
Eladio Gutiérrez Montes

eladio.gutierrez@telefonica.net
Telecommunications
consultant. Spain.

Marc Espín

marc.espin@uab.cat
Trainee researcher. Spain.

Isabel Fernández Alonso

mariaisabel.fernandez@uab.es
Senior Lecturer. Autonomous
University of Barcelona. Spain.

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Impact of the digital dividend release on regional digital terrestrial television in Spain: the cases of Andalusia, Catalonia, the Balearic Islands and Navarre

Abstract

This article describes and analyses the implications for regional terrestrial television in Spain of the withdrawal of one multiplex per self-governing region, as imposed by the 2014 National Technical Plan for Digital Terrestrial Television (DTT). This measure results from the release of the digital dividend, whose frequencies (790-862 MHz) –occupied by Hertzian television up to this time– will be used for electronic communication services. The article provides an in-depth analysis of the situation in the four self-governing regions (Andalusia, Catalonia, the Balearic Islands and Navarre) that have expressed greater concern and disagreement with this spectrum reduction measure, since it will affect existing or future DTT offerings.

Keywords

DTT, self-governing regions, digital dividend, audiovisual policy

1. Introduction

The radioelectric spectrum is the set of all electromagnetic radiations that can be moved by radioelectric means. The spectrum is finite; it is a scarce resource of indisputable economic value. In addition, the spectrum's use is growing because it supports all kinds of radioelectric broadcasts, which are becoming more widespread in the Information Society. It is for these reasons that it has to be regulated, and the organisation in charge of doing so internationally is the International Telecommunications Union (ITU), whose agreements are binding on those countries that are signatories to the ITU Treaty.

To facilitate coordination between countries, various supranational bodies usually submit previously adopted regional agreements to the ITU's international conferences. Within the European context, prominent among such bodies are the European Conference of Postal and Telecommunications Administrations (CEPT), which brings together 48 countries, and the European Union (EU), which acts through the Radio Spectrum Policy Group (RSPG), a high-level advisory group

that assists the European Commission. Both organisations work to align their Member States' positions to simplify the ITU's final debates.

Regarding the spectrum allocated to television services, the starting point is the European VHF/UHF Broadcasting Conference (Stockholm, 1961), which created a plan for the assignment of sound and vision broadcasting frequencies in the European Broadcasting Area. Specifically, 60 channels were exclusively assigned to television broadcasting services, distributed as follows: 11 channels in the VHF band (sub-bands I and III) and 49 channels in the UHF band (sub-bands IV and V). The following table shows the distribution in more detail:

Band	Frequencies	Total MHz	Channels	Total channels
VHF - B. I	47-68 MHz	21	2-4	3
VHF - B. III	174-230 MHz	56	5-12	8
UHF - B. IV	470-582 MHz	112	21-34	14
UHF - B. V	582-862 MHz	280	35-69	35
Total		469		60

Although the spectrum allocated to DTT broadcasts was initially going to be the same as the one reserved for analogue Hertzian television, the plans were ultimately and very notably curtailed. On the one hand, broadcasts in VHF bands were abandoned in the latter years of the 20th century. On the other hand, the ITU's Regional Radiocommunication Conference held in Geneva in 2006 (RRC-2006) ratified the allocation of the entire UHF band (channels 21 to 69) to DTT services. However, the World Radiocommunication Conference held in Geneva in 2007 (WRC-2007) established that the frequency band between 790 and 862 MHz (channels 61 to 69) could be used for mobile telephony services too.

On that basis, and through a series of resolutions, the EU undertook to coordinate the release of what has become known colloquially as the *digital dividend*. In other words, it is the available spectrum beyond the one considered necessary to accommodate, using digital technology, current analogue television services. Thus, Decision 243/2012/EU of the European Parliament and of the Council establishing a multiannual radio spectrum policy programme set 1 January 2013 as the date for that release, permitting postponements under extenuating circumstances.

The position that Spain held for several years was to reject the digital dividend release, arguing that it would only be necessary to consider doing so after completion of the analogue switch-off (3 April 2010). However, soon after WRC-2007, it realised that such a change was inevitable. So, on 2 June 2009, the Spanish Minister of Industry, Tourism and Trade, Miguel Sebastián, announced that the digital dividend band would be allocated to electronic communication services. The auction of the digital dividend spectrum (and of other frequencies in other bands) took place in 2011, which generated revenues of more than €1.6 billion for the public coffers.

The reorganisation of national and regional DTT broadcasts (to relocate those made in the 790-862 MHz band) was set out in Royal Decree 805/2014 approving the National Technical Plan for DTT and regulating certain aspects of the digital dividend release. The definitive release took place on 31 March 2015 after a deferral authorised by the Council of Ministers on 26 December 2014¹.

¹ The EU had previously authorised deferrals up to 1 January 2014 in the first instance, and to 1 January 2015 after a second request. The three-month deferral did not cause any problems because, throughout 2014, broadcasts in border areas had been shut down.

It is necessary to review the spectrum-related regulatory actions that have shaped DTT rollout. WRC-2012 decided unexpectedly – as the item was not on the agenda – that the 700-MHz band (694-790 MHz) for ITU's region 1 (comprising Europe, Africa and some Asian countries) would be co-primarily allocated after WRC-2015 to mobile communication services too.

Consequently, in the coming years, there will be a second digital dividend, meaning that channels between 49 and 60 will also need to be excluded from the television service. In other words, within a few short years, the spectrum for television will have lost nearly 50% of its frequencies, falling from 49 allocated channels (21-69) to 27 (21-48). This reduction will probably imply the need to change technology and migrate to the second-generation standard known as *DVB-T2*, with more advanced video coding to meet the High Efficiency Video Coding (HEVC) specification. If this is not done in this manner, the DTT platform will irremediably be doomed to not being able to develop, thereby making it incapable of offering new technologies such as Ultra High Definition (UHD). Among other actions, this change will also entail the need for new television sets in the same way as the analogue switch-off did, because the new techniques are not compatible with those in use today. This dilemma will need to be resolved soon.

The battle for UHF bands highlighted by telecommunication operators has been very actively supported by the governments of certain countries, especially the United States. In Europe, anticipating the pressure that would be brought to bear at WRC-2015, and in the wake of the painful experience of 2011, better use of the radioelectric spectrum had been studied in an attempt to juggle broadcasters' and telecommunication operators' needs. To that end, European Commissioner Neelie Kroes organised a High Level Group (HLG) formed by 19 senior directors from both sectors. The Group was chaired by Pascal Lamy, a former Director General of the World Trade Organization (2005-2013).

