Revista Latina de Comunicación Social

Research - How to cite this article – referees' reports – scheduling – metadata – PDF – Creative Commons
DOI: 10.4185/RLCS-65-2010-907-379-391-EN – ISSN 1138 - 5820 – RLCS # 65 – 2010

Policies towards DTT in the Community of Madrid during 2008 and 2009

Guiomar Salvat-Martinrey, Ph. D. [C.V.] Department of Communication Sciences I - Faculty of Communication Sciences - Rey Juan Carlos University - guiomar.salvat@urjc.es

Abstract: The introduction and development of Digital Terrestrial Television (DTT) in the Community of Madrid respond to the need ofadjusting broadcasting to the new technological requirements, and to the firm, very ambitious and carefully designed political objective of making the Community of Madrid the leader in the implementation of DTT in Spain. This article aims to show the more relevant policies carried out by the government of this Community during 2008 and 2009 for the digital switchover. This article acknowledges that the Community of Madrid's technological adjustment policy is framed within a wider national policy called *PlanAvanza* (2009-2012), which greatly supports, in its Infrastructures section, the nationwide implementation of DTT, and issubsequently determined by the National Technical Plan for DTT(*PTNTDT*). Based on the collected data, this article studies the level of DTT household penetration in the Community of Madrid during 2008-2009, the informative effectiveness of the campaigns designed to promote awareness about this technological change and ensure the necessary social support, and the effectiveness of the policies.

Keywords: Digital Terrestrial Television; DTT; Information Society; Community of Madrid; audiovisual policy.

Translation by **Cruz Alberto Martinez-Arcos** (University of London)

1. Introduction

The awareness, accessibility and use of new technologies, as key means to achieve the full development of the information society,are theprioritised responsibilities assumed by the Partido Popular (Popular Party)currentlygoverning the Community Madrid. The technology in which the government has concentrated its greatest efforts is the DTT, due to the agreement with the deadlines set by the EU for the digital switchover.

The aim of this research is to examine the technology policy taken by the Government of the Autonomous Community of Madrid towards DTT during 2008 and 2009. The study aims to establish whether the governmental actions tomake the Community of Madrid into one of the leaders in the implementation of DTT in Spain have been adequate and sufficient, whether they have obtained the investments necessary to do so, and whether the objectives of these policies will be achieved. During this period the government has adopted a series of standards, which include the resolution of 4 November 2008, which entrustedthe ICM (Agency for Information Technology and Communications of the Community of Madrid) with the responsibility to managethe provision of certain services, and which has become the fundamental axis of the governmental strategy.

The first objective of this paper is to review the political and regulatory strategies of this period to establish the aims of the Community of Madrid with regards to DTT and the possibilities of achieving these targets. This is despite the wider research project of which this article is part ("Public policies favouring the information society in Spain: evaluation of strategies and actions in nine autonomous communities")covers until 2011 and involves other technologies.

The second objective is to analyse the specific actions undertaken by the Government of the Community of Madrid to try to meet the deadlines imposed by the EU,Spain, and the community itself for the introduction of DTTin the Community of Madrid. This study only examines the actions performedduring 2008 and 2009. These actions follow three main lines of action: information to users, creation of the necessary infrastructure, and households' private investments.

In order to meet these objectives, the study will include a detailed analysis of the policies that are related to the development of DTT and directly affect the community, in accordance with thenational strategy *Plan Avanza 2* and the rules published in the *BOCM* (Official Bulletin of the Community of Madrid). We will also study the level of development of DTT in the Community based on the penetration of this technology in households and the information provided to users from the different areas where DTT will be progressively introduced. Throughout thearticle we will try to show the extent to what the technological policiestaken by the Community during this two years managed to achieve the

objectives of overcoming theinfrastructural, educational, economic and social barriers, and the extent to what through these measures the Community reacheda steady increase in the penetration of DTT in households and maintained a position of leadership among the Spanish communities during the period of study.

