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Diagnosis of local digital terrestrial television in Catalonia (September - October 2009)

Catalan Audiovisual Council

Abstract

Diagnòstic de la televisió digital terrestre local a Catalunya (setembre – octubre 2009) *[*Diagnosis of local digital terrestrial television in Catalonia (September-October 2009)*], it's a summary of a more extensive study of local digital terrestrial television (local DTT) in Catalonia presented to the Catalan Parliament on 23 October 2009. This study, produced by the Catalan Audiovisual Council, had the aim to get first-hand information about the situation of the sector, in order to guide the actions needed in the future.*

This article here contains three sections from the summary document: the methodology conclusions and operational goals; Catalonia's strengths regarding the roll-out of local DTT; its conclusions and operational goals; and the opportunities provided for Catalonia by the implementation of this broadcasting system.

Key words

DTT, television, digital, local, local DTT, multiplex, programme.

Resum

El Diagnòstic de la televisió digital terrestre local a Catalunya (setembre - octubre 2009) *és una síntesi d'un estudi més ampli sobre la televisió digital terrestre local (TDT-L) a Catalunya que es va presentar al Parlament el 23 d'octubre de 2009. Aquest estudi, elaborat pel Consell de l'Audiovisual de Catalunya, tenia com a objectiu conèixer de primera mà l'estat del sector, per així poder orientar les actuacions necessàries en un futur.*

Aquest article recull tres parts del text presentat al Parlament: la metodologia i les fortaleses de Catalunya davant de la implantació de la TDT-L; les conclusions i els objectius operatius, i les oportunitats que suposa per a Catalunya la implantació d'aquest sistema d'emissió.

Paraules clau

TDT, televisió, digital, local, TDT-L, múltiplex, programa.

Introduction

The survey of local DTT in Catalonia was due to the CAC's desire to know, at first-hand, the state of the sector as a guideline for the actions that need to be taken based on a situation that is, and is expected to be, complex.[1] The survey provides a global and demarcation-based diagnosis based on an analysis of each of the licence holders, both private and public, the situation of the different multiplex channels (MUX), their management, the broadcasting centres assigned and any problems of coverage. Finally, it evaluates the viability of the different suppliers based on the demography, economy and physical landscape of each of the 21 demarcations into which local digital terrestrial television (local DTT) is divided in Catalonia.

The most important part of the data from the survey on local digital terrestrial television in Catalonia comes from the players themselves by means of fieldwork, in which three CAC members took part as well as an academic specialising in this area from the Universitat Autònoma de Barcelona, with the support of the CAC Research Area. For approximately one year, this working group visited the offices and production centres of each local supplier, holding interviews with those in charge, examining the situation on the ground and discussing their projects and concerns. Discussions were also held with other non-local suppliers, syndication networks, signal operators and institutions related to the development and roll-out of local DTT in Catalonia. However, some of the information obtained is confidential and subject to data protection regulations and consequently cannot be disclosed.

The other part of the data comes from documents provided by the television service providers themselves and also from other surveys and sources of renowned authority. All the available documentation has been analysed on the procedures for granting licences to run programmes, as well as the parameters and technical variables of each demarcation, the corporate needs of local television stations to produce content and other information and statistics on the audiovisual sector in Catalonia in general, also referring to a range of academic literature on this subject.

The study of local digital terrestrial television (local DTT) was presented to the Catalan Parliament on 23 October 2009 through a summary document entitled *Diagnòstic de la televisió digital terrestre local a Catalunya (setembre - octubre 2009)*[2] [Diagnosis of local digital terrestrial television in Catalonia (September-October 2009)] and this text reproduces the following sections from the report: methodology, Catalonia's strengths regarding the roll-out of local digital terrestrial television (local DTT); its conclusions and operational goals; and, finally, the opportunities that are emerging for Catalonia by implementing this kind of broadcasting system.

Catalonia's strengths regarding the roll-out of DTT

1. Presence of numerous licence holders interested in local television in Catalonia

One of the fundamental features of Local Digital Terrestrial Television (local DTT) in Catalonia is the presence, among licence holders, of a large number of both private and public suppliers that are committed to continuing to offer local television.

In the private case, these are historical suppliers that have been in the sector a long time and have actually chosen local television as their business. These are small firms and local television is their way of life. They have a particular function depending on each case, far from acting at the levels of political economy of the large media groups. These players are a strong point in the switchover to local DTT, because they need it in order to survive.

