



The Standards People

The standards ecosystem

Alejandro Rodriguez-Ascaso

06/10/2022

Forming the Next Generation of ICT Standards People:
A Day of Teaching Standardization

6 October 2022



- 2004 PhD in Telecommunications Engineering, Universidad Politécnica de Madrid (UPM)
 - Software Architecture Model for Domestic Systems, based on Universal Design criteria
- 2004 STFs in ETSI Human Factors of Telecare and Emerging HCI
- 2005 Convenor of Spanish UNE CTN133 “Telecommunications” GT3 “Accessibility”:
 - UNE 133300 Information on content for Digital Terrestrial Television Broadcasting Information
 - UNE 158401 Services for the promotion of the personal autonomy. Management of the telecare service. Requirements Services
- 2006 Researcher and lecturer at Universidad Nacional de Educación a Distancia (UNED)
- 2016 ETSI Education and standardization project



- Case study: Description of a real event, which guides teachers and learners to:
 - Reflect
 - Practice
 - Build connections among concepts

- The 3rd Generation Partnership Project (3GPP). Chapter 4
- The revision of a national standard on telecare, from the ICT accessibility perspective. Chapter 3

- **The 3rd Generation Partnership Project (3GPP). Chapter 4**
- **The revision of a national standard on telecare, from the ICT accessibility perspective. Chapter 3**

UNE 158401:2007

Services for increasing personal autonomy. Management of the telecare service.
Requirements

The revision of the standard started in 2016

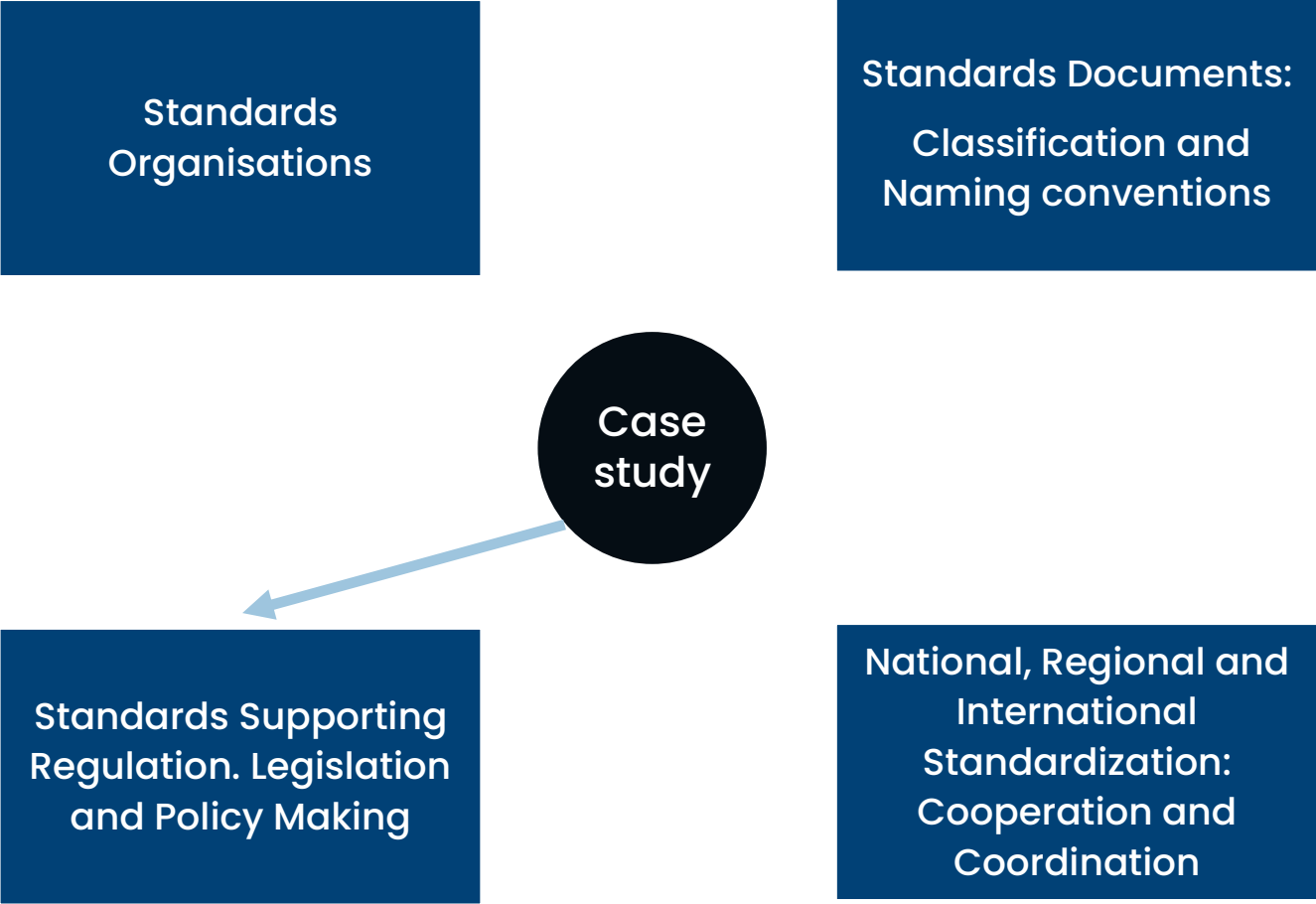
- **Telecare service evolution since 2007 to 2016 in Spain:**
 - **Functionalities:** from a single panic button to monitoring users' behavioural patterns
 - **Technology:** Batteries' capacity, new sensors, emerging mobile apps
 - **Service model:** Some of the resources are now subcontracted to third parties
- **The working group on ICT accessibility was one of these stakeholders. We wanted to take part in that revision... why?**
 - Telecare is frequently used by people with disabilities
 - First version overlooked accessibility

