

Universal accessibility at *Radiotelevisión del Principado de Asturias (RTPA)*: Regulatory analysis and the perception of audiences with sensory impairment and the elderly

Mónica López-Golán; Azahara Cañedo; Marta Rodríguez-Castro

Recommended citation:

López-Golán, Mónica; Cañedo, Azahara; Rodríguez-Castro, Marta (2025). "Universal Accessibility in *Radiotelevisión del Principado de Asturias (RTPA)*: Regulatory analysis and perception of audiences with sensory disabilities and older adults [Accesibilidad Universal en *Radiotelevisión del Principado de Asturias (RTPA)*: Análisis normativo y percepción de las audiencias con discapacidad sensorial y personas mayores]". *Infonomy*, 3(1), e25004. <https://doi.org/10.3145/infonomy.25.004>

Nota: Este artículo puede ser leído en español en: <https://doi.org/10.3145/infonomy.25.004>



Mónica López-Golán

<https://orcid.org/0000-0003-4006-5768>

<https://directorioexit.info/ficha6212>

Universidade da Coruña

Facultad de Ciencias de la Comunicación

Campus de Elviña, s/n

15071 A Coruña, Spain

monica.lopez.golan@udc.es



Azahara Cañedo

<https://orcid.org/0000-0003-2308-5900>

<https://directorioexit.info/ficha7131>

Universidad de Castilla-La Mancha

Facultad de Comunicación

Aulario Polivalente, s/n. Campus Universitario

16071 Cuenca, Spain

azahara.canedo@uclm.es



Marta Rodríguez-Castro

<https://orcid.org/0000-0002-1399-9154>

<https://directorioexit.info/ficha4760>

Universidade de Santiago de Compostela

Facultad de Ciencias de la Comunicación

Campus Norte, Av. de Castelao, s/n

15782 Santiago de Compostela, Spain

m.rodriquez.castro@usc.gal

Abstract

In the current media context characterized by platformization, universal accessibility to audiovisual communication has become a fundamental issue in accordance with democratic principles. This obliges public service media to build a public value strategy based on a guarantee of universality. This aim is particularly relevant for people with disabilities and older audiences as it is directly linked to the principle of equality enshrined in the Spanish Constitution and the regulatory framework that protects the right to information access enjoyed by Spanish citizens. This research applies a case study of *Radiotelevisión del Principado de Asturias (RTPA)*, the public service broadcaster in the Principality of Asturias in northern Spain, to analyze the legal framework and the perception of audiences with sensory disabilities and elderly people in relation to its accessibility services and thereby explore whether this Asturian media outlet guarantees comprehensive access to its audiovisual content. To achieve this, we adopt a qualitative methodology. The relevant regulations were reviewed, and two focus groups were carried out: one including people over 65 years of age, and another including people with disabilities. The results reveal wide consumption of *RTPA* content, particularly news programs, by the participants in this research. However, despite the undeniable improvements achieved in terms of accessibility so far, Asturian audiences with hearing and visual disabilities continue to face barriers that hinder their full access to audiovisual content through the different media channels of this regional public service broadcaster. It thus becomes evident that the *RTPA* media outlet is usable but is still not fully accessible as required by Spanish regulations governing the accessibility of public service media.

Keywords

Accessibility; Universality; Elderly audiences; Disability; Diversity; Public service media; Public value; *Radiotelevisión del Principado de Asturias*; Principle of equality; Information; Social innovation; Communication rights.

1. Introduction and state of the art

Universal accessibility is essential for the exercise of human rights on equal terms (De-Asís *et al.*, 2007; Miranda-Erro, 2016). Managing this issue appropriately is not only an ethical and legal commitment but also results in an inclusive environment that ensures an equitable society in which everyone can enjoy the same rights and opportunities, regardless of their individual characteristics (Echegaray; Utray, 2010; Ríos, 2017). However, according to the scientific literature, the current legal framework is wanting when it comes to ensuring equality across society (Castillejo, 2016; Tor-Carroggio; Rovira-Esteva, 2019; García-Prieto *et al.*, 2022; Sierra-Fernández, 2022; Arias-Badía, 2022). Moreover, the mere existence of the current regulations does not imply that people with disabilities agree with them (García-Prieto; Aguaded, 2021; García-Prieto; Figueroa-Benítez, 2022). Indeed, they still demand further mechanisms to eliminate barriers and promote their full social inclusion (Arrufat-Pérez-de-Zafra *et al.*, 2021; Pérez-Bueno, 2023).

According to the Disability, Personal Autonomy, and Dependency Situations (*Discapacidad, Autonomía Personal y Situaciones de Dependencia, EDAD*) survey carried out in 2020 by the Spanish National Statistics Institute (*Instituto Nacional de Estadística, INE*), 4.38 million people in Spain have a disability, representing almost 10% of the population. Among these, 28.5% are hearing impaired while 24.3% are visually impaired. Moreover, 39.4% reported difficulties in accessing new information and communication technologies. In this regard, the Vice President for Equality of the Spanish National Organization for the Blind (*Organización Nacional de Ciegos Españoles, ONCE*) highlighted that “Things are not better because they are digital; they will be better if, being digital, they are accessible to all” [“No son mejores las cosas por ser digitales, serán mejores si siendo digitales son accesibles para todos”] (Sanz, 2023). Additionally, 75% of people with disabilities are over 55 years of age, indicating that higher age is a factor that affects functional capacity and increases disability rates. These figures indicate the need to implement media accessibility (MA) mechanisms effectively (Romero-Fresco, 2018), to eliminate barriers to full media access.

The accessibility of audiovisual communication services is thus crucial to ensure the democratic rights and guarantees of people with disabilities in terms of equality, participation, and social inclusion (Bariffi *et al.*, 2008; Orcasitas-Pacheco; Gutiérrez-Cano, 2022). In this regard, the European Union (EU) has recently been developing a comprehensive regulatory framework to ensure that the rights of people with disabilities remain a key priority on the human rights agenda (Greco, 2016). As an EU member state, Spain has translated these regulations into its national legislation with the aim of protecting the dignity of people with disabilities (Castillejo, 2016).

Accessibility to audiovisual communication services is essential for the fulfilment of the rights and democratic guarantees of people with disabilities, in terms of equality, participation and social inclusion.