2. Methodology

The main tool is the hierarchical and systematic study of the main regulatory milestones affecting the introduction of DTT in the Community of Madrid during 2008 and 2009. In this sense, there are two key questions in this work. The first is related do the resolution of 4 November 2008, of Spain's Technical General Secretary of the Vice-presidency and Communications department, which entrusted the ICM (Agency for Information Technology and Communications of the Community of Madrid)to oversee the provision of certain services until the end of 2008. A subsequent addendum extended the term until December 2009.

The second issue is to analyse the impact of this legislation,based on the obtained data, and to show an overview of the effectiveness of the DTT policies carried out by the Community of Madrid. The main sources to obtain the necessary documentation have been the main regulativematerial sources, in particular the BOE (Official Bulletin of the State), the BOCM (Official Bulletin of the Community of Madrid) and official publications of the Senate, as well as institutional websites like www.impultatdt.es, www.madrid.org, www.televisiondigital.es and www.ontsi.red.es,among others. Data were also obtained from three complementary sources of reference used by the observatory established by *Impulsa TDT*, which is the commercial name of the Association for the Implementation and Development of DTT in Spain, founded in late 2005 by national and regional broadcasters and the main operator of the broadcasting network, with the aim of promoting DTT, and the process of transition to DTT in Spain, in direct and permanent cooperation with the National Government and the Regional Autonomous and Local Public Administrations.

The three complementary sources of reference used by the observatory established by *Impulsa TDT*are:The *Estudio General de Medios* (General Media Survey) conducted by the *AIMC* (Association for Media Research);the annual *Encuesta sobre equipamiento y Uso de Tecnologías de la Información y Comunicación en los Hogares* (Study of the Equipment and Use of ICT in Households), conducted by the *INE* (Spain's National Institute of Statistics); and the monthly reports of *TNS Audiencia de Medios* (TNS Media audience) (Sofres). Apart from these official sources we also investigated current information published in local, regional and national newspapers, both printed and digital, which will be indicated throughout the article.

Given the nature of this study, and the lack of analysis on the subject, it is inevitable to resort directly to the regulations, and to supplement this with data made public by governmental agencies and the daily journalistic information about them. Our work is, then, based on the corresponding selection and the subsequent valuation, independently of the valuation offered by the Government in question, as well as on the adequate review of the fulfilment of the objectives and effectiveness of the tools used.

3. Development of the research

3.1. Digital Terrestrial Television (DTT)

Television is one of the media that has impacted society the most since the 1960s, by modifying social mores and even perception systems and structures of thought. However, television is the most delayed medium in terms of implementing digitalisation in the total of its production, edition and broadcasting processes. DTTinvolves transforming the current analogue technological system into adigital broadcasting system for television signals. This new system has two main advantages over the analogue one: it offers improved quality of image and sound, and awide range of (new or adapted national, local and regional) channels, which are offered free of charge. Other potential benefits we will discussedlater.

The last phase of this global digitalisation of the medium(that will replace shortly and totally the conventional analogue TV)will take place with the support of the different governments, but has the peculiarity of needing a great social support, because apart from the huge economic investment of the national, regional and local governments, to build the infrastructure toensure coverage in all areas, it requires citizens' collaboration and input. An adaptation of this magnitude in a medium like television, soused in all households of any level and purchasing power, which requires citizens' investment in new television sets or at least signal decoders (DTT-tuners) and the adaptation or acquisition of a new antenna, can only be achieved with an important social support.

All EU countries, and many others, a total of 110 worldwide, use theDVB-T (*Digital Video Broadcasting-Terrestrial*) standard for the broadcasting of DTT. The policy of the Community of Madrid on DTT makes evident that theinterest for the digitisation of terrestrial networks is a result of it being a required condition to complete the transition to digital. This is important because it opens the possibility to manage once again a scarce resource like the radio spectrum (García Leiva, 2006).