With regard to public suppliers, those for towns with larger analogue television stations have clearly committed to local DTT. Other towns in the metropolitan area have started to set up consortiums; and large towns without a tradition of public television have decided to start one as a result of this process.

2. Presence of licence holders interested in the model of proximity television

Another strong point is the predisposition of a large proportion of suppliers, which converges with the model that public administrations want to promote: namely proximity television. If this weren't the case, the process would have probably been more conflictive. Public suppliers see the proximity model as a service for citizens and private suppliers have seen a correlation between proximity and good business prospects.

3. Link between suppliers and Catalan multimedia groups

It should be noted that some local DTT licence holders are linked to local and county communication groups, on the one hand, or Catalonia-wide groups on the other. This provides greater business muscle to tackle the various challenges and this multimedia dimension might even grow over the coming months.

4. The sector's tendency to form associations and the existence of Catalan syndication networks

The historically cooperative tradition of Catalan local television is also a strong point for the sector. This explains the existence of both public and private syndication networks, a key asset to meeting licence obligations and also to applying the Catalan local DTT model of proximity.

5. Public administrations sensitive to the sector and involved in the migration

Finally, one strong point for Catalonia in the switchover to local DTT is the historical sensitivity of its administrations towards local television and its active involvement in the transition process, through dialogue and collaborating with the sector.

Conclusions and operational goals

1. The roll-out of local DTT (September-October 2009): complex and difficult

In September 2009, 18 of the 24 MUX contained in the National Technical Plan for local digital television were in operation. Of the 92 programmes that were meant to start up, only 47 had done so; 51% of the total. Not all the 70 programmes squeezed into the 18 MUX in operation are broadcasting: only 67.1%. These data indicate the complex and difficult situation presented by the roll-out of local DTT in Catalonia.

Three basic requirements need to be met to consider local digital terrestrial television as implemented in a demarcation: the technical projects must be approved; the MUX must be broadcasting, albeit only trial broadcasts, and the television market must be defined, so that we know which suppliers will provide the service and which won't. These three requirements, as of May 2009, were only met by 2 of the 21 demarcations planned.

The data also reveal that local television is behind schedule in terms of the Catalan government's plan for the digital switchover, and that the months prior to the analogue switch-off established by the Spanish government (April 2010) will be particularly intensive in terms of completing many roll-out projects.

In all, therefore, the background situation is one of transition. Both public and private television suppliers have expressed the urgent need to be able to broadcast digitally given the imminent analogue switch-off and the loss of a part of the audience that has already migrated to DTT. The technical conditions to broadcast are being resolved. The Catalan government is directing the digital switchover and the imminent analogue switch-off, and it has carried out actions to extend the coverage initially planned, so that DTT can reach all locations with more than 50 inhabitants. We should bear in mind the situation of suppliers that have to broadcast in local DTT within this context, both public and private.

It will therefore be necessary to continue carrying out actions related to the switchover to digital TV, stressing intensity in this last stage, and to guarantee the additional costs that ensure actual universal coverage under this system becomes well established. As the most specific aspect of broadcasting conditions for the different suppliers, the technical plan authorisation procedure must be improved to ensure that, in our quest for improved efficacy, we do not devalue the outcome of the tender.

2. The situation of suppliers and defining the market in demarcations

The industrial and financial situation in which both public and private suppliers find themselves is crucial to understanding the extent of local DTT roll-out in Catalonia. Far from all of

Table 1. State of the technical projects, of the MUX and of the local DTT programmes and a list of the schedules for digital switchover and analogue switch-off (September-October 2009)