Media accessibility (MA), as a sub-area of Audiovisual Translation Studies (ATS) (Romero-Fresco, 2018), has approached the analysis of accessibility in three different ways (Greco, 2018). The first of these focuses on people with sensory disabilities, whose associations play a critical role in improving the quantity and quality of accessible services. The second broadens this field of study to include people with language barriers, highlighting European research and development (R&D) projects such as *Hybrid Broadcast Broadband for All (HBB4ALL)*, which promotes a model for digital television that is accessible to everyone, thus underlining the importance of social innovation (Romero-Fresco, 2018). Finally, a more universal approach (Greco, 2018) focuses on all those who cannot access media products, services, or environments adequately in their original form (Greco, 2016), with MA also becoming a necessity for older people, as established by the *Audiovisual Communication Services Directive 2018/1808* (2018).

The case study of *Radiotelevisión del Principado de Asturias (RTPA)* considered herein is framed within the universalist conception of accessibility (Greco, 2018), given the importance of universality in European public service media (PSM) (EBU, 2012, 2014; Cañedo et al., 2022) to ensure that all people can exercise their right to information access (*Spanish Constitution*, 1978) and participate fully in the cultural and social life of a region or country.

RTPA is “the publicly owned company responsible for managing the public audiovisual communication service in the Principality of Asturias” [*la empresa de titularidad pública que tiene encomendada la gestión del servicio público de comunicación audiovisual en el Principado de Asturias*] (RTPA, 2024). Broadcasting regularly since 2006, it is one of the youngest regional PSM outlets in Spain. RTPA’s channels have a budget of less than 25 million euros (RTPA, 2023), with which it must manage the outlet according to the criteria of information access included in current regulations and guaranteeing universal accessibility as set out in *Law 13/2022, of July 7, General Law on Audiovisual Communication (Ley 13/2022, de 7 de julio, General de Comunicación Audiovisual, LGCA)*.

RTPA was selected for this case study because, despite its short history and low budget, it must still guarantee that its public radio, television, and web services offer universal access to all the audiences of the Principality of Asturias, in compliance with its public mandate. To achieve this, as well as ensuring that its audiovisual content is available throughout the whole region, the content must be continuously accessible through its different channels and media (radio, television, and web) to all social groups living in Asturias. Note also that this case study of RTPA could be extrapolated to other regional public broadcasters that face similar challenges in

Public service media must be continuously accessible through their different channels and media –radio, television and web– to all their audiences

terms of resource management and compliance with accessibility and universality standards.

The main aim of this study is thus to analyze the legal framework and the perception of audiences with sensory disabilities and elderly people regarding the accessibility services offered by *Radiotelevisión del Principado de Asturias (RTPA)*. To achieve this, we carried out a review of the documents and regulations on media accessibility in Spain and the technologies applied in this context. In addition, two focus groups were held with members of Asturian society: one with people with different types and degrees of disability, and another with people over 65 years of age. This methodology provides a detailed perspective on the experiences of and challenges faced by participants when consuming audiovisual content, facilitates the identification of barriers, and enables a validation of the accessibility tools offered by the Asturian public media outlet.

1.2. Universal accessibility to public service media

Public service broadcasting should be universal, addressing the whole of society and with diversified content that reflects the interests of the different segments of this audience, thus distinguishing it from other broadcast media (*UNESCO, 2006*). Traditionally, in their role as guarantors of public interest, European public service media have fulfilled the threefold mandate of information, education, and entertainment (**Blumler, 1992**). However, in recent decades, their mission has expanded owing to the need to adapt to digital media and face the challenges imposed by international platforms (**Lowe; Bardoel, 2007; Trappel, 2008; Donders, 2019**).

In this context, PSM have adopted innovative strategies to achieve legitimacy in the eyes of their stakeholders (**Rodríguez-Castro, 2021**), highlighting management based on public value (**Liddle, 2017; Sedlačko, 2020**). Accessibility is defined as “the set of characteristics that a service or means of communication must have (...) to be used in conditions of comfort, safety, equality, and autonomy, by all people” [*“el conjunto de características que debe disponer (...) un servicio o medio de comunicación para ser utilizado en condiciones de comodidad, seguridad, igualdad y autonomía, por todas las personas”*] (**Boudeguer-Simonetti et al., 2010**). This is a key component of universality, one of the elements of public value established by the European Broadcasting Union (*EBU, 2012*) and included in the proposal on the conceptualization of the public value of public service media in Europe developed by **Cañedo, Rodríguez-Castro and López-Cepeda (2022)**. In both cases, universality is approached along four dimensions: geographic coverage, program offerings for all age groups, multiplatform distribution, and building barrier-free public media.

In legal terms, as mentioned above, the *Audiovisual Media Services Directive* is the European standard favoring barrier-free media by intrinsically linking the rights of people with disabilities and the elderly to participate and integrate in social and cultural life with the provision of accessible audiovisual media (**Zarate, 2021**). Moreover, it establishes the nature of accessibility services and the responsibility

of the member states to set minimum ratios for audiovisual service providers (**García-Prieto; Aguaded**, 2021).

In the context of European PSM, the *BBC* has been a pioneer regarding the introduction of accessibility services (**García-Prieto; Aguaded**, 2021). Currently, *Ofcom*, through its *Code on Television Access Services*, requires 100% of British public television programming to be subtitled, 20% to be audio-described, and 5% to include sign language (*Ofcom*, 2024). In addition, this accessibility has recently been extended to online and on-demand content by incorporating technology that will significantly improve access to British public television programming and set new standards in support of people with disabilities. Meanwhile, considering the potential of generative artificial intelligence, the *BBC* is engaged with a series of innovation pilot projects to explore, among other aspects, new options in terms of accessibility (*BBC*, 2024). Along the same lines, other European corporations that are committed to offering accessible content, including the Finnish public broadcaster *Yleisradio Oy (YLE)*, are also testing solutions based on artificial intelligence to improve media accessibility (*YLE*, 2023).