Any effort of investment in infrastructure has as compensation the benefits that citizens will receive. And standing out among these benefits is the increase in the number of television channels on offer. Since the digital medium allows usingthe spectrum more efficiently, the number of channels available to users multiplies. In most areas of the Community of Madrid the analogue offer was of 6 to 8 TV channels, but through DTT over 25 channels can be offered.

Another undoubted advantage is that through this technology many noises and interferences, like the unpleasant double image effect, can be eliminated. There will also be more video content in widescreen format (16/9), multiple

subtitles and better sound quality (similar to the one provided by a CD), with surround, multichannel and multilingual effects. Apart from this, DTT allows new capabilities that go beyond the simple audiovisual content and begin to be called advanced services: digital teletext with a more friendly and much more visual environment, interactive services, electronic programmes guide (EPG), radio channels, pay per view, multi-vision camera, Internet access, etc. The idea is that viewers will cease to be a passive element of television to become in an active part of it. Still now, however, most DTT users are unaware of all the advantages of the interactivity of DTT. “The differences between the TV and the computer of the future will be very small, both will be able to play the role of smart reception and interaction appliances, linked to current information and communication systems” (García Matilla, 2004: 207).

Apart from knowledge about these possibilities, this technology requires a specific MPH decoder to enable interactivity, which involvesa greater investment. This situation and the facts that no agency has so far intensively disseminated these interactive capabilities and thatTV programming has not incorporated significant changes explain why still today these new benefits t have a very low impact on the majority of users.

Advertising can be the catalyst element in this area, because the consolidation of the audience will result in a new field of experimentation for advertising due to the unique impact of interactivity, since “the selective and essentially non-intrusive character of interactive advertising can contribute to generate more efficient advertising practices and to mitigate the rejection rates generated by the intrusive nature of conventional advertising on television and the high degree of saturation” (Prado et al, 2007: 25). The truth is that“for the market, the interactivity can be interesting to build a brand or produce intangible values, but the existing approach is that this is only truly profitable when it generates commercial transactions” (García Matilla, 2004: 217).

3.2. Implementation of DTT

The expected date to complete this technological conversion in Spain is4 April 2010, since afterwards television will only be broadcast digitally and almost all the population is expected to be able to make use of this technology. To achieve this, it is necessary to have theinfrastructures set up to guarantee the coverage, and to havethe antennae anddevices with the capacity (an external decoder, or an adapted digital TV set) totune DTT installed.

The first legislation on the digitisation of television dates back to 1997, to the additional regulation 44 of the 66/1997 law of Fiscal, Administrative and Social Order Measures (*Ley de Acompañamiento de los Presupuestos Generales del Estado*/ Accompaniment Law of Proposed National Budget). The following year, the Government of the Popular Party approvedthe National Technical Plan for DTTthrough the Royal Decree 2168/1998 that regulatedthe national and regional coverage of DTT, but left the sector stagnated.

In late 2004 the Government approved a plan supporting DTT, and the National Technical Plan for DTT was reformed in 1998, via the publication of the Royal Decree 944 of 29 July 2005. The decree requested the gradual introduction of DTT and set the deadline forTV providers to serve the entire population by 3 April 2010, the date of the analogue switched off(hence, ASO) in the *technical areas*. The term *technical area* is defined in the Plan as the territorial zoneswith broadcasting coverage by the primarybroadcasting centre, the secondary centres that use the signal from the primary centres, and the minor centres that do not use the signal from the primary centre but whose coverage overlap with the coverage of any primary or secondary centres.

The Plan also sets theDTT coverage to be achieved, and the phases in which this coverage must be achieved. Long before the date for the ASO, 3 April 2010, the situation was that “by late 2008 the DTT service covered already 92.38% of the Spanish population, more than two points above the percentage prescribed in the obligations contained in the National Technical Plan, and very close to the percentage expected for 31 July 2009: 93%. In a year and a half the DTT coverage extended 7 points among the national channels, going from 85.38% (on 31 July 2007) to 92.38%” (*Impulsa TDT*, Annual Report 2008). Regarding the TV signal, it was expected that by 4 April 2010 the analogue and digital technologies would coexist temporarily. Meanwhile, it was expected that the costs of digital receivers would be reduced, and that the whole antenna-installation and coverage processes would be completed by the time only the DTT is offered.