Demarcation	Technical project	MUX	Programmes broadcasting	Market defined	Synchronic switchover	Switch-off schedule
Balaguer* (Garrigues-Noguera-Pla d'Urgell-Segarra-Urgell)	Provisional approval	Does not broadcast	0/3	No	06/2009	31/12/2009
Barcelona (Barcelonès)	Approved (private)	Broadcasting	8/8	No	2008-2009	03/04/2010
	Approved (public)	Broadcasting			2008-2009	03/04/2010
Blanes* (Selva)	Partial provisional approval	Does not broadcast	1/3	No	06/2009	31/12/2009
Cornellà de Llobregat ** (Baix Llobregat)	Approved (private)	Broadcasting	3/8	No	2008-2009	03/04/2010
	Did not apply (public)	Does not broadcast			2008-2009	03/04/2010
Figueres (Alt Empordà)	Pending approval	Does not broadcast	4/4	No	06/2009	31/12/2009
Girona (Gironès-Pla de l'Estany)	Approved	Broadcasting	2/4	Yes	06/2008	31/12/2009
Granollers (Vallès Oriental)	Pending approval	Does not broadcast	2/4	No	12/2008	30/06/2009 – 03/04/2010
Igualada (Anoia)	Provisional approval	Does not broadcast	0/4	No	12/2008	31/12/2009
Lleida (Segrià)	Provisional approval	Does not broadcast	2/4	No	06/2009	31/12/2009
Manresa (Bages-Berguedà-Solsonès)	Partial provisional approval	Does not broadcast	0/4	No	12/2008	31/12/2009 – 03/04/2010
Mataró (Maresme)	Provisional approval	Broadcasting	4/4	No	12/2008	30/06/2009 – 03/04/2010
Olot (Garrotxa-Ripollès)	Partially approved	Broadcasting	2/4	Yes	12/2009	30/06/2009
Palafrugell (Baix Empordà)	Partial provisional approval	Does not broadcast	1/4	No	12/2008	31/12/2009
Reus (Baix Camp-Priorat)	Partial provisional approval	Broadcasting	2/4	No	06/2008	31/12/2009
Sabadell (Vallès Occidental)	Pending approval	Broadcasting	5/8	No	2008-2009	03/04/2010
					2008-2009	03/04/2010
Seu d'Urgell (A.Ribagorça-A.Urgell-Cerdanya-P.Jussà-P.Sobirà)	Provisional approval	Broadcasting	1/4	No	12/2009	03/04/2010
Tarragona (Tarragonès-Conca de Barberà-Alt Camp)	Partially approved	Broadcasting	4/4	No	12/2008	31/12/2009
Tortosa (Baix Ebre-Montsià-Ribera d'Ebre-Terra Alta)	Partial provisional approval	Does not broadcast	0/4	No	12/2009	31/12/2009
Vic (Osona)	Approved	Broadcasting	3/4	No	06/2008	03/04/2010
Vielha e Mijaran* (Val d'Aran)	Provisional approval	Does not broadcast	0/4	No	12/2009	31/12/2009
Vilanova i la Geltrú (A.Penedès-B.Penedès-Garraf)	Partial provisional approval	Broadcasting	3/4	No	06/2008	31/12/2009

* One programme remained void in this demarcation in the tender for the indirect management of the service.

** By means of Agreement 101/2009, of 20 May, of the Plenary of the Catalan Audiovisual Council, the CAC accepted the renouncement made by Uniprex Televisió Digital Terrestre Catalana, SL and consequently terminated the contract to operate the local DTT service which this demarcation was a party to.

Source: authors, based on information gathered via fieldwork, that provided by the General Directorate of Communication and Audiovisual Circulation Services of the Catalan government on the state of the technical projects for local MUX as of October 2009, data from the Department of Culture and the Media [Online] (2007): "Catalunya encendrà la TDT de manera sincrònica i per demarcacions entre el 2008 i el 2009". <http://www20.gencat.cat/portal/site/CulturaDepartament/menuitem.cc396c23f1b1adc20985bdb1b0c0e1a0/?vgnextoid=a73e20d66949b010VgnVCM1000000b0c1e0aRCRD&vgnextchannel=a73e20d66949b010VgnVCM1000000b0c1e0aRCRD&vgnextfmt=detall&contentid=caf3732c89f16110VgnVCM1000008d0c1e0aRCRD>; and the Ministry of Industry, Tourism and Trade [Online] (2007): "Acuerdo del Consejo de Ministros por el cual se aprueba el Plan Nacional de Transición a la Televisión Digital Terrestre". <http://www.coit.es/pub/ficheros/plan_nacional_de_transicion_a_latdt_1632863b.pdf> [Consulted: November 2010] them being ready, research has highlighted the fact that there are suppliers with significant deficiencies and, in the case of public suppliers, consortiums that do not intend to start up the programme they have been assigned.

Adding together the programmes currently in operation, 47 were broadcasting as of September 2009, 51% of the 92 possible programmes. Of these, 36 are private and 11 public. The remaining 49% of the programmes are still in an uncertain situation, as their directors have stated that either they don't want to or can't produce television, or there are doubts regarding their sustainability or capacity to start operations. These are 45 programmes, of which 19 are private and 26 public.