Current regulations require public service media to implement accessibility services and establish minimum quotas for elderly people or people with sensory disabilities to access and understand audiovisual content

In Spain, the first public service media to introduce accessibility tools was the *Corporación Catalana de Medios Audiovisuales (CCMA)*, the public broadcaster in Catalunya, which began subtitling in 1990, a few months before the national broadcaster, *Televisión Española* (**Oreiro; Pereira; Utray**, 2007). Since then, Spanish public broadcasters have progressively incorporated accessibility services. Currently, according to the latest public service report of *Corporación de Radiotelevisión Española (CRTVE)*, 2022), this state-owned media outlet has improved its levels of compliance with all accessibility services versus the previous year, exceeding the minimum legal ratios established in regulations.

There have also been important advances in terms of accessibility in the context of regional Spanish PSM. Indeed, *Radiotelevisión de Andalucía (RTVA)* has demonstrated a significant commitment to the elimination of barriers to audiovisual content. This commitment is reflected in the *RTVA 2024–2025 Program Contract* (*RTVA*, 2024), in which the Andalusian broadcaster commits to a substantial technological, operational, and budgetary effort in guaranteeing universal access to its programming. Meanwhile, *Compañía de Radiotelevisión de Galicia (CRTVG)* has implemented innovative initiatives to promote the comprehension and accessibility of news content. In collaboration with Galician institutions and universities, *CRTVG* is working on the development of advanced tools for real-time subtitling in Galician and has launched the “*Sinxelo*” project, a news space designed to improve acces-

sibility for people with disabilities, which is a ground-breaking model at the state level (CRTVG, 2023).

1.3. Accessibility services for audiovisual communication

Accessibility services for audiovisual communication are mechanisms designed to ensure that all people, regardless of their age and ability, can access and understand audiovisual content. **Bariffi et al.** (2008) recall that disability results from the interaction between individual and environmental barriers; therefore, accessibility services are one of the most appropriate strategies to address it.

The main audiovisual translation (AVT) services that ensure access to audiovisual content for people with disabilities are conventional subtitling, subtitling for the deaf (SD), interpretation in Spanish sign languages, and audio description (AD). Moreover, guidelines for web accessibility are also essential to ensure that digital platforms can be enjoyed by everyone.

1.3.1. Conventional subtitling

Conventional subtitling, an audiovisual translation modality that presents the dialog in a textual format, has seen remarkable growth with the digitalization and expansion of audiovisual communication (**Díaz-Cintas; Remael, 2021**). AVT for this service is classified into intralinguistic approaches, where the subtitling and dialog are in the same language, and interlinguistic methods, which involve translation into another language (**Arias-Badia, 2022**). Although this service is aimed at multilingual audiences, it also provides extra support for the hearing impaired (**Ruiz, 2020**).

Conventional subtitling operates under space and time constraints and must adhere to the following specific parameters (**Díaz-Cintas; Remael, 2021; Arias Badia, 2022**):

- Presentation in one or two lines
- Line lengths of 36 to 42 characters
- Screen time of between one and six seconds to synchronize with the dialog and ensure seamless integration with the visual narrative

For hearing-impaired audiences, conventional captioning must satisfy four basic principles: accuracy, synchronization with the images, complete description, and correct placement so as not to block the visual content (**FCC, 2020**).

1.3.2. SD

SD is a service specifically designed for hearing-impaired people who communicate through oral language (oralist deaf people) (**Echegaray; Utray, 2010**), and exhibits some different characteristics with respect to conventional captioning (**Agulló; Matamala, 2019**). In addition to transcribing the dialog according to the mentioned rules and criteria, SD includes additional audio elements as well as character identification (**Matamala, 2006**). **Arnáiz-Urquiza** (2012) proposes six parameters that describe the information provided by SD:

- Linguistic (the dialog)

- Extralinguistic audio (nonverbal audio information)
- Pragmatic (intention and function)
- Esthetics (color, typography, and position)
- Technical (system and media platform)
- Esthetic-technical (optionality and speed)

The quality of this service must comply with editorial standards to ensure the accessibility of audiovisual content to deaf people (**Arrufat-Pérez-de-Zafra et al.**, 2021; **García-Prieto et al.**, 2022). In Spain, these quality criteria are regulated by the *UNE 153010* standard: 2012 of the Spanish Association for Standardization and Certification (*Asociación Española de Normalización y Certificación, AENOR*, 2012).

1.3.3. Sign languages

An on-screen window showing a signer enables the presentation of verbal information using sign language. This gesture–visuospatial resource is intended for deaf people who use this communication system to interact socially (**Echegaray; Utray**, 2010; *Law 27/2007*). Despite its importance, this accessibility tool is considered to receive insufficient attention (**Sierra-Fernández**, 2022), and its application is mainly limited to the news space (**Arias-Badía**, 2022).

In Spain, there are no official guidelines that standardize the inclusion of sign languages on screen (**Baliarda et al.**, 2019). However, the “Guide to Good Practice for the Incorporation of Spanish Sign Language on Television” [*Guía de buenas prácticas para la incorporación de la lengua de signos española en televisión*] published by the *Royal Board on Disability [Real Patronato sobre Discapacidad]* and produced by the *Center for Linguistic Standardization of Spanish Sign Language (Centro de Normalización Lingüística de la Lengua de Signos Española, CNLSE)* in 2017, provides technical and linguistic criteria to ensure that television can be consumed by deaf signers. Some key points included in this guide are:

- The size and position of the interpreter’s window on the screen to ensure its visibility but without interfering with the main content
- The use of backgrounds that contrast with the clothing and skin tone of the interpreter, to improve legibility
- Recommendations on the speed and clarity of the sign language used, to ensure that it is understandable by all users

Finally, it admits that the inclusion of the signer window is intrusive and poses a challenge that is recognized by both the audience and accessibility associations (*RTVE*, 2022).

1.3.4. Audio description

Audio description (AD) is the main accessibility tool in audiovisual media for visually impaired people, consisting of “a condensed commentary woven around the soundtrack of an audiovisual product” [*en un comentario condensado que se teje alrededor de la banda sonora de un producto audiovisual*] (**Ballester**, 2007: 152).