After several meetings of the HLG, the participants had not reached any agreement, so Lamy personally put forward a proposal summarising the positions, condensed in the 2020-2030-2025 concept. It meant that by 2020, give or take two years, the 700-MHz band would be allocated telecommunication operators and that the sub-700-MHz bands would be kept until 2030 for the television service. Any potentially unmet radioelectric spectrum needs would be reviewed in 2025. Submitted in the presence of European Commissioner Kroes on 1 September 2014, this proposal intended to forge a common EU position that could be presented at the next Administrative Radiocommunication Conference convened for November 2015.

In January 2015, the European Commission carried out a public consultation on the use of the UHF band for broadcasting DTT signals².

Thus, the future of DTT is clearly in jeopardy because of the telecommunication operators' unlimited demands. They do not appear to have sated their appetite for all the frequencies currently allocated to television. Consequently, it is not unreasonable to assert that concealed among the telecommunication companies' objectives is the intention to turn DTT services that are currently free into pay-TV services, for distribution via fibre-optic networks. This only makes sense if the quality of the distributed audiovisual content is high.

Therefore, the aim of this article is:

1. To systematise the implications that reserving digital dividend frequencies for electronic communication services has generally had for regional DTT in Spain.

² <https://ec.europa.eu/digital-single-market/en/news/public-consultation-lamy-report-future-use-uhf-tv-broadcasting-band> (30 October 2015).

2. To perform an in-depth analysis of those cases in which a greater impact on actual and/or anticipated television offerings is and/or will be felt because of the withdrawal of regional multiplexes due to the digital dividend release. As the reader will see, the affected self-governing regions are Andalusia, the Balearic Islands, Catalonia and Navarre.

The study focuses on regional DTT because it is a topic that has not been comprehensively addressed. This is in stark contrast to national DTT, for which there is abundant scholarly literature.

A qualitative methodology and two research techniques were used to conduct this study: document analysis (technical plans for frequencies, scientific texts, public administration press releases and news items) and, above all, consultations and interviews with those who were technically or politically in charge within the respective administrations of the self-governing regions³.

2. General implications of the digital dividend release for regional DTT in Spain

Since 1 April 2015, the above-mentioned reorganisation of DTT broadcasts resulting from the digital dividend release in Spain has left all but one of Spain's self-governing regions with a single regional multiplex (MAUT). The exception is Catalonia, which retains two (MAUTP). The previously mentioned National Technical Plan for DTT, approved by Royal Decree 805/2014, provides for this measure.

This Plan withdraws one of the two multiplexes (or one of the three in the case of Catalonia) of which each self-governing region could avail itself under the earlier National Technical Plan for DTT (Royal Decree 944/2005). By doing so, the situation returns to that established under the first Technical Plan for DTT (Royal Decree 2169/1998), where each of the 19 self-governing regions⁴ had just one multiplex to provide regional DTT services.

In accordance with the provisions of the 2005 National Technical Plan for DTT, between 2007 and 2008 the Spanish Ministry of Industry, Tourism and Trade granted one additional regional multiplex to Andalusia (Ministerial Order of 29 March 2007), Catalonia (Ministerial Order of 20 June 2007), the Valencian Community (Ministerial Order of 19 October 2007), the Community of Madrid (Ministerial Order of 19 November 2007), the Balearic Islands (Ministerial Order of 13 March 2008), Castile-La Mancha (Ministerial Order of 13 March 2008) and the Region of Murcia (Ministerial Order of 16 December 2008). Of these self-governing regions, which have since lost the second (or, in the case of Catalonia, third) multiplex, only Andalusia, Catalonia, the Balearic Islands, Castile-La Mancha and the Region of Murcia actually put them into service. The other self-governing regions never applied for a second multiplex⁵.

As alluded to earlier, Catalonia is the exception to the rule. Besides the multiplex provided for in the 1998 National Technical Plan for DTT, it has retained the second multiplex that it applied for in 1999, which was exceptionally granted to it by Ministerial Order of 8 May 2003. The case of Catalonia will be dealt with in depth further below, but here it should be noted that the Twelfth Additional Provision of Royal Decree 805/2014 allows this self-governing region –without explicitly mentioning it– to retain two

³ References to sources, both documents and people, that we consulted and approached in order to address the four selected case studies will be given in footnotes throughout the article. For purposes of economy, we shall not detail the numerous prior consultations held with the respective regional Ministries, which were crucial to making that selection.

⁴ The term *self-governing regions* refers to Spain's 17 autonomous communities and 2 autonomous cities, Ceuta and Melilla.

⁵ The Government of Spain's Ministry of Industry, Energy and Tourism's Sub-Directorate General for Radioelectric Spectrum Planning and Management. Personal communications between 21 May and 6 June 2015.

multiplexes (the MAUT, assigned to the regional public television broadcaster, and the MAUTP, awarded to the media group Grupo Godó). The aforementioned Additional Provision states that in cases where the competent bodies of the self-governing regions granted the integral operation of regional digital multiplexes to a private company prior to Royal Decree 944/2005 coming into effect, then such multiplexes would continue to be reserved for the self-governing regions.

With the digital dividend release, all self-governing regions have therefore had to limit their regional television offerings to the space permitted by one multiplex (or two in the case of Catalonia). According to the Second Additional Provision of Royal Decree 805/2014, such space enables the broadcast of four standard-definition (SD) channels or three high-definition (HD) channels. No new channels are authorised even though technical advances may allow them to be further compressed, except in those cases described in Section 3 of the Twelfth Additional Provision of that Decree, an excerpt of which is translated from Spanish below for information purposes:

As a measure for boosting the Information Society and fostering innovation in information and communication technologies, the remaining transmission capacity of the digital multiplex may be used to provide related or interactive services distinct from television broadcasting, in accordance with the provisions set out in Section 14 of Article 2 of the General Audiovisual Communication Act (*Ley General de la Comunicación Audiovisual*), such as electronic programme guides, teletext, application and data file transmission, and equipment software updates. Likewise, as a measure to boost technological innovation in television audiovisual services and the implementation of high-definition television, the providers of the television audiovisual communication service may use such capacity to make integral broadcasts and simulcasts in high-definition resolution of their standard-definition digital terrestrial television channels.