Research has shown that, although a supplier may be broadcasting, this does not mean that it has consolidated DTT. So, when evaluating the degree of DTT roll-out, it's not enough to accept that a supplier has access to content and a broadcasting centre, but it must also have a production infrastructure in the demarcation and minimal economic solvency.

In this respect, a system of aid needs to be created for projects to support industrial and financial development, providing a basis for more solid projects.

3. The collegial nature of local DTT: a brake on the roll-out

The fact that local DTT has been organised into demarcations means that its roll-out has a strong collegial component, insofar as some players must come to an agreement to run a programme (councils that have to create a consortium) and everyone (public and private suppliers) must agree on how their joint MUX will be managed, although they often have very different systems and methods. Consequently, a supplier's problems do not only affect the service provider but can also affect the MUX's partners, as has been seen when a supplier has preferred to delay the start of broadcasting or even questions whether it should continue.

One of the factors that make it difficult to start up a MUX is perhaps related to its collegial nature: the start-up of consortiums on the one hand and the joint management of the MUX on the other. The need to clarify which suppliers are prepared to provide television and which are not is an urgent matter in many demarcations.

And formulas need to be established to ensure that these difficulties do not condemn to death those suppliers who, albeit wishing to be viable, cannot take on all or the non-individual parts of the multiple's costs.

4. The cost of transmitting the signal: a big concern

Although the cost of carrying the signal has gone down substantially since the first prices were published in 2005, this item of the budget is, at present, one of the most widespread concerns among Catalan suppliers. In practice, there's only one signal carrier (Abertis) and the absence of any real alternatives has led to a lot of tension in negotiations regarding costs and contract conditions.

If we place the concern for transmission prices within the collegial context of multiple channels, this becomes even more acute when some MUX partners don't broadcast, as the signal cost affects those that do broadcast. This issue is particularly critical in the case of the less populated demarcations and those with a complicated physical geography, as the costs of carrying the signal are very high in relation to the turnover.

To ensure the viability of local DTT, we need to ensure that the prices set by the operator carrying the signal are in line with those established by the CMT [Spanish Telecommunications Market Commission] in the case of operators with particular power in the market, i.e. cost-oriented prices and equal treatment or the principle of non-discrimination. While positions of dominance in the market are always questionable, the abuse of dominance is unacceptable when this can lead to the failure or non-viability of a policy committed to ensuring diversification and pluralism in Catalonia's broadcasting.

On the other hand, the cost of transmitting the signal also rises as a result of the extension of the municipalities planned in the demarcations of the national Plan and with the extension in coverage.

The fact that some demarcations have a rough terrain or low population density also has an effect in this case. On the other hand, extended coverage interests suppliers when broadcasts can be made from centres located in one of the large telecommunications towers in Catalonia, reaching a wider population at the same cost or at a very marginal additional cost.

The measures proposed in point 3 of this section should be able to resolve this problem as well, in addition to adapting state aid according to the difficulties encountered.

5. The crisis as an aggravating factor

The economic crisis makes this situation worse as the specific problems of DTT and the particular situation of each supplier are further damaged by a slump in advertising income and the tightening of government budgets. Advertising spend for private suppliers fell by 20% on average in 2008, and in 2009 some key advertisers (estate agents and car dealers) almost disappeared from the market. Public suppliers have also seen their budgets frozen or cut, as municipalities' revenue falls and, at the same time, they have to meet rising social costs. Although the crisis did not cause the situation affecting local DTT, it has aggravated its problems.

Regarding private suppliers, the measures proposed in point 2 of this section and other similar measures should help to tackle this temporary situation. It would not be good if local proximity television's coincidence with the economic crisis meant, in practice, its disappearance in Catalonia. With regard to public suppliers that have not broadcast in analogue, the citizen channel may be a provisional solution until budgets allow conventional broadcasts to be started up.

6. Some key players in the roll-out: suppliers determined to provide television

The collegial nature of the signal carrier system for local DTT and the existence of suppliers encountering problems in carrying out their projects might be leading some MUX up a blind alley. Given this context of limitations, the existence of a group of 36 private suppliers and 11 public that are determined to carry on with 47 local DTT programmes and to switch over to digital must be considered as one of the key factors in the process.