This service offers a translation by transforming images into words, to facilitate the understanding of the content for this audience group (**Díaz-Cintas**, 2005). The goal of AD is to provide an authentic viewing experience that remains as close to the original as possible (**Bruti**, 2021). To achieve this, as with SD, AD must meet specific quality criteria as detailed in the *UNE 153020:2005* standard in Spain (*AENOR*, 2005), which apply to programs broadcast in any format. These requirements emphasize the need for a clear and fluent style, appropriate vocabulary, and the use of specific adjectives, based on guidelines established by the Royal Spanish Academy [*Real Academia Española*] and regulators of Spain's other official languages.

1.3.5. Web accessibility

Web accessibility is governed by the *World Wide Web Consortium's* Web Content Accessibility Guidelines (WCAG) 2.1, established as international standard *ISO IEC 40500:2012* (*ISO*, 2012). These standards aim to ensure access to web content for everyone, regardless of their capabilities (**Marino et al.**, 2016), thereby favoring the consumption experience based on the principles of perceivability, operability, comprehensibility, and robustness (*W3C WAI*, 2024).

Under these principles, the WCAG establishes specific criteria that websites must meet to be considered accessible. These criteria address various technical and design aspects, such as color contrast, keyboard navigation, the clarity of instructions, or compatibility with assistive technologies. In relation to the latter, people who are blind or partially sighted rely on software such as screen readers and magnifiers to interpret the underlying code of the website or magnify the visual content, respectively (**Sánchez-García**, 2017).

Implementing WCAG not only improves accessibility for people with disabilities but also benefits all users by improving the overall usability of the website. This promotes a responsive design that works across various devices and screen sizes, with a clear content structure that facilitates navigation and comprehension. In Spain, the *UNE-EN 301549* standard, which incorporates WCAG 2.1, is responsible for setting the accessibility requirements for websites and information and communications technology (ICT) products to ensure that they are understandable by all (*AENOR*, 2022).

Based on the above, we pose the following two research questions (RQs):

RQ1: To what extent, according to its public service mandate, do the regulations of *RTPA* ensure universal accessibility for people with disabilities and older adults?

RQ2: How do audiences with disabilities and older adults perceive *RTPA's* accessibility services and tools?

2. Methodology

To answer these questions, a qualitative methodology was applied, based on two techniques: documentary analysis and focus groups. Access to documentary sources made it possible to critically examine the gray literature on RTPA and the most relevant European, national, and regional regulations, thus facilitating an understanding of the legislative framework that regulates universal accessibility in public service media. The focus group method relies on the interaction of a group to generate a consensus based on the input from the participants (Hennink, 2014; Barbour; Morgan, 2017). By enabling group interaction, the focus group provides a favorable space to reveal nuances, perceptions, and shared experiences, thus contributing to a more complete and well-defined vision of the topic under consideration (Barbour; Morgan, 2017). This technique was used in this work to identify the different forms of audience access to RTPA's audiovisual communication services and their degree of satisfaction with the resulting levels of accessibility.

Two focus groups were carried out, one with people over 65 years of age (RTPA's main audience) and the other with people with varying degrees of disability, as well as accessibility technicians from associations representing this group. Both focus groups were carried out in person at RTPA's facilities in Gijón on September 25 and 26, 2023, in the morning, lasting 100 and 95 minutes, respectively. Each session was attended by the three authors, acting as a moderator and two observers. Beforehand, participants were contacted individually to inform them about the nature of the study and the importance of their participation, generating a climate of trust to foster cooperation.

The older audience focus group comprised seven people based on an internal segmentation using age, gender, area of residence, and the language they normally used. The participants were three men aged 68, 71, and 73 years and four women aged 65, 70, 74, and 79 years. Forty percent of the participants resided in rural areas of the region (three women) and 60% in the main towns of Asturias (three men and one woman). Fifty-seven percent usually spoke Asturian, and all of them, to a greater or lesser extent, stated that they consumed content broadcast by RTPA. This group including the audience with disabilities was made up of eight participants, plus a sign language interpreter, segmented according to the type of disability. Thus, the group was constituted as follows: a representative of the Asturias Dyslexia Association [*Asociación Dislexia Asturias*], the mother of a minor with dyslexia, two accessibility technicians from the Association of Parents and Friends of the Hearing Impaired of Asturias (*Asociación de Padres y Amigos de Personas con Discapacidad Auditiva de Asturias, APADA*), a deaf signer and representative of the Federation of Deaf People of the Principality of Asturias (*Federación de Personas Sordas del Principado de Asturias, FESOPRAS*), an accessibility technician from the Spanish Confederation of People with Physical and Organic Disabilities (*Confederación Española de Personas con Discapacidad Física y Orgánica, COCEMFE*), and two ONCE tiftotechnologists (one blind and one visually impaired). From a legal

point of view, all participants gave their oral consent for recording of the sessions and anonymized publication of their testimony for academic purposes.

Using the North American approach, which allows for greater control of the group and the discussion generated by the research team, the focus group questionnaires were structured around three thematic blocks: consumption of audiovisual content, perception of universal accessibility as an aspect of public importance, and the accessibility tools offered on RTPA's television, radio, and website services. During the session with the audience with disabilities, the technicians from ONCE also demonstrated the screen readers and magnifiers to illustrate accessibility issues. The content of the two sessions was manually transcribed for coding by applying a thematic analysis (Braun; Clarke, 2021).

3. Results

Considering the information extracted from the techniques applied in this study, the results are organized into the following sections: (1) legal obligations in the current regulatory framework and the accessibility services available by RTPA and (2) the consumption and perception of the guarantee of accessibility in RTPA.

3.1. Legal obligations in the current regulatory framework and the accessibility services offered by RTPA

RTPA must comply with various legal obligations to ensure the accessibility of its broadcasts and to promote inclusion and equality in terms of access to information and culture. These obligations, derived from international directives, national and regional laws, and specific regulations, require the provision of services that guarantee such accessibility.

3.1.1. Regulatory context and RTPA's legal obligations

There are three key international initiatives that support the commitment to accessibility and nondiscrimination. The first is the *Convention on the Rights of Persons with Disabilities* (CRPD) (UN, 2006), which has become a key agreement to encourage UN Member States to work on common challenges and foster a culture that values diversity. Article 9 of this treaty promotes accessibility for persons with disabilities, to enhance their autonomy and favor their access to, among other things, information and communication technology (ICT). In addition, to encourage full participation in all aspects of life, including cultural life, it urges Member States to ensure "access to television programmes, films, theatre and other cultural activities, in accessible formats" ["el acceso a programas de televisión, películas, teatro y otras actividades culturales en formatos accesibles"] (Article 30.1.b).