In general terms, the digital dividend release has had an impact on all the self-governing regions whose Hertzian television broadcasting frequencies were above channel 60, since it has forced the relocation and retuning of those channels occupying the released frequencies. This process has had a variety of implications. For example, the need to make simulcasts for a period of time using both the new frequencies and those they had to abandon forced the television operators to pay the respective charges to their broadcast network operator (Abertis, Axion, Telecom Castilla-La Mancha, Retegal, Euskaltel, etc.). At the same time, citizens had to bear the costs resulting from the adaptation of their buildings' communal reception installations⁶.

However, the impact of the available spectrum's reduction on DTT services has obviously been greater in the self-governing regions that applied for an additional multiplex, especially when it was granted to them and they actually put it into service. Spectrum reduction also affected the self-governing regions that were awaiting the award of a second multiplex, which, for one reason or another, was not granted to them.

In the next section, the study will focus on four of the self-governing regions that applied for a second multiplex (or a third multiplex in Catalonia): Andalusia, Catalonia, the Balearic Islands and Navarre. It is in these self-governing regions where the digital dividend release has not only had technical and economic implications, but also – and primarily – significant consequences of a political nature.

⁶ Royal Decree 920/2014 provided for a grant plan with a budget of €300 million. However, applying for a grant was a very complex process for owner associations. As a result, property administrators claimed that the number of applications was very limited.

3. Self-governing regions affected by the digital dividend release

In the four cases analysed below, prominent stakeholders in public life have voiced strong opposition to the withdrawal of a multiplex: social groups, governments, parliamentary forces and, on occasions, a combination of all three. This has happened because the measure has been interpreted as one that stifles the development of private regional DTT (in Andalusia) of public regional DTT (in Catalonia, the Balearic Islands and Navarre, where the reduction of actual or anticipated public television offerings has been construed as a threat to the promotion of their own languages and cultures).

3.1. Andalusia

As already mentioned, Andalusia had two regional DTT multiplexes from 29 March 2007. The first (where the two public television channels were located) had the capacity to do provincial opt-outs, whereas the second did not have that capacity and had lower coverage (around 80% of the population).

Within this context and by Governing Council Agreement of 13 March 2007, the Andalusian Executive awarded two administrative concessions (now licences) for the provision of DTT services on the first multiplex. The beneficiaries were Avista Televisión, SAU (part of the media group Grupo Vocento) and Comunicación Radiofónica, SA (part of the media group Grupo Prisa).

Then, by Governing Council Agreement of 27 May 2008, another two concessions were granted, corresponding to the second multiplex in this instance, to Editorial Prensa Alicantina, SA (part of the media group Grupo Prensa Ibérica) and to Editorial Andaluza de Periódicos Independientes, SAU (part of the media group Grupo Joly).

Since the award processes and broadcast implementation, all the above-mentioned companies have retained their licences apart from Comunicación Radiofónica, SA. The latter surrendered the operation of its channel in 2009, which the Government of Andalusia subsequently allocated to Canal Sur, Andalusia's public broadcaster. However, only Avista Televisión, SAU started broadcasting, although it has since leased the channel (as has happened in other self-governing regions) to European Home Shopping (EHS).

Thus, prior to the approval of the 2014 National Technical Plan for DTT, Andalusia's two multiplexes were occupied as follows:

- Regional multiplex 1 was shared by the *Agencia Pública Empresarial de la Radio y Televisión de Andalucía* (RTVA), Andalusia's public radio and television broadcasting business agency, with 75% of the total capacity (with two SD channels and one HD channel) and Grupo Vocento, with the remaining 25%.
- On regional multiplex 2, Grupo Joly and Grupo Prensa Ibérica had 25% of the total capacity each, while the other 50% remained vacant.

After the current National Technical Plan for DTT came into effect, the Spanish Secretariat of State for Telecommunications and the Information Society suggested compacting all of Andalusia's public and private audiovisual communication services into the single planned multiplex without taking into consideration the implications for broadcast quality, the conditions agreed on between the Andalusian Administration and the licensees, or the provisions of the National Technical Plan for DTT itself, which, as already mentioned, sets out that each multiplex may accommodate a maximum of four SD channels or three HD channels.

The aforementioned Secretariat of State for Telecommunications and the Information Society notified the Government of Andalusia of the new spectrum situation by two resolutions of 24 October 2014. The resolutions identified the radioelectric channels in use under the new National Technical Plan for DTT, the spectrum allocation for the public body and the new public domain concessions to the three private operators (after terminating

previous radioelectric public domain allocations)⁷. According to these data, the operation of the multiplex's capacity is as follows: on the one hand, RTVA's total transmission capacity falls from 75% to just 50%, and, on the other hand, the capacity of the three private operators (belonging to the Vocento, Joly and Prensa Ibérica groups) falls from 25% to just 16.6% each.

At the same time, and bearing in mind that the second multiplex provided 80% coverage without opt-outs, by including the Grupo Joly's and the Grupo Prensa Ibérica's channels in the single planned multiplex, those groups are required to provide 98% coverage with opt-outs. Under such circumstances, the network costs are much higher than those of the second regional multiplex's primitive network, meaning that their business models – if in place – would be seriously affected.

For these reasons, which show that the licensees' rights have clearly been altered, the Government of Andalusia lodged an appeal before the Spanish Ministry of Industry, Energy and Tourism against the withdrawal of the second regional multiplex, which was unsuccessful. It was then brought before the contentious-administrative jurisdiction.

3.2. Catalonia

As already seen, Catalonia benefits from a greater availability of the radioelectric spectrum for regional DTT than other self-governing regions of Spain. There are two particular features that set Catalonia apart: the first is the award of an additional multiplex (the second) to this self-governing region (Ministerial Order of 8 May 2003, whose provisions are respected in the 2005 National Technical Plan for DTT), and the second is the exclusion of this multiplex from regional spectrum curtailment, as set out in the current National Technical Plan for DTT, which leaves all of the other self-governing regions with one multiplex. Thus, when the digital dividend release came into effect on 1 April 2015, Catalonia went from operating three multiplexes down to operating two, which, as the reader will see, has significant political implications.