These are the players that promote the MUX where they are located and usually direct its start-up, as they believe they must begin digital broadcasts as soon as possible so as not to fall behind in the changeover. Quite often, they even act as a kind of pioneer and, so as not to depend on the more delayed situation of other suppliers, they sometimes set up the MUX alone or only with a part of the planned suppliers.

In the case of private suppliers, most are historical, having been in the sector for a long time and have actually taken up local broadcasting as their chosen business. These are small businesses that don't speculate with their county-based companies or multimedia groups that need television in order to be reference media players in their territory. In the case of public suppliers, most come from a tradition of analogue television, with the exception of a few that are interested in the new kind of public television that allows them to produce proximity programmes in their demarcations.

Within such a complex context, the existence of these suppliers must be considered as a strong point of Catalan local DTT, as they seem aimed at playing a key role in their demarcations and leading its roll-out in Catalonia.

It must be clear that these players need maximum institutional support, guaranteeing the proximity model and the desire to provide a public service.

7. Opportunities to develop what public local television can offer

There are two aspects to public local television during the digital switchover. The crisis, if we focus on those projects that finally come to fruition; and new opportunities, if we focus on the achievements of those that are broadcasting and the role they play in providing public service content.

Public local television is not undergoing a widespread crisis because there are many examples that appear to be dynamic and have strong leadership. In addition to the public local programmes that have been in operation up to now, new ones are also appearing in zones where there weren't any before, boosting economic activity and creating jobs. On the other hand, when any municipality from a consortium has an analogue television station in operation, new synergies are created with other municipalities between technical and human resources that were previously unrelated. The very fact that new councils are joining those that already produce television also makes it possible to improve available resources compared with those allocated to analogue broadcasts.

One of the most relevant facts obtained regarding public television is that those consortiums that manage to survive appear to be related to another phenomenon that local DTT helps to develop: the creation of local audiovisual clusters. Many of these projects, moreover, are related to different Catalan universities and some professional training centres. The aim is to create synergies between research and education in communication and telecommunications engineering, on the one hand, and the production and broadcasting of audiovisuals on the other. In fact, one thing confirmed by this study is that most of the public programmes being carried out in Catalonia appear to be related to projects that go way beyond local DTT per se.

This model of new industries needs to be promoted from all levels and linked to the quinary sector, related to education, new technologies, cultural industries and quality tourism.

8. Changing the size of public local television

In quantitative terms we can say that the relative presence of public local television in Catalonia is shrinking. At the end of the 1990s, this kind of television accounted for 50% of the sector, afterwards going down to 40% by the middle of 2000 and it seems possible that local DTT may even account for less than 25% of the existing supply if the current trend continues. This might imbalance the communication system, because public television is the only one to guarantee public service content and the standardised presence of Catalan. Some of the current municipal television stations are about to disappear as they belong to consortiums that are not in any condition to start up their television service. There are many reasons for this situation and a large number of these result from several municipalities having to share the same programme and set up a consortium to manage it, and the inherent difficulties. Political dynamics, differences between populations and historical rivalries are obstacles that come to light when attempting to define the complex kind of organisation required. And there is the added difficulty of the current economic crisis, with expected reductions in municipal revenue and priorities being redefined by councils.

Certainly this situation might change in the medium term as the overall situation improves and becomes a more favourable context for these projects to function. In any case, public space must be reserved in order to guarantee pluralism and diversity in the television provided.

9. Local television is proximity television

Act 22/2005, of 29 December on audiovisual communication in Catalonia (the LCA) defines local television as proximity television and, as such, it is "aimed at meeting the needs for information, communication and participation in society of the local communities comprised within the specific demarcation in question" (point *h* of article 1). The research carried out confirms the validity of this proximity television model. We can state that proximity is competitive at a local level and that it effectively complements what is provided by general television covering the autonomous community or country.

The economic viability of proximity television is therefore based on its specific nature and the fact that it complements the needs of the audience it's aimed at. This means it can attract advertising revenue in the municipalities where it's broadcast, which make up its own delimited market. However, proximity is a condition that is necessary but not enough, per se, to ensure viability. Public resources are also required for these television stations to be viable and, in turn, help to reinforce their profile of proximity. For this reason, those suppliers that are more closely related to the territory and its institutions are the most viable in terms of private television business.