Secondly, the *Charter of Fundamental Rights of the European Union*, adopted in 2000, enshrines rights such as nondiscrimination (Article 21) and the integration of people with disabilities into society (Article 26). On the other hand, the *Treaty on the Functioning of the European Union* (TFEU) establishes the principle of nondis-

crimination on the grounds of disability (Article 10) and the obligation of the EU to adopt antidiscrimination measures (Article 19).

These initiatives provide the legal framework and principles that justify European laws and directives on accessibility. The latter include the *Web Accessibility Directive* (2016), which sets out the accessibility requirements for public sector websites and mobile apps; the *European Accessibility Act* (2019), which extends such accessibility requirements to a variety of products and services across the EU; and the *Audiovisual Media Services Directive 2018/1808* (2018), which extends the scope of the rules for audiovisual media services, recognizing that the “right of persons with an impairment and of the elderly to participate and be integrated in the social and cultural life of the Union is linked to the provision of accessible audiovisual media services”.

At the national level, *Law 13/2022, of July 7, the General Law on Audiovisual Communication (LGCA)* incorporates the provisions of *Directive 2018/1808* to harmonize Spanish regulations with European regulations. This law reinforces the commitment to accessibility by expanding both accessibility obligations and the number of audiovisual providers that must comply with them (Table 1).

Table 1. Obligations for audiovisual providers under the LGCA

PLATFORMS		SERVICES		
		Subtitling	Sign language	Audio description
Free-to-air linear TV	Public	90%	15 hours per week	15 hours per week
		Primetime	Primetime, including news, children's programming, and programs of interest to the audience	Primetime including cinematic and television movies of any genre
	Private	80%	5 hours per week	5 hours per week
		Prime time	Primetime, including news, children's programming, and programs of interest to the audience	Primetime, including news, children's programming, and programs of interest to the audience
Conditional access linear TV		30%	Gradual incorporation	5 hours per week
		Programs of major interest to the audience	Programs of major interest to the audience	Top-rated content
Television on demand		30%	Gradual incorporation	Gradual incorporation
		Content of greatest interest to the audience	Given due prominence in programming	Given due prominence in programming

Source: elaborated with data from the LGCA.

In practice, the transposition of the *Audiovisual Media Services Directive 2018/1808* to the various Member States has accelerated the adoption of mechanisms ensuring the accessibility of audiovisual services and platforms. As a result, in most countries, and as shown in Table 1, public service media have much higher accessibility obligations than private media (*European Audiovisual Observatory, 2023*).

The *LGCA* also introduces quality criteria for accessibility tools and recognizes the Spanish Centre for Subtitling and Audio Description (*Centro Español del Subtitulado y la Audiodescripción, CESyA*) and the Centre for Linguistic Standardization of Spanish Sign Language (*Centro de Normalización Lingüística de la Lengua de Signos Española, CNLSE*) as technical reference organizations regarding audiovisual accessibility. Finally, this law urges audiovisual communication service providers to adopt self-regulatory codes to achieve universal accessibility, recommending validation of their quality by specialized organizations. It also states that the National Commission for Markets and Competition [*Comisión Nacional de los Mercados y la Competencia*] will be responsible for supervising compliance with these obligations.

Meanwhile, *Royal Decree 1112/2018, of September 7*, on the accessibility of public sector websites and applications for mobile devices, adapts the provisions of *EU Directive 2016/2102* to the Spanish legal framework to ensure the accessibility of public electronic services in the digital context. The main obligations imposed by these regulations are as follows:

- To fully integrate accessibility into all stages of the design, management, maintenance, and updating of website and mobile application content (Article 5).
- To ensure that the websites and mobile applications of public sector organizations are accessible according to the standards defined in the *UNE-EN 301 549* standard (*AENOR, 2022*), which is based on the aforementioned *Web Content Accessibility Guidelines (WCAG) 2.1* of the *W3C* (Article 6).
- To train and raise awareness among public employees and society of the importance of accessibility and the corresponding legal obligations (Article 8).
- To establish an accessible mechanism for users to report accessibility problems (Article 10).
- To publish and keep updated an accessibility statement for websites and mobile applications (Article 15) and to conduct a review of compliance with established accessibility requirements (Article 17).
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In relation to the protection of fundamental rights, the *Spanish Constitution* (1978) stresses the importance of the social inclusion of persons with disabilities and establishes that it is the responsibility of the public authorities to “promote the conditions for the real and effective freedom and equality of the individual and of the groups in which he or she is integrated; to remove obstacles that prevent or hinder

their full realization and to facilitate the participation of all citizens in political, economic, cultural, and social life” [*“les corresponde promover las condiciones para que la libertad y la igualdad del individuo y de los grupos en que se integra sean reales y efectivas; remover los obstáculos que impidan o dificulten su plenitud y facilitar la participación de todos los ciudadanos en la vida política, económica, cultural y social”*] (Article 9). This regulation was modified in 2024, when Congress eliminated the derogatory term “handicapped” [*“disminuidos”*] from the wording and replaced it with “persons with disabilities,” which also represents a semantic advance toward equality for this group.

In addition to the aforementioned legal instruments, Spain has had specific regulations on accessibility for more than 40 years (*Discamedia*, 2023). *Law 27/2007, of October 23, 2007*, which recognizes Spanish sign language and regulates the means of support for oral communication for deaf, hearing-impaired, and deaf-blind people, is a fundamental text for the adoption of measures to promote accessibility and the elimination of barriers to communication. Meanwhile, *Royal Legislative Decree 1/2013, of November 29, 2013*, provides a legal framework for the protection of the rights of persons with disabilities in Spain, to guarantee the right to equal opportunities (Article 1), which is also included in the *Spanish Constitution*.

In the regional context of *Radiotelevisión del Principado de Asturias (RTPA)*, *Law 8/2014, of July 17*, regulates its service provision, albeit with limited mention of accessibility. Although universality is key in European public media (*EBU*, 2012, 2014; **Cañedo et al.**, 2022), specific mentions can barely be found in Asturian legislation.