- More than 800,000 telecare terminals in Spain
- Public Administration funds and provides telecare services
- Services are managed by private companies and NGOs through Public Procurement:
 - UNE 158401 is used to assess the offers submitted by service providers

- By the time the revision standard started:
 - EN 301 549 V1.1.2 (2015-04) “Accessibility requirements suitable for public procurement of ICT products and services in Europe”
 - This standard had been produced following the EC M376 standardization request
 - ... to support Directive 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies

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3.5 STANDARDS SUPPORTING REGULATION, LEGISLATION, AND POLICY MAKING



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- Regulatory authorities define technical specifications to be complied with by:
 - Developing their own specifications
 - Using the technical specifications contained in existing standards
 - Requesting new standards to be developed for this purpose.
 - In Europe, **Standardization requests** (aka standardization mandates)

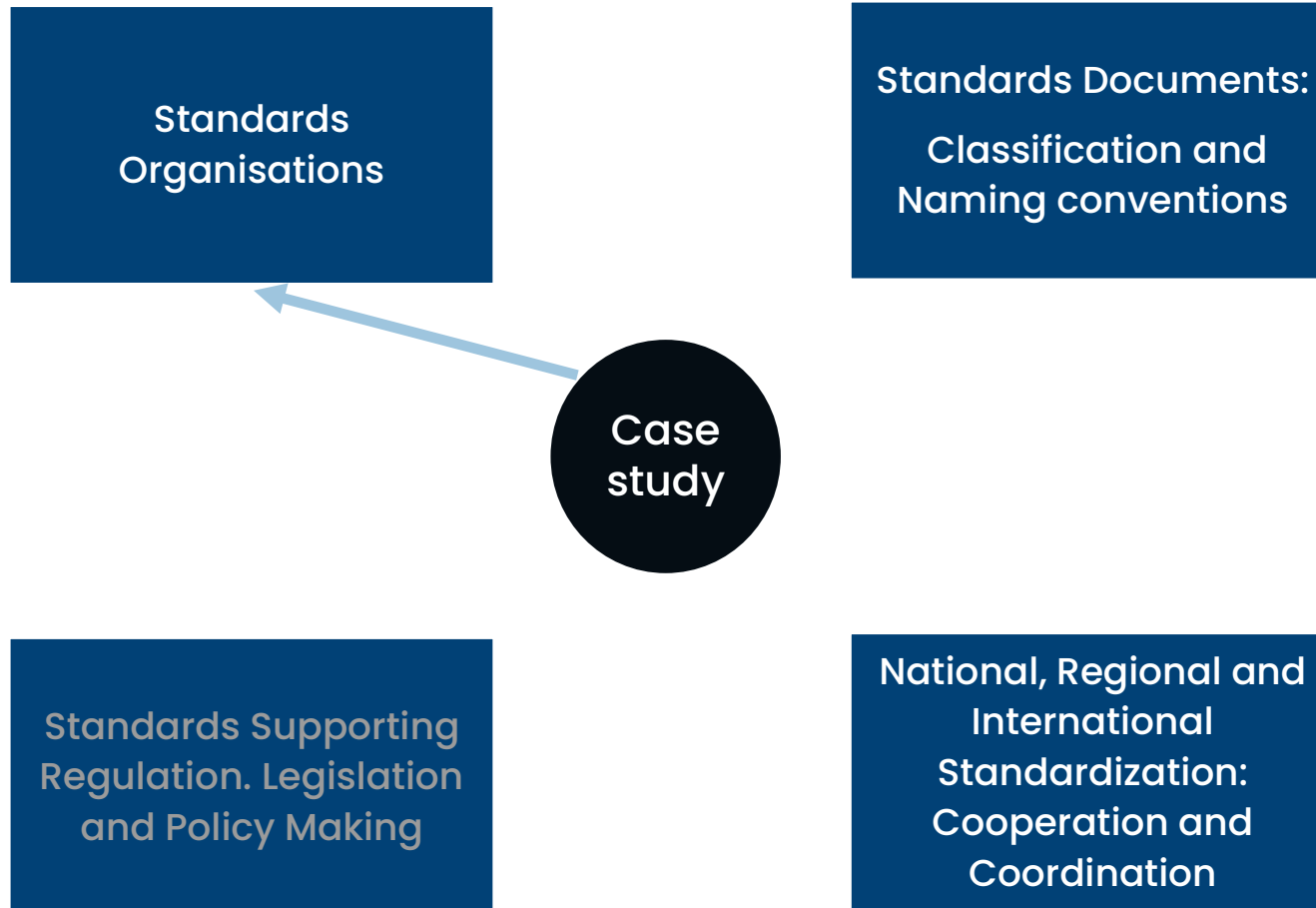
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- Directive (EU) 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies
- CEN/CENELEC/ETSI EN 301 549 V3.2.1 (2021-03) is the harmonised standard designated by the Commission,

- Different ways to comply with the regulation?
 - Compliance with UNE 158401 standard on telecare is required in Spanish public procurement,
 - by complying with the standard, there is "**presumption of conformity**" with the corresponding regulation.
 - **Alternatives to standard compliance:** complying with regulation principles.

3.5 STANDARDS SUPPORTING REGULATION, LEGISLATION, AND POLICY MAKING

- CEN/CENELEC/ETSI standard EN 301 549
- references explicitly
- W3C's WCAG guidelines