The uniqueness of the Catalan model can also be observed in the distribution of the three multiplexes. On the one hand, the Government of Catalonia places great emphasis on public media because the *Corporació Catalana de Mitjans Audiovisuales* (CCMA), the Catalan broadcasting corporation, had two full multiplexes until the dividend release forced it to surrender one of them. On the other hand, a lack of pluralism in private regional DTT offerings is observed, as demonstrated by the fact that the entire capacity of the additional multiplex had been awarded to a single company by Government Agreement of 1 August 2003: Emissions Digitals de Catalunya, SAU (EDC). This company, in which Grupo Godó has a majority shareholding, won the concession to operate the multiplex in a public tender tailored to the group (Guimerà i Orts, 2014: 372-394). Jaume Roures, the Chairman of Mediapro, the other media company that submitted a bid, said that the tender had been orchestrated in advance, and that the only reason they took part was to put it on record that it had already been awarded, regardless of the bids put forward⁸.

Full use of the capacity offered by Catalonia's three regional multiplexes was not achieved until the analogue switch-off had taken place in spring 2010. Thus:

- Eight channels were broadcast on the CCMA's two multiplexes (although two of the channels shared the same programme): TV3, 3/24, Super3/3XL and 33 on the first multiplex; and TV3HD (occupying 50% of the multiplex), IBSat and Televisión

⁷ The spectrum situation recorded by the Spanish Secretariat of State for Telecommunications and the Information Society is as follows: Agencia Pública Empresarial de la Radio y Televisión de Andalucía (SEZZ-1420027), Avista Televisión, SAU (SEZZ-1420026), Editorial Andaluza de Periódicos Independientes, SAU (SEZZ-1420028) and Editorial Prensa Alicantina, SA (SEZZ-1420029): https://sede.minetur.gob.es/es-ES/procedimientosselectronicos/Documents/SE%20Telecomunicaciones/Radiodifusion/Titulares_radiodifusion.pdf

⁸ Statements made in a personal interview conducted by Isabel Fernández Alonso (2011).

Valenciana Internacional (TVVi)⁹ on the second multiplex. The latter two public channels of the Balearic Islands and the Valencian Community, respectively, were broadcast in Catalonia under formal and informal bilateral agreements.

- Four channels were broadcast on Grupo Godó's multiplex: 8TV (from March 2006), Rac105 (from February 2008), BarçaTV (from December 2008, under a lease agreement between EDC and Fútbol Club Barcelona authorised by Agreement 147/2011 of the *Consell de l'Audiovisual de Catalunya* (CAC), the Catalan audiovisual council), and Estil9 (from April 2010 to January 2013, when it was replaced by BOM). The Catalan independent regulator's leniency towards Grupo Godó should be noted, as the media group did not manage to broadcast the four channels corresponding to its licence until seven years after securing it.

However, several changes took place in the offerings on the CCMA's multiplexes between 2010 and 2012. First, the cessation of international broadcasts of the regional channels of the Valencian Community (TVVi, in July 2010) and of the Balearic Islands (IBSat, in November 2012) for economic reasons (Guimerà i Orts & Blasco Gil, 2015: 9-13). Second, after the launch of Esports3 in September 2010 came the closure of 3XL, and the merging of Super3 and 33 into a single channel in October 2012, a measure that was also considered necessary on grounds of austerity within the context of recession¹⁰.

Then, on 19 May 2014, Francesc Homs – the Catalan Minister of the Presidency and spokesperson for the Catalan Government, whose ruling party was the Catalan conservative nationalist party called *Convergència i Unió* (CiU) – leaked to the press that the Government of Spain intended to silence Televisió de Catalunya (TVC), Catalonia's public television broadcaster, by withdrawing half of the radioelectric space it occupied. According to Homs, this measure had three potential impacts: Channels would need to be shut down, high definition would have to be relinquished and reciprocal agreements with the channels of the Balearic Islands and the Valencian Community would have to be torn up¹¹. CiU together with the Catalan left-wing republican party called *Esquerra Republicana de Catalunya* (ERC), the Catalan social-democratic party *Partit dels Socialistes de Catalunya* (PSC), the Catalan eco-socialist party *Iniciativa per Catalunya Verts-Esquerra Unida i Alternativa* (ICV-EUiA) and the Catalan left-wing pro-independence party *Candidatura d'Unitat Popular* (CUP) added their weight to the Catalan Government's claims, opposing en bloc what in their view was a political decision disguised as a series of technical arguments, which would weaken channel offerings in the Catalan language¹².

As already explained, the approval of the current National Technical Plan for DTT implied the withdrawal of a multiplex from Catalonia, as it did for the other self-governing regions, with the nuance that Catalonia was allowed to keep the additional multiplex that it had had since 2003. In addition, given the reduction of channels within the context of recession, the digital dividend release did not ultimately lead to the closure of any of them or the relinquishment of high definition, though it did curb potential reciprocal agreements that were subject to negotiation from that point on.

Finally, TVC's five channels (TV3, 3/24, Super3/33 and Esports3) distributed in 2014 via the CCMA's multiplex that was going to be sacrificed (frequency 61) were relocated onto

⁹ In March 2010, the Government of Catalonia replaced the signal of Valencian channel Canal 9 (which it had broadcast in Catalonia since August 2008) with that of TVVi due to broadcast rights issues.

¹⁰ El Periódico de Catalunya: <http://www.elperiodico.com/es/noticias/tele/ccma-cierra-canal-3xl-2203236> (30 October 2015).

¹¹ Vozpópuli: <http://vozpopuli.com/economia-y-finanzas/43570-la-generalitat-se-aferra-al-victimismo-y-asegura-que-el-gobierno-silenciara-a-tv3> (30 October 2015).

¹² Comunicació21: <http://comunicacio21.cat/noticies-comunicacio21/67158-ciu-erc-psc-icv-euia-i-cup-uneixen-forces-contra-la-supressio-de-canals> (30 October 2015).

another of its multiplexes (frequency 44). However, TV3HD was broadcast on this multiplex, and space had been reserved for future reciprocal agreements. Within this context, and using the argument of avoiding paralysis in the development of HD broadcasts, the CCMA managed to get permission from CAC to lease space on Grupo Godó's multiplex (frequency 33) for a minimum period of 18 months and a maximum of four years¹³. Authorisation came on 22 December, one day before signing the contract for the lease, for which the CCMA would pay €1.9 million per annum to EDC, which closed down BOM to make way for TV3HD (Fernández Alonso & Espín, 2015: 27).