On the other hand, television channels linked to big networks, with a low proportion of proximity content, have experienced serious problems of viability, possibly because, at a local level, they cannot hope to compete with autonomous community or state television stations that have a lot more resources and a much bigger market, and in particular because the audience expects local television to provide information, interviews and reports dealing with their most immediate environment.

In general terms, it can be said that, within the current context of economic crisis and low advertising spend, the picture painted by Catalan private television is a highly vulnerable one in general.

The measures mentioned so far can help to overcome this situation. In any case, it's necessary to ensure that local television respects its function of proximity, while applying the current legal framework and interpretative criteria regarding chain programming and content syndication.

10. Private local DTT: a fragile economy based on public subsidies

Historically, Catalan private television has been characterised by a precarious economy made up of small firms with tiny profits, volunteer workers and often operating losses.

The *Informe sobre l'audiovisual a Catalunya 2007*[3] [Report on audiovisuals in Catalonia] produced by the CAC (2009) points out that the sector's basic characteristics are low liquidity and high debt. 70% of the revenue for local television stations comes from advertising, almost always local advertisers. The rest of the income, which in some cases is much higher than 30% and even reaches 50%, comes from public funds, be it in the form of subsidies, indirect aid, production contracts, etc. According to the study on the viability of private local television (Generalitat de Catalunya 2006), the resources provided by public sources (councils, provincial and Catalan governments) for private broadcasters in 2005 in Catalonia totalled 8.3 million euros. This amount, compared with the 19.3 million generated by the sector itself, accounts for 43% of the total.

The audiovisual sector therefore has aspects in common with the cultural sector in Catalonia, which benefits from a large amount of public involvement.

With regard to local DTT, the relevant bodies must bear in mind this relation between the public and private system when taking their decisions and establishing communication policies.

The current legal framework needs to be rationalised and adapted in terms of the economic relationship between private suppliers and public authorities to ensure that the principles of transparency are respected and that public funds are allocated to benefit public service.

11. Syndication as a key element in the sustainability of local DTT

The information gathered by the fieldwork suggests that the licence obligations regarding programming are of great concern to the vast majority of suppliers, given the extensive commitments taken on and the awareness of what is required of them.

In fact, the total hours of original programming proposed by the licence holders for the 55 private programmes[4] entails an annual total of 4,142 hours of this kind of programming, with an average of 75.3 hours a week per licence holder, which have legal commitments from the tender; more than double the number of hours required by the legal minimums.

The interpretative criteria drawn up by the CAC in 2008 contain the requirements for syndicated production to be counted as original programming, so that it can be used to comply with the minimum of 4 hours a day and 32 hours a week for this kind of programming, and logically also for the additional hours a supplier must comply with depending on the contractual commitments taken out at the time of being granted the licence.[5] This point is vital to the sustainability of local DTT, and the syndication of content is presented as a formula that helps to ensure the system is efficient and stable. These possibilities open up a considerable area for development for those suppliers that wish to use syndication, which is actually quite widespread among Catalan local DTT. There is no supplier that does not form part of at least one of the content syndication networks in Catalonia. Moreover, the appearance of two private networks in 2008 and the diversification of the two public ones (XAL, specialising in public suppliers, and Comunicàlia, aimed at private ones) must be considered as an opportunity for local DTT to develop, since this means that more programmes can be accessed and these can be more diversified. Nonetheless, we must remember that some suppliers may use a lot of syndicated content but don't provide any of their own content, something which could harm the model and which is one of the main challenges facing content syndication networks: ensuring that all suppliers play an active part in producing syndicated content.

The existence of support networks for proximity complete the specific Catalan model and help to sustain the system. Institutional aid must be maintained.

12. Overlapping between demarcations

Overlapping between demarcations, either due to overlapping coverage or to economic or demographic reasons, is a reality that cannot be ignored, as this makes up a different market to the one defined on paper in the national Plan. The authorisation of broadcasting centres outside the demarcation itself, so that the signal can be broadcast more effectively, has led to such overlaps. Reasons of a historical and social nature, as well as the distribution of the population and even the physical geography of the area are in addition to the fact that demarcations are not sealed areas and there are different ways in which they can overlap. In some demarcations this is not a problem, as these connections are consistent with their demographics and help economic viability. This is therefore an aspect that must be taken into account in the actions carried out by the CAC and the government related to those suppliers operating in these overlapping areas. This is the context, for example, that will have to be taken into account in authorisations of the percentage of syndicated production or in the decisions concerning whether void licences should be filled.