Radiotelevisión del Principado de Asturias offers optional accessibility services such as subtitling for deaf people or audio description

Thus, although *Law 5/1995, of April 6, 1995*, promotes accessibility in the region and specifically mentions the field of communication, it was drafted before the existence of the public service broadcaster.

3.1.2. Accessibility services offered by RTPA

The Asturian public service broadcaster offers optional accessibility services for audiovisual consumption on television and the web. In both cases, each service or tool is oriented toward use by a specific target audience (Table 2).

For television consumption, *RTPA* offers the AD service, available for the blind and partially sighted. It also provides SD. To indicate the availability of these two services, identification icons corresponding to SD or AD are shown immediately before a program is broadcast. In the case of the AD service, this graphical indicator is accompanied by an informative voice announcement so that blind people are aware of its availability.

When accessing *RTPA* through its website, several measures have been adopted by the Asturian public broadcaster to facilitate access by all audiences. The most important of these are: (1) the Asturian PSM's website adopts a logical order for the elements that appear on-screen; (2) the design is responsive, so that the navigation experience is optimal when using any device; (3) it follows the standards of the *W3C Consortium*; (4) it applies the *Accessibility Guidelines for Web Content 2.0*, level AA, which specifies compliance at the second of the three levels recognized by the *W3C Consortium*, and; (5) it uses HTML5 semantic tags to support the relationship of web content with assistive technologies, such as screen readers.

Table 2. *RTPA* accessibility services

Platform	Target audience	Accessibility services	Advantages for this audience
Television	People who are blind or partially sighted	Audio description	Supplementary audio description via an auxiliary audio channel
	Hearing impaired (oralists)	SD	Character identification and contextual information
Web	Blind people	Accessibility guidelines for web content	Interaction with screen readers
	People with visual impairment	Accessibility guidelines for web content	Interaction with screen magnifiers
	People with dyslexia, older audiences, people with intellectual disabilities, and people with specific learning difficulties	Accessibility guidelines for web content	Highlighting effect

Source: Elaborated with data from the *RTPA* website.

In addition to these measures, the *RTPA* website also offers conventional subtitling through a tool that activates it in those on-demand programs for which this option is available. On the other hand, programs that include this service offer subtitling with a "highlighting effect" as a resource to facilitate reading of subtitles by people with specific learning difficulties, elderly people, people with low literacy, or viewers with dyslexia.

3.2. Consumption and perceptions of the *RTPA* accessibility guarantee

3.2.1. Consumption of content broadcast by *RTPA*

The participants in the study confirmed that they consumed, to a greater or lesser extent, audiovisual content broadcast by *RTPA*. The results show that the Asturian PSM plays a significant role in the audiovisual life of people aged over 65, serving

as a source of entertainment, information, and social connection. *RTPA* was identified with high-quality news, becoming the main option for keeping up to date with local current affairs. In terms of devices, these older audiences report that the majority of their consumption is via television, except for one participant who reported using a tablet sometimes.

The disabled audience group also consumed *RTPA*'s audiovisual content. Although they emphasized the most popular entertainment programs on this media outlet, they stated that they are also regular followers of news programs. They reported a positive assessment of the media outlet because, in general, they appreciate how they are presented in a positive and inclusive light that makes them feel part of Asturian society, rather than in a conflictive fashion. Access by this group is more varied and less traditional, as some participants accessed *RTPA* through the smartphone app, via which they consume live content or on-demand programs.

3.2.2. Assessment of subtitling and sign language services

People with disabilities participating in this research praised the regulatory advances that require mandatory accessibility of audiovisual communication services. However, they state that the current Spanish legislation does not adequately address the diversity of their group, considering the wide range of degrees of disability and the different communication systems used. Measures established in the regulations, such as providing a minimum number of hours of sign language content, do not meet the needs of non-signing deaf people if such content is not also subtitled. For this reason, hearing-impaired people and representatives of the associations that protect their rights insist that *RTPA*'s accessibility services do not address all the needs of this group.

RTPA offers the SD service for only part of its programming, which is considered insufficient, as expressed by several participants with disabilities. Because of this, they are forced to resort to conventional subtitling, when available, despite significant deficiencies in terms of quality, "because it does not comply with regulations, does not respect punctuation marks, and confuses words" [*porque no cumple con la normativa, no respeta los signos de puntuación y confunde las palabras*]. They also point out that, for a correct understanding of the content, it is important that closed captioning uses color codes to distinguish the dialog of the different characters, or that it should not omit auditory information such as "the sound of an alarm or thunder" [*el sonido de una alarma o de un trueno*].

The use of colors is also important for people with dyslexia, another group served by *RTPA* through the "highlighting effect" in the subtitles, which improves the legibility of the text and the identification of each character's dialog. However, representatives and relatives of dyslexic people warn that some of the difficulties they experience are not well addressed or that the measures adopted by the Asturian media outlet are insufficient. They point out that *RTPA*'s highlighted subtitles appear in white on a black background, when in fact "they would be much more ac-

cessible if the background were clear and the letters in black” [*serían mucho más accesibles si el fondo fuera claro y las letras en negro*]. In addition, they recommend the use of more legible fonts (Arial, Verdana, or Helvetica), a consistent captioning structure, and appropriate use of line spacing. They suggest adopting the *British Dyslexia Association* style guide to improve written communication, which would benefit all users of the media outlet. “We’re talking about universality. What works for some, works well for the rest as well” [*Hablamos de universalidad. Lo que les va bien a unos, también le va bien al resto*], said one participant. Finally, they request that the time that the text remains on-screen be extended, because as stated by the mother of a young girl affected by this disorder, “my daughter does not watch *TPA* because she does not have time to read the subtitles” [*mi hija no ve TPA porque no le da tiempo a leer los subtítulos*].

Along the same vein, older audiences unanimously requested that news headlines remain longer on-screen, because they feel unable to read them in full. Although these people do not use captioning on a regular basis, they acknowledge the existence of the service and some participants admitted to activating it during news programs. One participant, who has spoken Asturian since childhood, said that she uses this service to improve her understanding of news messages. In addition, older people agree with the other focus group in stating that the speed of presentation of the subtitles is too fast: “it must be because of our age, but there is no time to read them” [*debe ser por la edad, pero no da tiempo a leerlos*].