There are similar plans in other EU countries aimed at reachingthe full digitization of television broadcasting after the EU set the deadline to 2012. “Regarding the actions related to DTT, those defined by the autonomous communities [of Spain] are related to the technical area, based on the arguments that a common market requires uniformity for the free circulation and exchange, and that the conquest of global markets involves the creation of an economic block withenough weight to face the United States and Japan; certain standards of minimum production/distribution in relation to the contents (fees, advertising broadcast, etc.); the main criterion of its development, in which the commercial logic predominates; and the sense of the possible public intervention, predominantly an *ex post* approach and through the mechanisms of the competition law” (García Leiva, 2006: 16).

The situation of Spain in comparison to Europe is ambitious if we look at the dates set for the implementation of DTT. In Italy, for instance, DTT started in 2004, a year before than Spain, and the ASO will occur in 2012, which means that Italy will dedicate two years more to this process than Spain. France began DTT broadcast in 2005 and planned the ASO for 2011, which is also means that it also devotes more time to the development of DTT than Spain does. According to the results obtained,so far these countries have met the partial deadlines just like Spain has. In comparison to a much larger area, “by May of 2009 two-thirds of the Spanish households had access to DTT” which was “the largest share in the world” (Ontsi, *La Sociedad en Red*, 2008).

At a national level, the policy adopted for the development of the Information Society involved the creation of the *Plan Avanza 2* (2009-12) which is integrated in the *Plan E* (Spanish Plan for the promotion of the economy and

employment), which aims to make "the 21st century Spain a technologically leading country in the international economic area and to contribute to build a society fully digitized and technologically advanced.The new phase of the *Plan Avanza* will have a budget of 1.5 billion Euros in 2009, and from the public-private collaboration, it will allow to generate nearly 200,000 jobs of high qualification in the next four years, approximately some 45,000 per year" (Sebastián Gascón, 2009).

This plan is divided in five areas of action: the development of the ICT sector, ICT training, public digital services, infrastructures, and confidence and security. The area of infrastructures aims to improve the speed and scope of the broadband in isolated rural areas, to offer the best networking communications, applications and services to the scientific community, and to promote the general use of DTT.To meet these objectives in 2009the Plan received a budget of 89 million euros.

3.3. DTT in the Community of Madrid

The Community of Madrid is betting strongly on the digitization and the convergence of audiovisual media with the objective of becoming the first digital society in Spain. To do this, in April 2005 *Madrid Comunidad Digital* (Digital Community Madrid) presented the Plan for the Development of the Digital and Knowledge Society in the Community of Madrid, which includes the strategy and the necessary investments to meet the technological challenge, and provide the infrastructureneeded forthe current digitizing process as an engine for growth, competitiveness and employment. In addition, this Plan aims to impact the diffusion and the promotion of the Knowledge Society, with the citizen as the recipient of all lines of action, contributing thus to improve their quality of life (*Madrid Comunidad Digital*).

Subsequently, on 19 October 2006,the Ministry of industry, Tourism and Commerce and the Community of Madrid signed acollaboration agreement framework for the development of *Plan Avanza*. The objective was touseappropriately the information and employment technologies. As a result of the agreement, 40% of the funding wasobtained from the Federal government, and60%from the Community of Madrid. To be precise, the State contribution was of 1315,535 Euros for the DTT Development plan, the extension of DTT and its new interactive services to all citizens, and 400,000 euros for theDevelopment Programme forNew Technologies in the Audiovisual Sector. This framework agreement between the general administration of the State and the Community of Madrid was renewed annually through addenda from 2006 to 2010.

In 2007 the renewal of the framework agreement wasmaterialised with the 2007 Digital Citizenship Plan of the Community of Madrid, where one of the actions was the Programme for DTT Expansion and Internet services Promotion, to which the Ministry contributes 1.2 million Euros.

