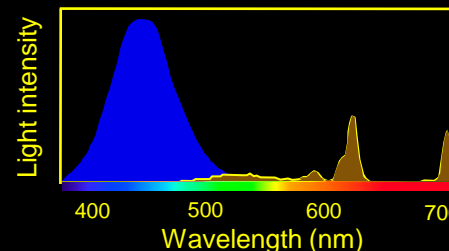
Design focused on diverse users to maximize the number of potential users who can readily use a system in diverse contexts

(from ISO/IEC Guide 71:2014)



Need for human data and basic standards

Design for All



For young observers in their 20s

luminance

$$C_{20} \text{ (luminance ratio)} = \frac{\sum L_{e,\lambda}(s) V_{20}(\lambda) \Delta\lambda}{\sum L_{e,\lambda}(b) V_{20}(\lambda) \Delta\lambda} = 2.07$$

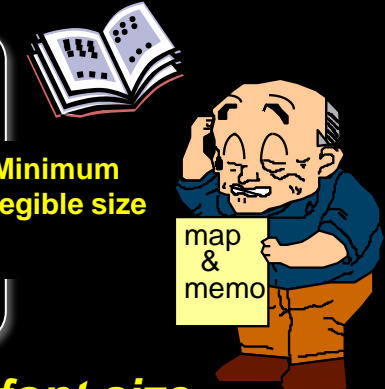
For older observers in their 70s

luminance

$$C_{70} \text{ (luminance ratio)} = \frac{\sum L_{e,\lambda}(s) V_{70}(\lambda) \Delta\lambda}{\sum L_{e,\lambda}(b) V_{70}(\lambda) \Delta\lambda} = 1.13$$

Some examples of basic ergonomics standards

Font size
Font size
Font size ← **Minimum legible size**
Font size
Font size
Font size



legible font size



auditory signals

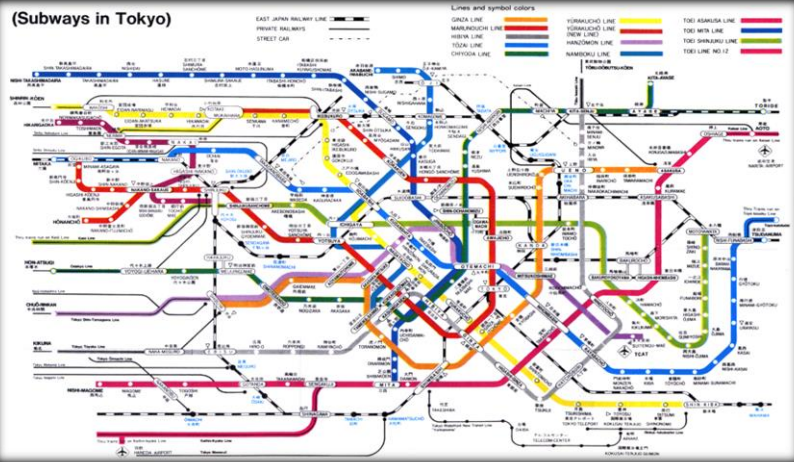


tactile symbols



reach range

(Subways in Tokyo)