CEN/CENELEC/ETSI

W3C



Formal

Consortium

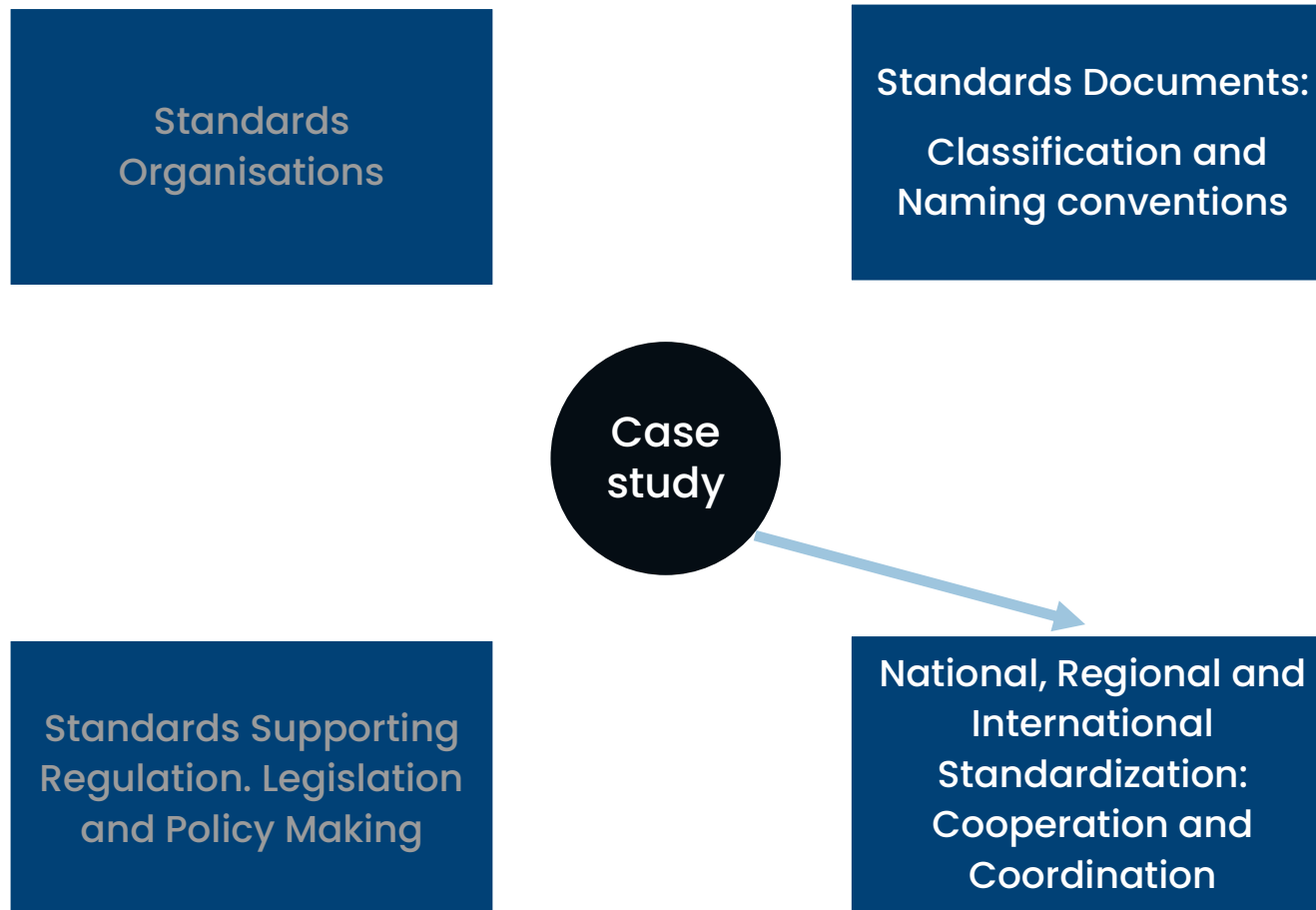
- Organizations doing formal standardization are known as Standard Development Organizations (SDOs)
 - Some SDOs are officially recognized by regulatory systems as providers of standards. They are known as recognized SDOs.
 - Regulation (EU) No 1025/2012 designates CEN, CENELEC and ETSI as the European Standards Organizations (ESOs). They published EN 301 549



- **W3C The World Wide Web Consortium (W3C)** is an international community where Member organizations, a full-time staff, and the public work together to develop Web standards.
 - **HTML, WCAG, de facto standards, which ended up as ISO/EC standards**



- **Directive 2016/2102** was published in the Official Journal of the European Union, 2/12/2016
 - **Before 24 months it had to be transposed** to the legislation systems of the EU member states
- Did something similar happened to EN 301 549, the standard supporting that directive?





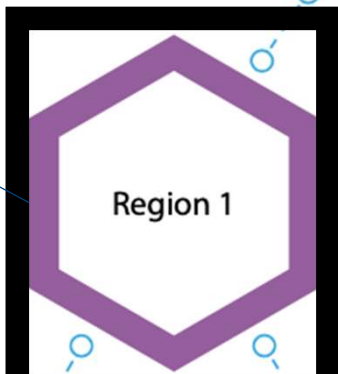
3.4 NATIONAL, REGIONAL AND INTERNATIONAL STANDARDIZATION: COOPERATION AND COORDINATION