Finally the National Plan for the Transition to DTT for the Community of Madrid set two technical projects called *Madrid Norte*(which scheduled the ASO for 30 June 2009 in the 56 municipalities of the northern area of the Community), and *Torrespaña*(which affects the remaining 123 municipalities, and scheduled the ASO for 3 April 2010).

But among the political actions carried out by the Government of the Autonomous Community of Madrid during 2008 and 2009, the more decisive and widenorm for the development of DTT is the resolution of 4 November 2008, of Spain's Technical General Secretary, which through the ice-Presidency and Spokespersons Department of the Government entrusted the *ICM*(Agency for Information technology and Communications of the Community of Madrid) to manage the provision of DTT services (*BOCM*, 12 November, 2008). .

The Resolution includes the agreement about the clauses governing the entrustment (*encomienda de gestión)*. Initially, the temporary validity of this agreement was 31 December, 2008, but it was renewed until 31 December 2009 after an addendum was approved in 30 December 2008 (*BOCM*, 11 February, 2009). This meant that the agreement was valid during the entire period analysed in this study: 2008 and 2009.

It seems necessary to analyse the clauses of this resolution, to try to establish the effectiveness in relation to the objectives, whether their effectiveness is based on their affordable price, whether they are useful for the identified needs and problems and whether they are useful to follow-up these problems. The resolution also includes of an appendix with two modules concerning theexpansion of DTT signal (with other two sections:maps of the coverage and description of the broadcasting centre) and the Promotion of the DTT service.

3.3.1. DTT coverage and penetration in the Community of Madrid

The first of these clauses stipulates that the main objective forICM's entrustment is the extension of the coverage of DTT in the Community of Madrid, to reach a level as close as possible to 100% of citizenship. To achieve this objective the resolution does not discard alternative solutions such as a satellite signal as a complement to any non-covered sector. This first clause shows the desire to achieve more coverage than the required by law, since the current regulations require 98% for the General State Network (RGE), this is *Television Española*, aka *TVE*(Spain's national public broadcaster), and a 96%for Single-Frequency Network (SFN) of national private television stations.

This interest is confirmed in the only annex of this resolution ("Terms of service provision, technical support and maintenance"), whose Module 1, *Extension of the DTT*, intended to extend the coverage to the whole population of the Community of Madrid, guaranteeing at least 99.85% of the population for the multiple General State Network (RGE), the multiple regional and local networks and 99.6% for the multiple SFN national networks. This guarantees that, in any case, such coverage shall exceed the coverage of the analogue signal. Below is a detailed description of all the work that must be carried out to achieve these targets and the requirements to be met to achieve the technical solution

proposed.

This extension of DTT coverage in the Community of Madrid had tobe developed within the deadlines set out for the ASO, so that there was no deficit of the TV signal and a better coverage was provided in areas where the signal did not exist or wasdeficient. As we already mentioned, the National Plan for the Transition to DTT established two technical projects for the Community of Madrid:*Madrid Norte*, with the ASO scheduled for 30 June 2009, and *Torrespaña*, with the ASO scheduled for 3 April 2010.

National figures in circulation about the DTT coverage are taken from twostudies produced by Abertis Telecom based on predictions about the DTT coverage provided by broadcasting centres associated with national Networks.The first study, published in May 2009, presents a map of the geographic areas with DTT coverage for national channels, while the second study, published in July 2009, presents thepercentage of individuals living in areas with DTT coverage for national channels.

These reports were published by *Impulsa TDT* in its observatory and website. This association was launched in 2007, following the collaboration agreement between Spain's *National Department for Telecommunications and the Information Society* and the *Association for the Introduction and Development of DTT in Spain*. This association aims to contribute to the implementation of joint actions for the promotion of DTT, the follow-up of pilot projects on the transition to DTT in specific areas of the Spanish territory, and the implementation of advanced services for the Information Society.