Hearing-impaired people insist on the need to improve the conventional subtitling service because its shortcomings lead them to consume audiovisual content through other general channels or to move to more inclusive, streaming platforms. They point out that this service should be available for all programming rather than just isolated content, insisting also on the requirement to improve the quality of the subtitling to avoid misinformation among oralist deaf people. The *APADA* confirms that, on more than one occasion, they have approached the regional administration to raise this issue. They indicate that their concerns are usually not addressed until they demonstrate that the service suffers from an evident deficit. In one example incident, they sent a screenshot of a speech by the President of Asturias, Adrián Barbón, where the subtitle erroneously indicated “we are going to steal” [*vamos a robar*] instead of “we are going to try” [*vamos a probar*]. Representatives of this association also point out that, when they complain to *RTPA*, the media outlet justifies its inaction on the basis of budgetary constraints. Finally, they insist that there is a clear need to increase the number of hours of subtitling for the deaf in the channel’s live news programs.

With respect to sign language, although fully aware of the difficulties that may arise from providing this service, they request that, at the very least, the main news programs have an interpreter for deaf signers. They want to make *RTPA*, and society in general, aware that access to information is a right for all citizens, without exception, and that this right is especially relevant in exceptional situations such as

that experienced during the Covid-19 pandemic. The lockdown, according to FESOPRAS, “was a turning point for our group because we had users locked up at home because they did not know if they could go out to buy food because the information did not reach them” [*“supuso un punto de inflexión para nuestro colectivo porque teníamos usuarios encerrados en casa porque no sabían si podían salir a comprar comida debido a que la información no les llegaba”*]. This situation, in which television became the main source of information for the public, resulted in an information gap for deaf signers. In view of this problem, they state that the federation “contacted TPA and the regional government to offer a free sign language interpreter for official press conferences” [*“se contactó con TPA y con el gobierno regional para ofrecer de forma gratuita un intérprete de lengua de signos para las ruedas de prensa oficiales”*]. This emphasizes the importance of collaborating with relevant organizations to offer a high-quality audiovisual service. They also call for a stronger commitment to sign language, arguing that it is essential to guarantee the constitutional right to equality in terms of access to information and social participation.

3.2.3. Assessment of web accessibility and audio description services

Visually impaired people are served by RTPA through accessibility services such as audio description and online mechanisms that allow access to audiovisual content through specific software such as screen readers or magnifiers. According to one of the participants who uses these services, “RTPA has access tools for the visually impaired, but they are deficient” [*“RTPA tiene herramientas de acceso para las personas con problemas de visión, pero presentan carencias”*], adding that, when a service or resource suffers from some kind of failure, it cannot be considered to be accessible.

The accessibility services of Radiotelevisión del Principado de Asturias have shortcomings, which is why users describe it as a usable medium, but not fully accessible

Web browsing via the JAWS screen reader

To demonstrate these issues, one participant with total blindness who is an expert in technology for the blind performed a demonstration on the RTPA web page using the ONCE’s corporate software, JAWS. They started by clarifying that the screen reader provides a vocal rendition of the various elements and texts that appear on the screen of the device, in this case, a computer, although other devices such as a cellphone or tablet could also be used. However, he explained that this is not a literal translation from text to audio. Rather, “the reader interprets the code of the operating system or application being used” [*“el lector interpreta el código del sistema operativo o la aplicación que se está utilizando”*]. In terms of the different operating system, he notes that each includes its own accessibility tools, integrated with more or less success, mainly *Android*, *iOS*, *Windows*, *MacOS X*, *FireOS*, and to a lesser extent, *Linux*. *Windows* was used for the demonstration.

Web structure and HTML tags

The first step for the screen reader, explains the blind participant, “is to load the web page and read it from beginning to end, but this would result in excess information when listening if the objective is to find specific content” [“*es cargar la página web y hacer una lectura de principio a fin, pero esto derivaría en un exceso de información en la escucha cuando el objetivo es encontrar un contenido específico*”]. Thus, if the purpose is to navigate to, for example, the “TPA live” [“*TPA en directo*”] tab, the fastest way is through the headers, “which are HTML code structures” [“*que son estructuras de código HTML*”]. This reading system allows the user of the screen reader to navigate more quickly through the elements on the web page, without having to read the entire page to become familiar with its structure. However, at the beginning of the demonstration, it was found that, with the intention of making a first, linear exploration of the web, the reader’s voice indicated “arrow pointing up” [“*flecha apuntando hacia arriba*”], i.e., the JAWS command indicates to go backward, when it should say “arrow pointing down” [“*flecha apuntando hacia abajo*”] to continue moving forward. This is a failure of labeling and therefore, the participant assured, of accessibility.

Going back to the top of the page and, in this case, scanning by headers, the reader offered “TPA Sports” (“*TPA Deportes*”) as the first header, indicating “header level 3” [“*nivel de encabezado 3*”], This information is puzzling to the screen reader user because headings 1 and 2 should have appeared first. Starting from the top of the page again, so that the user can find a header to guide them, the reader’s voice says “go on, I don’t know” [“*sigue, no sé*”] In this case, “the screen reader is recognizing that the link code is OK, while what is not OK is what goes behind the code, i.e., how the link is expressed” [“*el lector de pantalla está reconociendo que el código del enlace está bien, lo que no está bien es lo que va detrás del código, es decir, cómo está expresado el enlace*”], said the participant who was performing the demonstration. After three attempts, the “TPA live” (“*TPA en directo*”) header was located. This indicates that one of the most important accessibility deficits on web pages for the visually impaired is a lack of structure. The second failure is linked to inaccuracies in the descriptions of images, links, and other elements present online. In this context, the affected audience highlights the need for more precise organization of the content as well as more detailed descriptions of the website elements. They request improvements such as that, for example, when the reader passes over the RTPA logo, it does not simply indicate “logo graphic image” [“*imagen gráfico logo*”] but rather a more precise interpretation, such as “RTPA logo.”