EN 301 549



International



Region 1



Region 2

NF EN 301 549



National SDO1

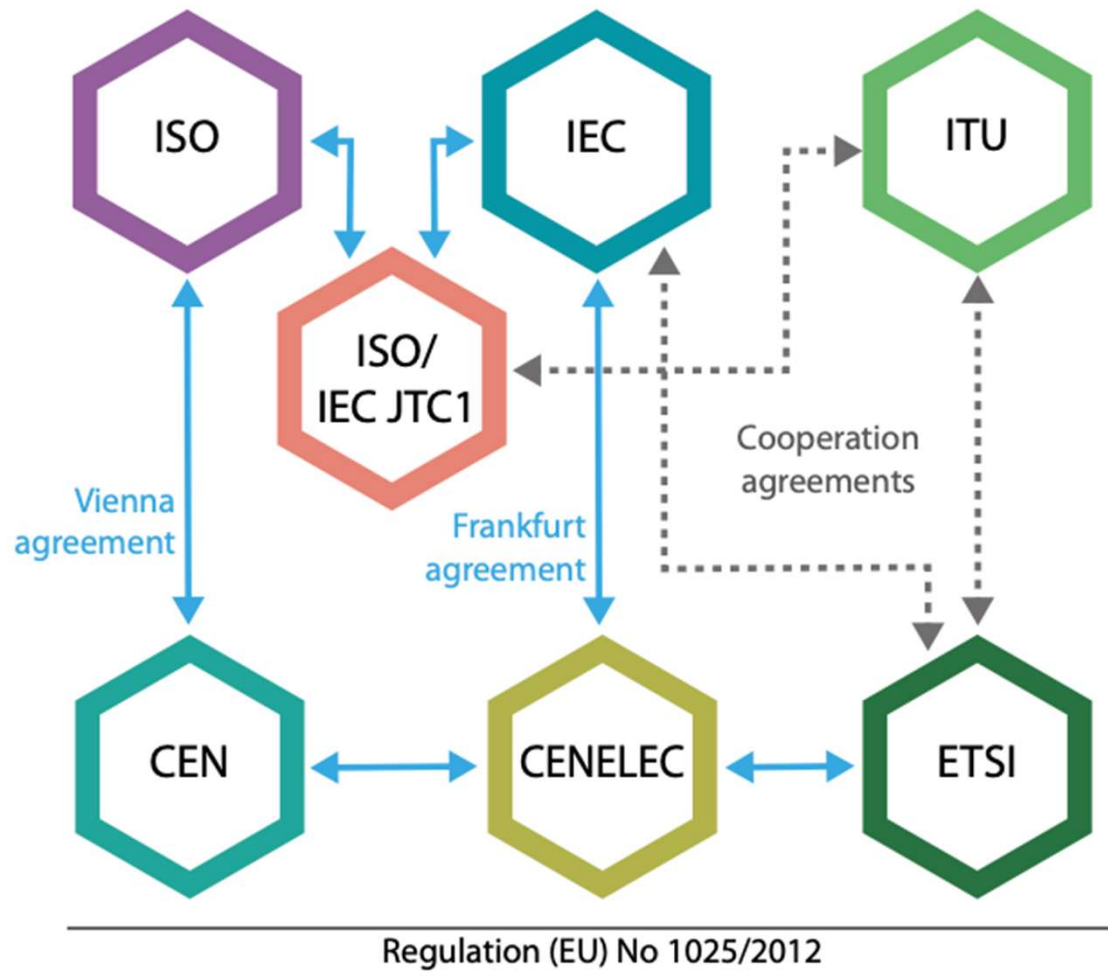


National SDO2



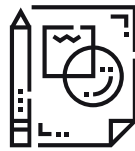
National SDO3

UNE-EN 301 549





EN project approval



EN Drafting



National SDOs voting and commenting

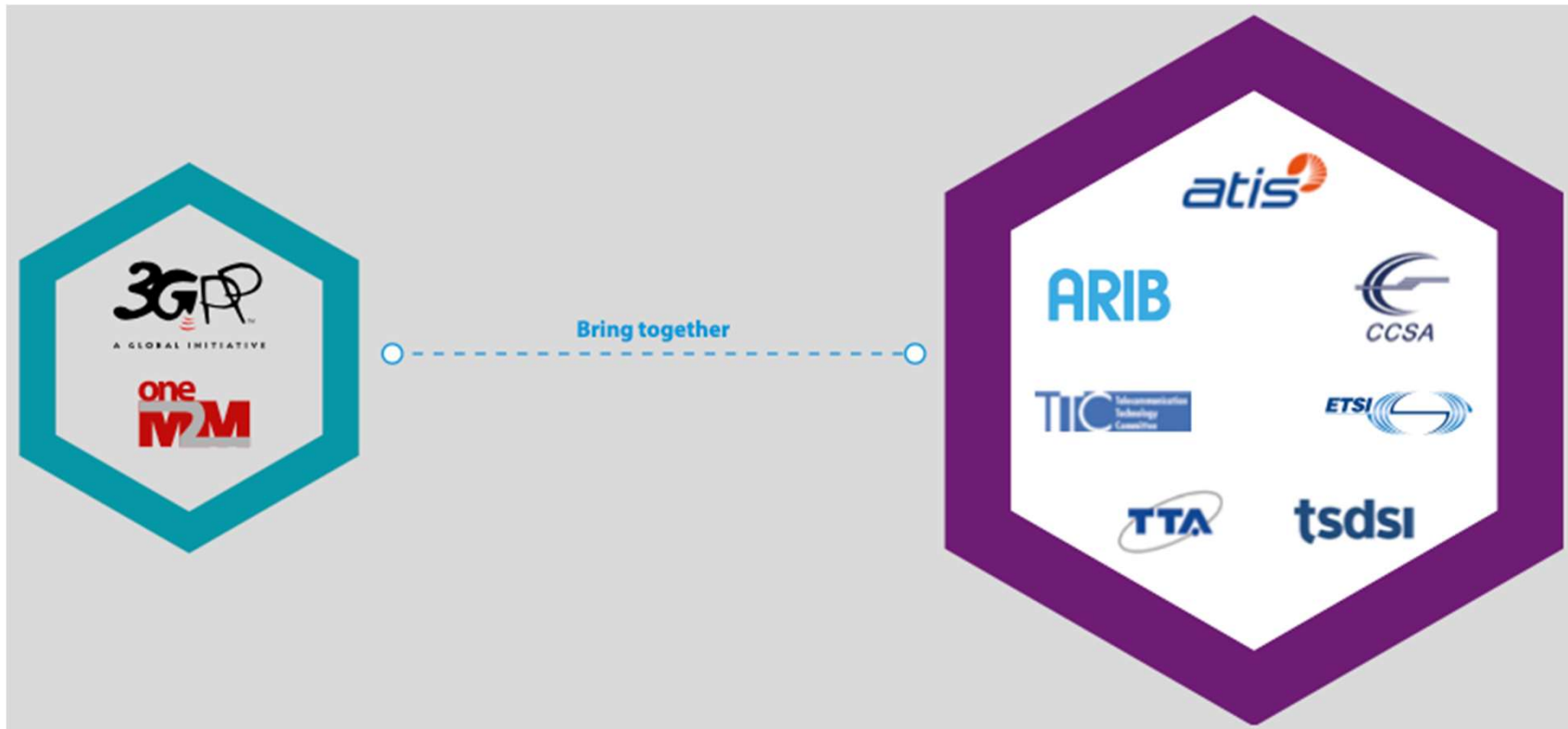


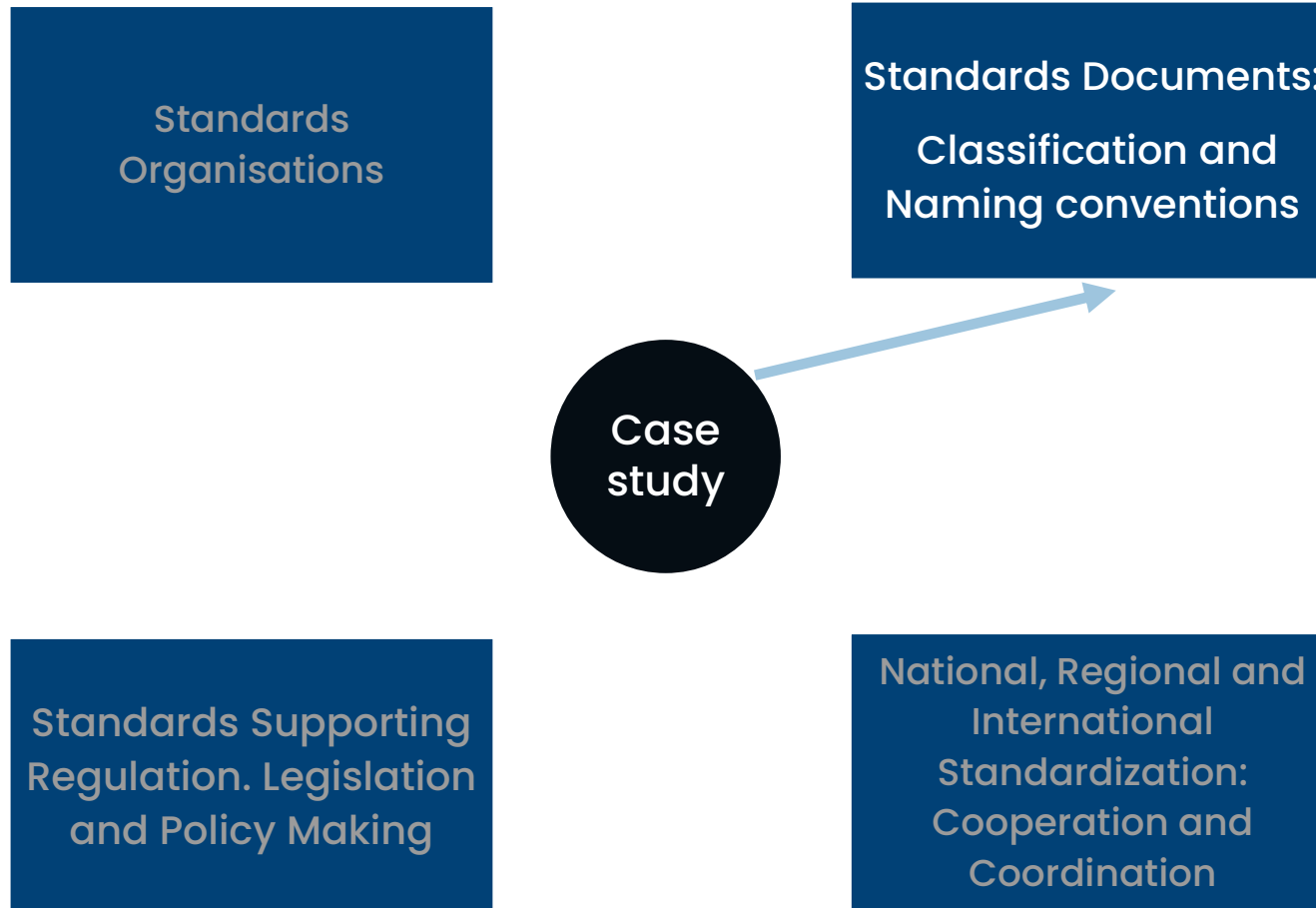
EN Publication and National adoption



3.4 NATIONAL, REGIONAL AND INTERNATIONAL STANDARDIZATION: COOPERATION AND COORDINATION

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UNE-EN 301549 V3.2.1

 Requisitos de accesibilidad para productos y servicios TIC. (Ratificada por la Asociación Española de Normalización en febrero de 2022.)

 Accessibility requirements for ICT products and services (Endorsed by Asociación Española de Normalización in February of 2022.)



Publication date: / **In force**

ICS: 33.030 / Telecommunication services. Applications

CTN: CTN 133 - Telecomunicaciones

International equivalences: **EN 301549 V3.2.1 (Idéntico)**

- **INFORMATIVE AND NORMATIVE DOCUMENTS:**
 - Standards or Technical specifications vs
 - Technical reports or Guides
- **DOCUMENTS SPECIFIC TO CERTAIN ORGANISATIONS:**
 - ETSI Standard, CEN Workshop Agreement, ISO Workshop Agreement, ISO PAS
- **CLASSIFICATION OF ICT STANDARDIZATION DOCUMENTS**
 - Terminology standards
 - Measurements or test methods
 - Specifications
 - System architecture
 - Reference models
 - Software and networking standards
 - Quality assurance
 - Horizontal and vertical standards.