The peculiar features of the Community of Madrid make it a different case in comparison to most of the situations that occur in other more dispersed areas.The ambitious coverage pursued politically, even it refers to local television, responds to the fact that "in the Community of Madrid, the imbalance in the size is very important, because only the capital accumulates a population of more than three million people.However, one should not forget that the proximity between the capital and some peripheral populations would allow, without a doubt, to technically cover higher audience levels than those technically estimated by the National Technical Plan for Local DTT" (Badillo Matos, 2007: 10)

Despite this factor and the favourable institutional information circulated about the progress of the DTT coverage in the Community of Madrid (published primarily in the websites*impulsatdt* and *madridtdt*), in February 2009 a new study reported that "in spite of what many people thought, the greatcapitals are not exempt from DTT coverage problems.In the Community of Madrid, nearly 215,000 Madrilenians (3.5% of the total population of the Community) have difficulties or cannot see DTT, according to a Qualitative Study About the Situation of DTT in Spain's Central Zone" (tv.adslzone.net).

Many other newspapers and websites gave details about the problems and the possible reasons for this situation, which demonstrated the effects of the factor of area concentration or dispersion among others: "In the Community of Madrid, the problems are in *Sierra Norte*, especially in *El Atazar*,*El Berrueco*, *Canencia*, *Lozoya* and*Somosierra*; in the east of the Community the major problems occur in *Barajas*, part of the *Corridor del Henares*, *Villar del Olmo* and *Pozuelo del Rey*;in the southwest there are areas with an irregular signal like *Aldea del Fresno*, *Navas de Rey*and*Rozas de Puerto Real*; in the capital, there are reception problems inthe areas of *Mirasierra*and *Tetouán*; in the south of the Community, there are problems in *Móstoles*, *Parla*, and *Alcorcón*.At the expense of good coverage, there are other crucial difficulties: the orography, the dispersion of the population in some areas, the current state of the facilities and interference that occurs between the terrestrial broadcasting centres"(Producción Profesional).

A very useful and effective piece of information available to users is the ability to consult the coverage in all the municipalities in certain websites which only require the postal code to provide such information. We found this information in institutional websites like http://www.televisiondigital.es, where the Ministry of Industry, Tourism and Commerce offers this benefit to users. After the postal code is entered, the user can see details of the coverage and see the national DTTservices divided by channels, coverage availability, and broadcast centres.

Data on the coverage of DTT during 2008 and 2009 are complex due to the diversity of studies and the different indicators taken as reference, which make it impossible to breakdown or compare DTT coverage across the autonomous communities. While some areas only provide data about coverage, others estimate the penetration in households (involving signal coverage, decoders, adaptation of antennas coverage: everything that allows watching DTT), while others analyse the share of television seen in analogue and digital formats. For this reason the data taken as reference for this study are the ones referring to the penetration of this technology across communities (which will be offered later), whereobviously an important part of this indicator corresponds to the DTT signal coverage in communities.

"Data on the penetration of DTT in Spain reflect the specific number of households that have installed, effectively, at least oneDTT tuner and are able to use it, that have technical coverage in the area in which they live and that have made the adaptation of their antenna if necessary"(*ImpulsaTDT*,Annual Report 2008:109). . P. For the follow up of this index *Impulsa TDT*'s observatory has three complementary sources of reference:The *Estudio General de Medios* (General Media Survey) conducted by the *AIMC* (Association for Media Research);the annual*Encuesta sobre equipamiento y Uso de Tecnologías de la Información y Comunicación en los Hogares* (Study of the Equipment and Use of ICT in Households), conducted by the *INE*(Spain's National Institute of Statistics); and the monthly reports of *TNS Audiencia de Medios* (TNS Media audience/Sofres).

Of all monthly reports published between October 2008 and September 2009,the period covered by this research, we extracted, firstly, the most relevant data about the Community of Madrid, and then about other communities or national issues that allow thebetter understanding of the situation of the Community, which is the object of study.