colour combinations



visible contrast



spoken announcements



ease of operation

A structure of accessibility standards



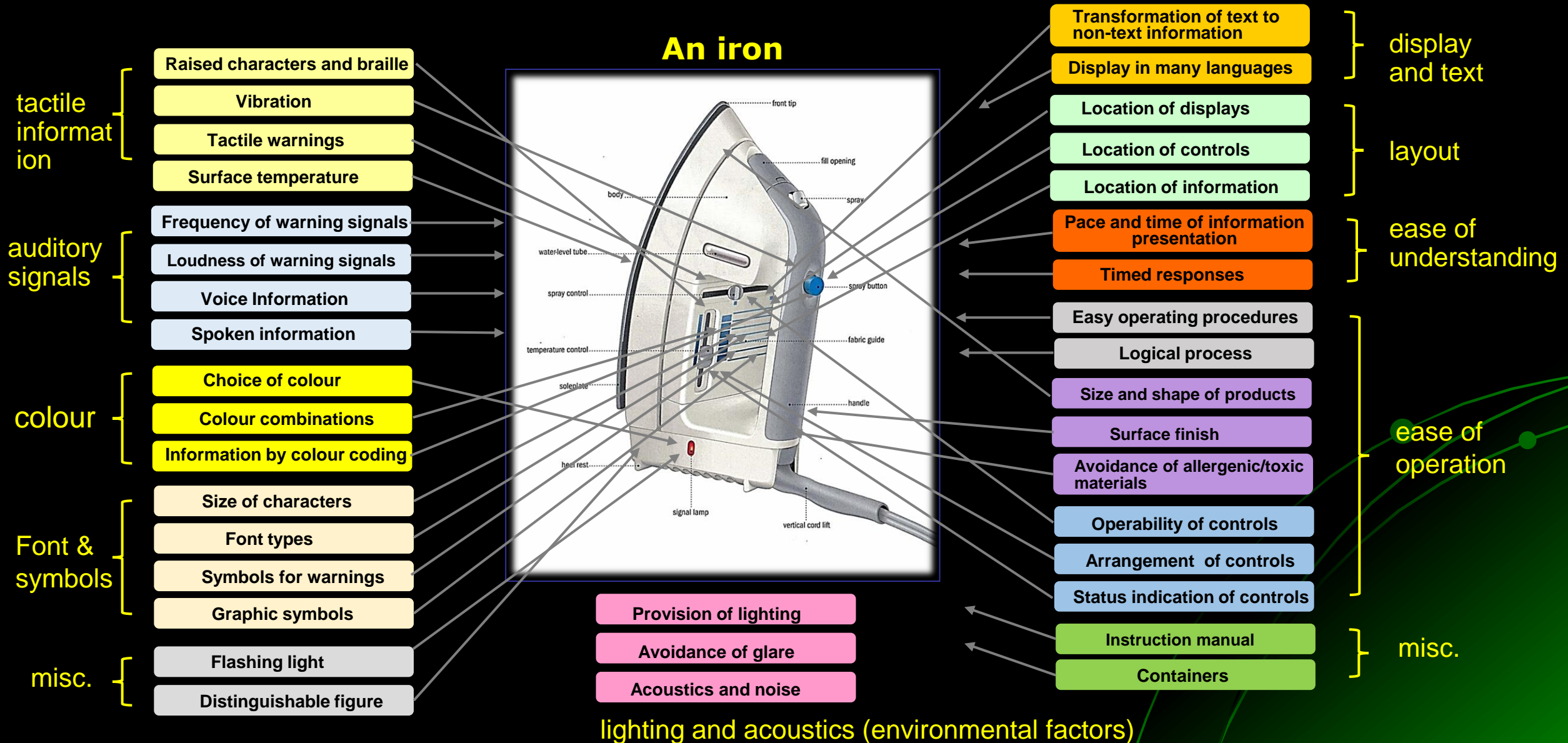
Basic standards

(Ergonomics accessibility standards developed by TC159)

Standards	Titles
ISO 24500:2010	Auditory signals for consumer products
ISO 24501:2010	Sound pressure levels of auditory signals for consumer products
ISO 24502:2010	Specification of age-related luminance contrast for coloured light
ISO 24503:2011	Tactile dots and bars on consumer products
ISO 24504:2014	Sound pressure levels of spoken announcements for products and public address systems
ISO 24505-1:2016	Method for creating colour combinations taking account of age-related changes in human colour vision
ISO 24508:2019	Guidelines for designing tactile symbols and characters
ISO 24509:2019	A method for estimating minimum legible font size for people at any age
ISO 24550:2019	Indicator lights on consumer products
ISO 24551:2019	Spoken instructions of consumer products
ISO 24553: 2022	Ease of operation (FDIS stage)
ISO 24505-2: xxxx ISO 24505-3: xxxx	Method for creating colour combinations — Part 2: For people with defective colour vision and people with low vision (CD stage) — Part3: General use (PWI)

An application example of basic standards

Factors to consider (in Guide 71:2001)



Major application fields of accessibility standards

Products

Ergonomics-related standards

TC159 Ergonomics
TC173 Assistive products
TC122 Packaging, etc

Services

Information-related standards

JTC1/SC35 User interface
TC 314 Ageing societies,
etc

Environments

Buildings-related standards

TC 59/SC16 Accessibility and usability
of the build environment
TC 22 Road vehicles , etc

To summarize:

- Successful promotion for accessibility has been carried out in ISO in the latest 20 years.
- ISO/IEC Guide 71 has played a key role for the promotion of accessibility in international standards.
- Ergonomics knowledge and human data have been one of the critical tools for implementing accessibility in products, services and environments.

Thank you !

Human diversity and "Design for All"