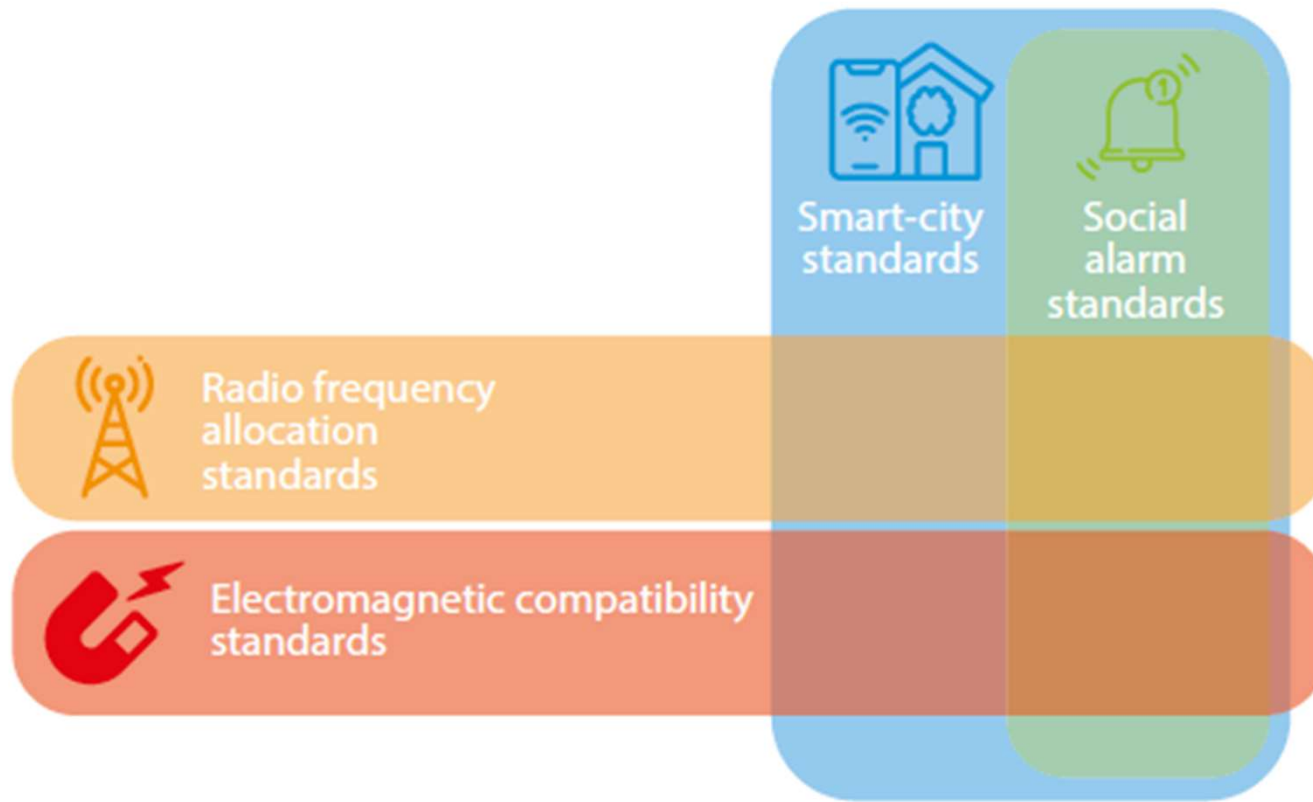


Figure 3.4: Illustration with examples of horizontal vs. vertical standards

- Learning objectives
- Modular design
- Text, images, examples, case studies, quizzes

- Personal thoughts on how to use the booktext as it is:
 - Chapters 1, 2, 3, 4. Undergraduate programs. 6 ECTS (150 hours). 4 months module
 - Chapters 5, 6, 7, 8. Postgraduate programs. 6 ECTS (150 hours). 4 months module

- Main contents of Chapter 3 “The standards ecosystem” have been presented through a case study
- Useful case studies and examples available in the textbook
- Create your own case studies? Follow your personal experience and interests
- Hooks to engage students:
 - ICT
 - Law
 - Business



Any further questions?

Contact me:

arascaso@dia.uned.es

An abstract background for the bottom section of the slide, featuring a dark blue field with a complex, glowing network of white and light blue lines and dots, resembling a digital or data network. The lines form various geometric shapes and patterns, creating a sense of depth and connectivity.

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