In October, when the 2008-2009 period began, the initial situation at a national level was that the penetration of DTT, according to the latest data published by the INE, had reached 37.4% of households by the end of June 2008. With a closer date, September 2008, Sofres estimated at 38.8% the household penetration. If we look at the results by communities,the Community of Madrid reached 50.8%, and with that it took the leadership of DTT penetration among communities and alsobecame the first community to go beyond the barrier of 50%. According to Sofres Catalonia was very close to this figure, and occupied the second place.

According to the latest data published in November by the INE in its"Study of the HouseholdEquipment and Use of ICT", the percentage of Spanish households with DTT reached 37.4% in June. This number coincides with other published the previous month by the other sources of the Observatory, *EGM*, and Sofres. However, there wasno datadetailing DTT penetration across communities to see the particular penetration of DTT in the Community of Madrid.

In December 2008, the penetration of DTT in Spain had almost doubled compared with the previous year and reached 45.2% of Spanish households: 7.3 million in absolute terms. The Community of Madrid maintains its leadership, but according to EGM, an examination by provinces puts Madrid in second place after Guadalajara.

Regarding Europe, with the rate of penetration of DTT in Spain,at 45% according to EGM, was only surpassed by Great Britain. France and Italy were at 30% of DTT penetration in households. France haditsASO scheduled for 2011, while Italy, a little behind France, matchedits ASO deadline to the one set for the EU: 2012. Spain was the country that set the earliest ASO, which highlighted its urgency to implement this technology.

2009 began with Sofres's report, which indicated that the national DTT penetration reached 45.1%. In the two communities where implementation was greater, Madrid (56.7%) and Catalonia (51.9%), more than half of the citizens have access to DTT, exactly the double than the last year. In February, Spain was very close to reach the 50% average penetration in all communities. At that moment, the Community of Madrid reached 58.1% and Catalonia, very close, 57.5%. The Canary Islands werethe third autonomy to cross the 50% level and which started to stand out.

In March DTT introduction in households continued at an increasing pace and crossed the 60% level. It is Catalonia which with 60.6% occupied the first place in DTT penetration. The Community of Madrid took the second place with 59% and the Canary Islands the third with 53.2% (Sofres).

The data provided in April indicated that Catalonia continued in the first place (with 61.9%) and the Community of Madrid in second (with 61.1%), both with an index above 61%, while the Canary Islands continued in the third place with 55.9%.the most relevant data that month was the increase of penetration compared to the previous month: DTT penetration increased 2.2%, a frankly remarkable increase that had only occurred in October 2008, at the beginning of the study, and repeated in January 2009, probably due to the Christmas campaign.

In May the Community of Madrid reached a DTT penetration of 63.5%, Extremadura 63.0%, and the Canary Islands 60.6%. Catalonia reached a household penetration of 69.3%, so it not only consolidatedits leadership, but also increased the difference with the Community of Madrid. June witnessed the higher monthly growth in DTT penetration: 5.1 points over the previous month, the largest registered until that moment. The immediacy of the first ASO phase can be one of the reasons.