Website customization

Another visually impaired participant, also a tflotechnologist, explains that modifications can be made in the operating system itself through the page settings. Some of the characteristics that could be changed are the font size or the contrast, to lighten the screen or activate dark mode. The application of a combination of settings in the Windows operating system confirms that the RTPA page indeed al-

lows their application. Such settings, says the participant, “allow adaptation to the different visual needs of each user” [*“permiten hacer una adaptación a las diferentes necesidades visuales de cada usuario”*].

When browsing, a visually impaired user may adapt well to the font size applied but then need to enlarge it for a specific section. In this case, the operating system’s magnifier allows some magnification, although an attempt at this on the *RTPA* website resulted in aliasing of the text. The use of more accurate screen magnification programs such as *ZoomText* is recommended to overcome this problem. The participant points out that, although the website of the Asturian public media outlet enables the application of such tools, “there is a need for greater customization of the page” [*“se echa en falta que la página permita más personalización”*].

In general, this group agrees in praising the accessibility work of other public broadcasters such as *Radiotelevisión Española (RTVE)*, especially on the *RTVE Play* platform. They therefore suggest following this example to correctly establish web accessibility guidelines.

Audio description

To conclude this section, note that the target audience of the audio description service requests more content with audio description in pre-recorded programs shown at primetime. In addition, on the basis of their personal consumption experiences, they report shortcomings such as an insufficient volume or a lack of information regarding the programming that incorporates this service.

4. Conclusions

This study analyzed the legal framework and perception of audiences with specific accessibility needs, including the elderly and people with sensory disabilities, to explore the extent to which *RTPA* guarantees full access to the audiovisual content broadcast through its different channels. In accordance with its public service mandate, the Asturian regional broadcaster must comply with the principle of universal accessibility, as well as with the regulations that protect the communication rights of these groups, thus two face-to-face focus groups were carried out to determine the perceptions of the affected audiences. In general, although *RTPA* offers various accessibility tools and resources for these specific audiences, both groups coincide in identifying certain deficiencies. The results show that the Asturian PSM provider does not satisfy all the audience with specific accessibility needs. This would require the application of a corporate and social sustainability strategy to take diversity into account comprehensively across the activity of this public media outlet.

The predominant demands of Asturian people with sensory disabilities are related to the need to increase accessible content in all services, mainly sign language and subtitling for the deaf

In this context, people with disabilities maintain a demanding position. The group stresses that the actions of public authorities and their policies do not protect their fundamental rights on a par with the rest of the population, representing a risk to social sustainability. The standardization of legislation and its limitations are criticized because disability is considered to be a uniform concept when it actually encompasses a wide range of conditions and degrees. Therefore, in line with previous studies (**Castillejo**, 2016; **García-Prieto**; **Figuerero-Benítez**, 2022; **Sierra Fernández**, 2022), the predominant demands are related to the need to increase the amount of accessible content across all services, mainly sign language and SD. Regarding the platformization process, it becomes necessary to improve the structure of *RTPA*'s website, a key element in the current context, but which shows serious issues in terms of accessibility. A comparison with other public broadcasters such as *RTVE* reveals the possibility of copying successful models to address this issue. However, the capacity of the regional broadcaster to act is limited owing to its limited budget.

Meanwhile, visually impaired people also advocate for accessibility settings that enable more personalized usage, such as changes in font size, contrast, or appearance settings. In general, among the parameters defined by **Arnáiz-Urquiza** (2012), the current results indicate that the esthetic and esthetic-technical ones should be studied by *RTPA* to ensure complete audience inclusion.

In relation to conventional subtitling, as suggested by previous research (**Arrufat-Pérez-de-Zafra et al.**, 2021; **García-Prieto et al.**, 2022), quality improvements to the service are suggested, even though this is not considered to be a resource specifically for people with disabilities (**Ruiz**, 2020). The main recommendations emerging from this work are to (1) apply color schemes to distinguish speakers in dialogs, (2) to not omit relevant audio information, (3) to adopt a coherent structure, and (4) to reduce the speed of subtitles. In line with the experience of other European PSM, artificial intelligence can play a key role in the construction of accessibility mechanisms for audiovisual content on *RTPA*, such as real-time subtitling.

In the current media system, public service media act as guarantors of democratic values and must promote and protect the universal accessibility of audiovisual communication services. The findings of this study underscore the relevance of addressing the identified gaps to ensure an inclusive and equitable experience for people with specific accessibility needs. Only in this way will *RTPA* be able to comply effectively with the principle of universality included in its public service mandate and thereby promote social sustainability. This commitment to the universality of public service media via the active social participation of all citizens should not be optional but obligatory. In this way, *RTPA* would advance from being simply usable to become a fully accessible broadcaster.

Finally, note that the two focus groups also facilitated the identification of specific needs and the collation of information directly from users of the accessibility ser-

vices offered by the Asturian public service broadcaster. The triangulation of this data with an analysis of the current regulatory framework strengthens our understanding of the discrepancies between current regulations and the practice at RTPA. The main limitation of this study lies in its limited geographic focus, which prevents generalization of its results to all people with disabilities or to older audiences in Spain. However, given that methodologies such as focus group dynamics and analysis of the perception of accessibility could be replicated in other contexts, and that the legislation on accessibility in Spain is relatively uniform and dependent on European regulations, future lines of research could extend this study to other Spanish regional public media to enable comparisons and identify good practices that could be implemented in different situations.

5. Financing

The research described herein forms part of the activities of the following research projects:

“Creation of a platform for generating chatbots through AI for communicating the public value of PSM” [*Creación de una plataforma generadora de chatbots mediante IA para la comunicación del valor público del PSM*] (ref. PDC2023-145885-I00), funded by MCIN/AEI/10.13039/501100011033;

European Union NextGeneration EU/PRTR program “Innovation ecosystems in the communication industries: actors, technologies and configurations for the generation of innovation in content and communication, funded by the State Research Agency” [*Ecosistemas de innovación en las industrias de la comunicación: actores, tecnologías y configuraciones para la generación de innovación en contenidos y comunicación, financiado por la Agencia Estatal de Investigación*] (Ref. PID2020-114007RB-I00) (2022–2024), and the

“Study on the public value of Radiotelevisión del Principado de Asturias” [*Estudio sobre el valor público de Radiotelevisión del Principado de Asturias*] (230329UCTR).

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