In any case, in order to ensure the existing demarcations are rational and for greater transparency and objectivity, a legal reform might have to be undertaken so that the CAC can exceptionally authorise a larger percentage of chain broadcasts by those suppliers that broadcast in adjacent demarcations when wide zones of coverage are shared, there is a clear economic or demographic connection or for reasons of particular difficulty (terrain, low population), while preserving proximity within the context of the principles governing the corresponding licence tender.

13. The specific case of the metropolitan area

The demarcations of Barcelona, Cornellà de Llobregat and Sabadell have, as a common denominator, two MUX each and numerous elements linking them. They make up a fundamental part of what is called the Metropolitan Area.

Three of the four single municipality public suppliers (Barcelona, Badalona, l'Hospitalet del Llobregat) were already broadcasting in analogue and have switched over to DTT without any noticeable problems. However, the public suppliers that have organised themselves into consortiums have had more problems.

Paradoxically, and although these are, theoretically, the three most viable demarcations, they are also the ones with the most problems in terms of private suppliers finding their niche and producing proximity television. Neither was chain broadcasting a solution, in spite of belonging to large media groups in Spain. These are precisely the ones that have suffered an evident crisis, with one licence being returned for the Cornellà de Llobregat demarcation and a further two suppliers with licences in Barcelona, Cornellà de Llobregat and Granollers rethinking their business. The remaining private suppliers vary in terms of their situation and it is difficult to make predictions. For the moment, those that have based their business on proximity are managing to survive.

The different outcomes for different suppliers, added to the partial overlapping of coverage due to the authorisation of the Collserola broadcasting centre for Cornellà de Llobregat, might considerably alter the map of local DTT planned for the demarcations.

We therefore need to extensively rethink the map of channels for the metropolitan area, taking into account the specific nature of each of the demarcations it contains, the overlapping between them and the economic, political and social viability of each multiplex.

14. The viability of the local DTT sector as a whole

There are two relatively widespread impressions concerning local DTT: that Catalonia cannot economically support 92 local television stations and that there are demarcations with too small a population to be sustainable. The data back up these impressions and it certainly seems that the private local television sector is a small business that is encountering problems in switching over to and consolidating local DTT. There are two facts that point towards this. On the one hand, only 46 programmes had been started up before the analogue switch-off; and, on the other, public aid continues to be one of the main sources of funding.

In any case, we must note that, as from 2007, a series of political decisions have been taken that have made it possible for more players to become viable. To start with, the possibility that syndicated production become the ideal formula to ensure compliance with licence obligations, based on criteria defined by the CAC. And, finally, the option of the low-cost television model for public programmes which might find, in this system, a way to start up television channels that otherwise would not have seen the light of day. These readjustments to the model might open up a way for a system to exist with somewhat more suppliers than the forty something expected.

Regarding the viability of demarcations and its relation with the number of inhabitants, it would simplify the nature of DTT's unit of organisation if everything were reduced to a question of population density. In other words, effectively, a demarcation is a territory with a specific surface area and a population inside that gives rise to a specific population density. This is the basis on which suppliers need to make their initial economic calculations to see whether the demarcation is sustainable, but these data are not enough. A demarcation is also one or two MUX. It is therefore a telecommunications network (or two) with the corresponding technical broadcasting characteristics. The transmission costs will vary considerably depending on the physical geography of the demarcation, how its population is distributed and the transmission network required to cover this population. So, relating these data with the population, two demarcations with a similar number of inhabitants might have notable differences in terms of viability if one needs a much more complex network than the other.

Four programmes can fit into one MUX. Consequently, a demarcation can also prefigure its audiovisual market. In this respect, a zone might be viable in the sense of being able to economically support two programmes or unviable if four operate there. Or it might also be unviable if only one supplier operates but the telecommunications network is too costly for one alone. Moreover, we should remember that ownership is a very important factor regarding viability.

But the suppliers' business model is also an important variable for evaluating the viability of each demarcation. Although the proximity model is proving to be the most viable, it is difficult to imagine demarcations with two, three or four television stations providing the same kind of programming. Moreover, we must also look at how extensively the suppliers are integrated within the territory in question and the opportunities open to new licence holders.