In summary, on 1 April 2015, Catalonia's regional DTT offerings were distributed via two multiplexes as follows: TV3, 3/24, Super3/33 and Esports3 via the CCMA's MAUT (frequency 44) and 8TV, Rac105, BarçaTV and TV3HD via the Grupo Godó's MAUTP (frequency 33). Radio stations were also distributed via these multiplexes. The most significant development since then is that the media group Mediaset has become a shareholder in EDC, owning 40% of the share capital. The operation was authorised by the CAC and the *Comisión Nacional de los Mercados y la Competencia* (CNMC), Spain's national markets and competition commission¹⁴.

3.3. Balearic Islands

The 2014 National Technical Plan for DTT, which culminated in the withdrawal of the Balearic Islands' second regional multiplex on 1 April 2015, led to the disappearance of two of the CCMA's three channels: Super3/33 and 3/24. This curtailment of Catalan channels by the Balearic Islands' Government, whose ruling party was the Balearic Islands' conservative party called *Partit Popular de les Illes Balears*, caused social and political unrest because it affected some of the citizens' sense of identity.

The root causes of this controversial outcome were the negotiations held between the Catalan and the Balearic Islands' Governments, which enabled people on the islands to tune into Catalan channels.

Among the attempts to formalise reciprocal broadcasts of the regional channels of the Balearic Islands and Catalonia, of particular note is the agreement signed in January 2009 by Albert Moragues, Minister of the Presidency of the Balearic Islands' Government, whose ruling party was the Balearic Islands' social-democratic party *Partit Socialista de les Illes Balears* (PSIB), and the Catalan Minister of Culture and the Media, Joan Manuel Tresserras (nominated by ERC within the framework of the second tripartite Catalan Government). This bilateral agreement, which came in the wake of the failed Canal Eurorregión project¹⁵, managed to legalise the broadcasts of the Catalan public television broadcaster in the Balearic Islands (after broadcasting TV3 illegally for a quarter of a century) and those of the Balearic Islands' public broadcaster in Catalonia (which it began broadcasting in 2009). The two Governments agreed to broadcast the international channels TV3Cat and IBSat, whose programming was basically self-produced, thereby avoiding problems associated with the broadcast rights of certain contents¹⁶.

¹³ Information about the distribution of channels on the regional multiplexes, identified by frequencies of the Barcelona demarcation (being the largest) was provided by Carles Salvadó Usach, Head of the Telecommunications Service of the Government of Catalonia's Directorate General for Telecommunications and the Information Society. Personal communication, 28 September 2015.

¹⁴ La Vanguardia: <http://www.lavanguardia.com/comunicacion/20150521/54431362555/grupo-godo-mediaset-8tv.html> (30 October 2015).

¹⁵ Eurorregión was a project promoted by the Balearic Islands' and Catalan Governments in 2004. It intended to formalise the broadcasts of the first regional channels via a multiplex providing coverage to all Catalan-speaking territories. Among other pitfalls, the project failed because the Spanish Government refused to grant it the required radioelectric space (Guimerà i Orts & Blasco Gil, 2015: 6-7).

¹⁶ CCMA: <http://www.ccma.cat/324/Catalunya-i-les-Balears-acorden-la-reciprocitat-demissions-entre-TV3-i-IB3/noticia/353360/> (30 October 2015).

Reciprocal broadcasts were made possible by awarding a second regional DTT multiplex to the Balearic Islands (Ministerial Order of 13 March 2008) and a third multiplex to Catalonia (Ministerial Order of 20 June 2007), which offered enough radioelectric space to respectively accommodate the channels of the CCMA and of the *Ente Público de Radiotelevisión de las Islas Baleares* (EPRTVIB), the Balearic Islands' public radio and television broadcasting body. Thus, after the analogue switch-off, the Balearic Islands' new regional DTT offered six channels distributed as follows across the two regional multiplexes:

- Three channels were broadcast on the original multiplex (frequency 65), occupying 100% of its capacity: the public channels IB3 (25%) and IB3HD (50%), and the channel belonging to the private operator Unedisa Telecomunicaciones Baleares, SA (25%). This distribution represented a shift compared to the multiplex's initial distribution, which granted 50% of the total capacity to the private sector and 50% to the public body in 2006. However, when Televisión Digital de Baleares, SA (part of Grupo Prisa) surrendered its concession, 25% of the multiplex's capacity was freed up. This was subsequently used by the public body to broadcast in HD¹⁷.
- Three of the CCMA's channels (TV3Cat, 3/24 and Super3/33) were broadcast on the second multiplex (frequency 26), which had been activated on 18 February 2010¹⁸. The new reciprocal agreement signed in February 2010 legalised the possibility of receiving up to three of TVC's channels in the Balearic Islands (Guimerà i Orts & Blasco Gil, 2015: 8–9). IBSat's broadcasts in Catalonia began in March, but just two-and-a-half years later, the Balearic Islands's Government, whose President was the conservative José Ramón Bauzá, suspended them in November 2012 to save €400,000¹⁹, thereby confining the distribution of this international channel of the Balearic Islands (IBSat) exclusively to the Internet. The decision did not entail the withdrawal of the three TVC channels from the Balearic Islands' DTT programming schedule, so the public could tune into them as usual.

As already seen when discussing the case of Catalonia, news alluding to the fact that the digital dividend release could imply the withdrawal of regional channels spilled out into the public arena on 19 May 2014, after certain statements made by the Catalan Minister of the Presidency and spokesperson for the Catalan Government.

It did not take long for the first reactions to come in. The following day, Antoni Gómez, Vice-President of the Balearic Islands' Government, claimed that he had a solution to continue broadcasting the channel TV3, but felt that it would be hard to find one for Super3/33 and 3/24. Nevertheless, Gómez acknowledged that a second option was being examined to retain all of the channels, which involved migrating them to the island multiplexes²⁰. However, at a meeting of the DTT Forum on 27 March 2015, just a few days from the withdrawal of multiplex 65, the Balearic Islands' Government asserted that there

¹⁷ Antoni Vaquer Mestre, Head of the Telecommunications Service of the Government of the Balearic Islands' Directorate General for Telecommunications. Personal communications between 24 March and 22 September 2015.

¹⁸ Diario de Mallorca: <http://www.diariodemallorca.es/television/2010/02/18/canales-tv3-canal-33-super3-324-inician-emision-tdt/546579.html> (30 October 2015).

¹⁹ The sum of €400,000 was the cost associated with the satellite used to broadcast IBSat, which enabled the signal to be picked up in Catalonia and then inserted into TVC's terrestrial network. Europa Press: <http://www.europapress.es/illes-balears/noticia-ib3-suprimira-emisiones-cataluna-ahorrarse-400000-euros-20121018145953.html> (30 October 2015).

²⁰ Mallorcadíario.com: <http://www.mallorcadíario.com/el-govern-tiene-solucion-para-tv3-pero-admite-dificultades-para-c33-y-324/> (30 October 2015).

Island multiplexes provide coverage for one or several islands. On the Balearic Islands, there is one multiplex for Mallorca, one for Menorca and a shared one for Ibiza and Formentera. Of the total capacity these multiplexes, 50% is directly managed and reserved for the Island Councils. The other 50% is indirectly managed and can be awarded to private operators through public tenders according to Antoni Vaquer Mestre (see note 18).

was no available technical option to allow all of the channels to be kept, and that the quality of IB3HD had been lowered in order to retain TV3Cat²¹.

In this period lasting nearly a year, other prominent political stakeholders took positions on the issue. The eco-nationalists of *Més per Mallorca*, the journalists' association *Sindicat de Periodistes de les Illes Balears* and the cultural body for the promotion of the Catalan language *Obra Cultural Balear* (OCB) raised concerns from the very start about the dangers of losing TVC channels from the islands²². And so did the social democrats. In late 2014, the OCB suggested using the 50% available capacity of the island multiplexes – over which the Island Councils had responsibility – to distribute IB3 and IB3HD (with the possibility of doing opt-outs by island); locating TV3 (the original, unadulterated version), 3/24 and Super3/33, and incorporating Esports3 into multiplex 26; and reserving space for Valencian television, if ever it were to broadcast again²³.

The OCB did not offer any solution for the channel belonging to Unedisa Telecomunicaciones Baleares, which had a concession for 25% of the total capacity of multiplex 65, which was doomed to disappear under the new National Technical Plan for DTT. It should be clarified that this company has since been acquired by Sundar Trade of Grup Canal 4, which gives this local media group the option to take the leap from island television to regional DTT²⁴.

As the months went by, the debate on the withdrawal of TVC channels became more acrimonious. The parliamentary groups of *Més per Mallorca* and of PSIB assumed as their own the OCB's suggestion to use the capacity of the island multiplexes, and they defended it on numerous occasions. In Parliament in late March 2015, both groups accused the conservative Government of lacking political will to solve the problem, as well being allergic to and scornful of the Catalan language's protection. The Executive repeatedly denied its rejection of the Catalan language and its lack of political will, arguing that the use of the island multiplexes was not possible because a legal report by the Balearic Island's Ministry of Economy and Competitiveness pointed out that the proposal was not viable. Another reason put forward by the Government was the small audience of the threatened channels, 3/24 and Super3/33, which was put at 0.1% and 0.2%, respectively, in the early months of 2015²⁵. A third reason according to the Balearic Islands' Executive was the high cost of using the island multiplexes, amounting to nearly €1 million per legislature²⁶.

The disagreements did not prevent multiplex 65 from being switched off. From 1 April 2015, on screens in homes across the Balearic Islands, people could only tune into the channels relocated on multiplex 26 (IB3, IB3HD, TV3Cat and Canal 4), while the channels 3/24 and Super3/33 had disappeared completely from the Balearic Islands' DTT²⁷.

However, with the regional elections approaching, the withdrawal of the channels became part of the campaign, and the potential change in government opened the door to a resumption of broadcasts of those channels. In fact, the results of 25 May 2015 saw the

²¹ <http://www.caib.es/pidip/dadesComunicat.do?lang=es&codi=8774850> (30 October 2015).

²² Mallorcadiario.com: <http://www.mallorcadiario.com/mes-y-la-ocb-alertan-del-peligro-de-perder-tv3-324-y-c33-en-balears/> (30 October 2015).

²³ OCB: <http://www.ocb.cat/index.php?noticia=3391> (30 October 2015).

²⁴ Antoni Vaquer Mestre, Head of the Telecommunications Service of the Government of the Balearic Islands' Directorate General for Telecommunications. Personal communications between 24 March and 22 September 2015.

²⁵ *Diari de Sessions de la Comissió d'Assumptes Institucionals i Generals del Parlament de les Illes Balears* (Journal of Sessions of the General and Institutional Affairs Committee of the Parliament of the Balearic Islands), no 97, VIII Legislature, of 25 March 2015, pp. 1527-1529.

²⁶ Alejandro Sanz Benejam, conservative Deputy who defended the Government's position in the Parliamentary Committee referred to in the previous note. Personal communication, 23 September 2015.

²⁷ Antoni Vaquer Mestre, Head of the Telecommunications Service of the Government of the Balearic Islands' Directorate General for Telecommunications. Personal communications between 24 March and 22 September 2015.

number of seats held by the conservative *Partit Popular* fall by almost half. This enabled a coalition government to be formed by social democrats and eco-nationalists who, as already seen, were equally keen on increasing TVC broadcasts on the Balearic Islands.

At the time of finalising this article, the new Balearic Islands' Government had published an interesting report containing two proposed solutions on which it had been working in order to resume broadcasts of the CCMA's channels. For one of them, there was an insistence on using the island multiplexes, albeit with a number of adjustments compared to the solution proposed by the OCB. The estimated cost of doing so was €300,000 per year. The other proposal involved leasing Unedisa Telecomunicaciones Baleares, SA's 25% of the multiplex in order to avail itself of the multiplex's entire capacity. This option would imply lowering the quality of the channels²⁸.

3.4. Navarre

In 2004, the Government of Navarre awarded its only regional multiplex entirely to the private sector: 50% to Editora de Medios Independientes de Navarra, which broadcasts programmes under the Navarra TV brand, and 50% to Canal 4 Navarra, part of Grupo Prisa, which surrendered its licence in March 2012. After calling a new tender, the freed-up half of the multiplex was awarded in September 2013 to Abian Komunikazioa, a company that is committed to bilingual broadcasts with particular emphasis on the sport called *Basque pelota*, and to Grupo Vaughan, a group that focuses on English-language learning. By doing so, and in accordance with the provisions of the new National Technical Plan for DTT, the multiplex does not have any capacity for new channels.