In this respect, a dynamic analysis is proposed of the viability of local DTT demarcations in Catalonia which takes into account all these elements: the number of inhabitants and their geographical distribution; the characteristics of the telecommunications network required; the physical geography and overlapping between demarcations; the economic viability of suppliers, and the diversity of the supply, both public and private.

This analysis should help to ensure local DTT suppliers are rational and sustainable, as well as helping to take decisions on whether vacant licences should be filled, authorising chain broadcasting and syndicated production and encouraging and supporting public and private stations that provide proximity television. It must ultimately be the inspiration for the goals to be pursued and the measures to be carried out over the coming months to consolidate local DTT.

Opportunities for Catalonia provided by the DTT roll-out

1.Opportunity to regulate part of the local audiovisual sector from the analogue era

When the process to roll out local DTT was started in 2004, one of the recurring statements on the part of the sector and Catalan administrations was that it would lead to the full regulation and legal recognition of Catalan local television.

2.Consolidation of supra-municipal multimedia groups

One of the evident aims of the private local DTT tender held in Catalonia was to help to create and reinforce Catalan multimedia groups through licensing.

3. Opportunity to reinforce the local DTT sector

Another objective of the local DTT licensing process in Catalonia was to help establish a competitive and economically sustainable local audiovisual sector.

4. Emergence and consolidation of content syndication networks

Within the context of rolling out DTT, public and private television networks have appeared that focus on the (co)production of content of a syndicated nature. These new formations must be seen as a product of the new requirements imposed by DTT but also as an opportunity to grow and consolidate a small production industry linked to Catalan local private television stations.

5. Diversification of the syndication networks' content

The emergence of two private networks and the diversification of public result in another opportunity when both processes come together. On the one hand, the volume of content that can be syndicated increases compared with previous years. On the other, the fact that there are different syndication networks in terms of origin and nature can lead to more plurality in this syndicated content.

6. An indirect opportunity: the emergence of multimedia proximity networks

There are sector players that have announced they are organising networks and collaboration agreements that go beyond television. In fact, they want to take advantage of syndicating television content and the multimedia dimension of the players involved in the project to set up multimedia platforms that make the most of the content and experience in managing radio, printed and online media.

7.Creation and strengthening of the local public audiovisual sector

New public television channels are appearing in areas without a tradition of public television. Different municipalities with public analogue television stations getting together and forming a consortium also creates synergies between technical and human resources that were not previously related.

8. Appearance of local audiovisual clusters and synergies with universities

The emergence of greater public supply and the consolidation of existing supply are related to another phenomenon that local DTT is helping to develop in Catalonia: the creation of local audiovisual clusters in various Catalan locations. Moreover, many of these projects are linked to different Catalan universities. The aim is to create synergies between academia and audiovisual production.

Notes

1 The legal framework for the technical Plan for local digital television that affects Catalonia is contained in Royal Decree 439/2004, of 12 March, subsequently amended by Royal Decree 2268/2004, of 3 December. In Catalonia 21 demarcations and 24 multiplexes (with 4 programmes each) are planned. Every demarcation has 1 MUX except Barcelona, Cornellà de Llobregat and Sabadell, with 2 MUX. On the other hand, of 96 programmes, the Catalan Government reserved 37 for public management and 59 for private broadcasters.

2 Consell de l'Audiovisual de Catalunya. *Diagnòstic de la televisió digital terrestre local a Catalunya (setembre - octubre 2009).* Barcelona: CAC, 2009 [Online]: <http://www.cac.cat/pfw_files/cma/recerca/estudis_recerca/Diagnostic_TDTLCat_231009.pdf> [Consulted: October 2010]

3 Consell de l'Audiovisual de Catalunya. *Informe sobre l'audiovisual a Catalunya 2007*. [Online] <http://www.cac.cat/pfw_files/cma/recerca/altres/Informe_sector_2007.pdf> [Consulted: October 2010]

4 Uniprex Televisió Digital Terrestre Catalana, SLU is not counted, which gave up its licence (Agreement 101/2009, of 20 May, of the Plenary of the Consell de l'Audiovisual de Catalunya, terminating the contract to operate the local DTT service for which it had a licence).

5 Point 4 of the conclusions from the document *Criteris d'interpretació de les obligacions que integren el règim dels prestadors del servei de televisió digital terrestre d'àmbit local en matèria de programació original, producció pròpia, emissió en cadena i sindicació de continguts*.