This is important because space restriction is one of the arguments put forward by the Navarrese Government, whose ruling party was the regional conservative party called *Unión del Pueblo Navarro* (UPN), to justify putting a freeze on the agreement that would have facilitated broadcasts by the Basque public television broadcaster Euskal Telebista (ETB) within Navarrese territory²⁹. However, as the reader will see, ETB's deployment was impeded not only by legal limitations but also for economic and political reasons.

On 3 July 2009, the Government of the Basque Country, whose President was the social democrat Patxi López, and the Government of Navarre, whose President was the UPN regional conservative Miguel Sanz, signed a Collaboration Protocol to broadcast the channels ETB1 and ETB2 within Navarrese territory via a new regional multiplex³⁰. Thus, at the Navarrese Executive's request, the Spanish Ministry of Industry, Tourism and Trade agreed to grant this region a second multiplex in a draft resolution sent in July 2010³¹.

Around that time, ETB, which had been broadcasting illegally (using analogue technology) since the 1980s, began to unofficially occupy some of the available digital frequencies³². Under these circumstances, the Basque Government was particularly interested in formalising the public television broadcaster's broadcasts in Navarre, which it was ultimately unable to do owing to a series of discrepancies.

²⁸ Briefing note of the Government of the Balearic Islands' Directorate General for Technological Development of 1 September 2015; <http://www.caib.es/govern/sac/fitxa.do?codi=2438723&coduo=16&lang=es> (30 October 2015).

²⁹ Edurne Elio Aldunate, Director General for Communication of the Government of the Chartered Community of Navarre. Personal communications between 21 April and 3 July 2015.

³⁰ General Collaboration Protocol between the Autonomous Community of the Basque Country and the Chartered Community of Navarre of 3 July 2009, provided by Edurne Elio Aldunate.

³¹ Information confirmed to the authors by Edurne Elio Aldunate.

³² For example, in 2012, ETB1 and ETB2 DTT signals could be picked up in the city and county of Pamplona thanks to a private repeater installed by a group of people who preferred to remain anonymous. *Diario de Navarra*: http://www.diariodenavarra.es/noticias/mas_actualidad/television/etb_desde_ayer_pamplona_tdt_traves_repetidor_privado_62930_1036.html (30 October 2015).

From an economic perspective, the first disagreement between the Basque and Navarrese Executives was about the distribution of costs relating to signal transport, broadcasting and maintenance. Section *b* of the Third Clause of the Collaboration Protocol signed in July 2009 states that the Government of Navarre promises to provide the broadcasting service of the multiplex throughout the Chartered Community of Navarre under market conditions, with the Basque public television broadcaster being liable to pay the costs of transporting and maintaining the two television signals (ETB1 and ETB2).

However, when the Navarrese Government estimated the annual signal transport, broadcast and maintenance cost at €1 million, the Basque Government disagreed because it felt that the ETB channels would only use half of the multiplex and, consequently, it should not have to pay more than 50% of the cost³³.

From a political perspective, the main reason for disagreement was the Basque Government's violation of the third condition contained in Section *b* of the Third Clause of the Collaboration Protocol, which refers to respect for the institutional reality of the Chartered Community of Navarre. It is translated from Spanish below for information purposes:

The political, social and institutional reality as well as the symbols and identity of Navarre shall be respected in ETB broadcasts in accordance with the laws in force and with Constitutional Court Ruling 94/1985 of 29 July.

The Chartered Community of Navarre shall be presented and represented as a reality differentiated from the Autonomous Community of the Basque Country and its historic territories in news items written by ETB professionals, in presentations of the same and in their geographical aspects.

Likewise, in all self-produced ETB programmes, attempts shall be made to include and respect the different political and ideological sensitivities of the Chartered Community of Navarre.

The Collaboration Protocol was approved in July 2009, just two months after the social democrat Patxi López became President of the Government of the Basque Country. During his term of office, the Basque public television broadcaster changed the weather maps and stopped referring to the Chartered Community of Navarre as part of the greater region of the Basque Country³⁴. After Íñigo Urkullu's victory in the regional elections held in October 2012, the return of the Basque nationalist party called *Partido Nacional Vasco* to the Presidency of the Government of the Basque Country also meant a return to the previous situation.

Within this context, on 27 March 2013, the Navarrese Government considered that the above-mentioned Collaboration Protocol had been broken, arguing that ETB's new weather maps represented a territorial unit between the Autonomous Community of the Basque Country and the Chartered Community of Navarre that the Navarrese Executive deemed contrary to the institutional reality of both Communities and in contravention of the political will that Navarrese citizens expressed at every election. Indeed, it claimed that they amounted to a failure to comply with the commitments made in 2009³⁵.

³³ Íñigo Pérez, Technical Director of Itelazpi, the Basque Government's public telecommunications company. Personal communications between 20 and 22 May 2015.

³⁴ The greater region of the Basque Country refers to a territory that extends beyond the boundaries of the Autonomous Community of the Basque Country to include the Chartered Community of Navarre and some territories across the Pyrenees belonging to France.

³⁵ Government of Navarre press release of 27 March 2013, an excerpt of which is translated from Spanish here for information purposes: "The Government of Navarre considers that the Collaboration Protocol with the Government of the Basque Country for the reception of ETB in the Chartered Community of Navarre has been broken." Provided by Edurne Elio Aldunate, Director General for Communication of the Government of the Chartered Community of Navarre.

A few months later, other solutions for receiving ETB in Navarre were explored. Thus, in December 2013, the Basque public body informed the Government of Navarre, whose ruling party was UPN, that it was going to digitalise the analogue network of Pamplona in order to broadcast on Navarrese DTT under the resolution of the Chartered Parliament that, two months' earlier³⁶ (and again a few days after)³⁷, had supported by majority (with votes against cast by UPN and the conservative *Partido Popular*) the provisional digitalisation of that signal until a definitive solution could be found. However, the Navarrese Government denounced illegal occupation (for the second time after the attempt to do so in 2012, which led to an illegal antenna being shut down and a fine of €54,000 being issued)³⁸. After sending a conciliatory letter to his Navarrese counterpart, the President of the Basque Country³⁹ forced ETB's Director Maite Iturbe to reverse the action⁴⁰.

The economic and political discrepancies between the Government of Navarre and the Government of the Basque Country are hampering, as already seen, any chance of reaching an agreement to permit ETB broadcasts within Navarrese territory. The positions have become increasingly entrenched, and the Navarrese Government has ended up marking out three red lines: legal compliance, respect for the institutional reality of Navarre and zero cost to the Navarrese people⁴¹. This three-fold stipulation has not been met. Notwithstanding the above, in 2014, the Basque and Navarrese Executives agreed to re-apply for a second multiplex in an attempt to sort the problem out. However, the application was refused by the Spanish Ministry of Industry, Energy and Tourism a few days before the approval of the National Technical Plan for DTT, which, as already explained, limits the available spectrum for regional DTT to a single regional multiplex⁴².

All the same, the presence of ETB in the Chartered Community of Navarre has been retained thanks to the actions of Itelazpi, the Basque Government's public telecommunications company, which is causing interference in the broadcasts of the regional DTT channels that have licences to broadcast. Although the new Navarrese Executive – whose President is Uxue Barkos of the regional nationalist political coalition in Navarre called *Geroa Bai* – is aware of and approves of this fact, it may result in the cessation of ETB broadcasts once the reports being drafted by technicians from the Delegation of the Government of Spain in Navarre have been completed. All of this is going on while the Navarrese Government is negotiating with the private regional DTT operators to find a solution enabling the broadcasts by the Basque public television broadcaster in this self-governing region to be formalised⁴³.

³⁶ *Europapress.com*: <http://www.europapress.es/navarra/noticia-parlamento-foral-pide-eitb-digitalice-red-analogica-captacion-navarra-20131025130355.html> (30 October 2015).

³⁷ Parliament of Navarre: <http://www.parlamentodenavarra.es/inicio/comunicacion/noticias-y-actualidad.aspx?idnoticia=5192> (30 October 2015).

³⁸ Government of Navarre press release of 11 December 2013: http://www.navarra.es/home_es/Actualidad/Sala+de+prensa/Noticias/2013/12/11/gobierno+navarra+denuncia+intromision+ilegal+euskal+telebista+etb+en+la+television+digital+terrestre.htm (30 October 2015).

³⁹ Letter from the Basque President, Íñigo Urkullu, to the Navarrese President, Yolanda Barcina, of 12 December 2013, provided by Edurne Elio Aldunate, Director General for Communication of the Government of the Chartered Community of Navarre on 12 May 2015.

⁴⁰ *El Mundo*: <http://www.elmundo.es/pais-vasco/2014/09/10/5410165822601dcc1f8b4577.html> (30 October 2015).

⁴¹ Edurne Elio Aldunate, Director General for Communication of the Government of the Chartered Community of Navarre. Personal communications between 21 April and 3 July 2015.

⁴² *El Mundo*: <http://www.elmundo.es/pais-vasco/2014/09/10/5410165822601dcc1f8b4577.html> (30 October 2015).

⁴³ *Diario de Navarra*, 29 October 2015, p. 26.

4. Conclusions

Since 2007, the available frequencies for television services have been considerably reduced –and will be further reduced– for Europe. Several changes in the ITU’s Radio Regulations after WRC-2007 have been diligently taken on board by the EU, forcing Member States to release the digital dividend (790-862 MHz band) historically occupied by Hertzian television so that it can be used for electronic communication services.

The implications of the dividend release and the subsequent relocation of broadcasts (corresponding to channels 61 to 69 on the aforementioned band) have been the costs relating to simulcasts for operators and to the adaptation of communal aerial installations for citizens, as well as issues associated with retuning that have been time-wasting for viewers.

For the self-governing regions, the first digital dividend has led to the loss of a multiplex in each one, leaving all of them with a single multiplex each, a situation that was provided for under the 1998 National Technical Plan for DTT. Catalonia is the exception to the rule, as it has retained the additional multiplex awarded to it in 2003.

In some self-governing regions, the spectrum’s reduction has clearly undermined the possibility of expanding regional DTT channel offerings through reciprocal agreements (the cases of Catalonia, the Balearic Islands and Navarre) until, that is, the advent of signal compression innovations and the legal framework’s recognition thereof. The reduction has even seen several channels disappear from the programming schedule, despite being legally broadcast (the cases of the Catalan channels 3/24 and Super3/33 in the Balearic Islands).

In other self-governing regions (Andalusia in this instance), it would not be viable to retain the existing public offerings in accordance with the regulations in force (a maximum of four SD channels) if the private companies that have obtained licences were to start broadcasting.

Moreover, as HD requires more space on the multiplex, its implementation would logically be affected by the spectrum reduction discussed throughout this article.

It has been observed, therefore, that the dividend release clearly curtails the chances of implementing reciprocal agreements between bordering self-governing regions (the law only provides for agreements in such cases) and of rolling out HD. All this is set within a context where, for the time being, private regional DTT has shown itself to be a resounding failure: some operators have returned their licences (Prisa) while others have leased them to teleshopping companies (Vocento) or quite simply have never broadcast or have done so in clear breach of the conditions of their licences.

Faced with potential new reductions in the spectrum for DTT, one can only hope that it will be possible to work with all the stakeholders to ensure that the impacts of new changes are assessed and mitigated in advance, respecting the social value of Hertzian television nationally, regionally and locally.

A pending matter is, of course, an analysis of the policies of the new Governments emerging from the 2015 regional elections, whose work had only just started at the time of finalising this article in November 2015.

References

- Fernández Alonso, I., Espín, M. (2015). Les polítiques de comunicació. In M. Civil, J. Corbella Cordoní, C. Ferré Pavia, & J. Sabaté (Eds.), *Informe de la comunicació a Catalunya 2013-2014* (pp. 21-32). Retrieved from: <http://incom.uab.cat/informe/edicion.asp?id=15>
- Guimerà i Orts, J.A., Blasco Gil, J.J. (2015). La regularización de las emisiones de televisión autonómica fuera de la comunidad de origen: el caso de Cataluña (2004-2014). *Área Abierta* 15(2), 1-17. Retrieved from: <http://revistas.ucm.es/index.php/ARAB/article/view/49525>
- Guimerà i Orts, J.A. (2014). *Les polítiques de mitjans de comunicació durant els governs de Jordi Pujol: premsa, ràdio i televisió en el procés de reconstrucció nacional de Catalunya*. Barcelona: Proa.