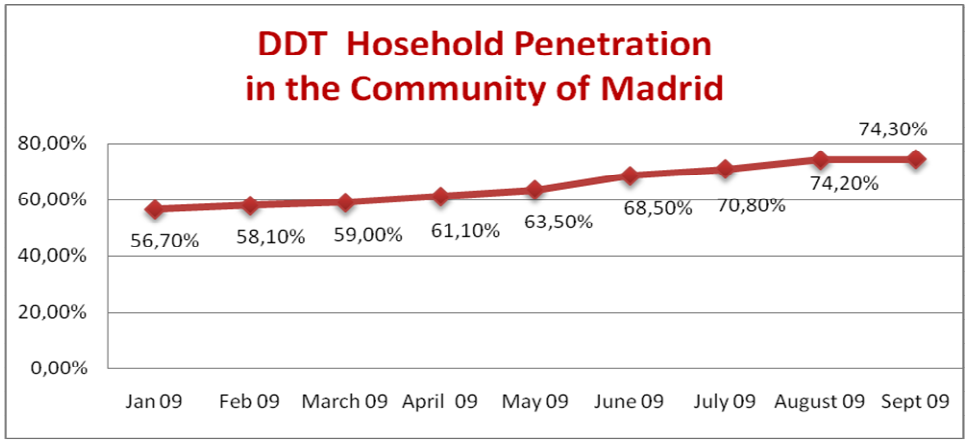
Sofres reported that most communities had over 50% of households connected to DTT in June. A major effort was shown in Madrid, which achieved 68.5% of penetration and recovered the first place. Catalonia was in second place with 67.5% of household penetration, followed by the Canary Islands with 63%. It is important to remember that the first ASO occurred this month in the Community of Madrid, which covers 56 municipalities of the north area, and responded to broadcasting centres in *Bustarviejo*, *Rascafría* and *Valdemano*. The President of the Confederation of Consumers and Users of Madrid (*Cecu Madrid*), María Rodríguez, reported that "theorganization had not registered any complaint, although it is very recent" because the first ASO occurred yesterday.However, she stressed that "in general terms there had not been problems with the policies developed by the Ministry of Industry, Tourism and Commerce" (*El Mundo*, 1/07/09)

Catalonia is presented as the most advanced community in the introduction of DTT during July. The data by autonomous communities showedthat 73.3% of households, nearly 3 of every 4 Catalan families,watch DTT at home. The Canary Islands occupied the second place with 67.7% of householdpenetration; while the Community of Madrid was relegated to third place with 67.2%, although that figure represented a significant growth.

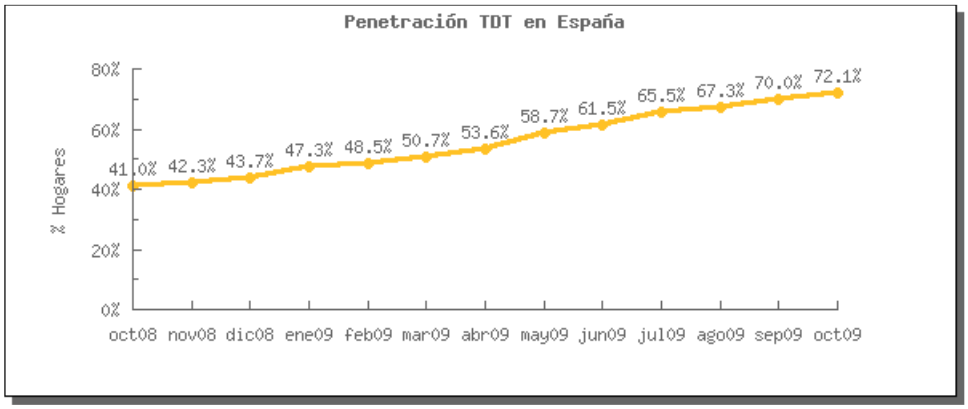
The indicator of DTT penetration at that moment, according to the EGM, increased in all types of habitat, but occurred with particular intensity in those households thatuntil then were further behind due to problems related to coverage, i.e. rural zones. The main increases in penetration occurred in towns of less than 2,000 inhabitants, and in towns of 2,000-10,000 inhabitants, which is an important change in the traditional tendency in which large cities were usually benefited from this concentration.

In August the Spanish news agency EFE published a report informing that 86% of households in the Community of Madrid were already connected to DTT, as indicated by the deputy counsellor of the vice-presidency, Salvador Victoria, according to the latest data provided by the National Office for theTransition to DTT, according to which DTT penetration in the region already reached 86.5%, which put Madrid three points above the national average (Ecodiario, 13/07/09). This study (whose variables are unknown to us) did not match at all with the figures provided about this community by Sofres, which suggests almost twenty points of difference from the previous month. In August Sofres estimateda penetration of 74.2% for the Community of Madrid, which put it in second place after Catalonia that reached 76.1%, and above the Canary Islands that reached 72.6% is in third place.

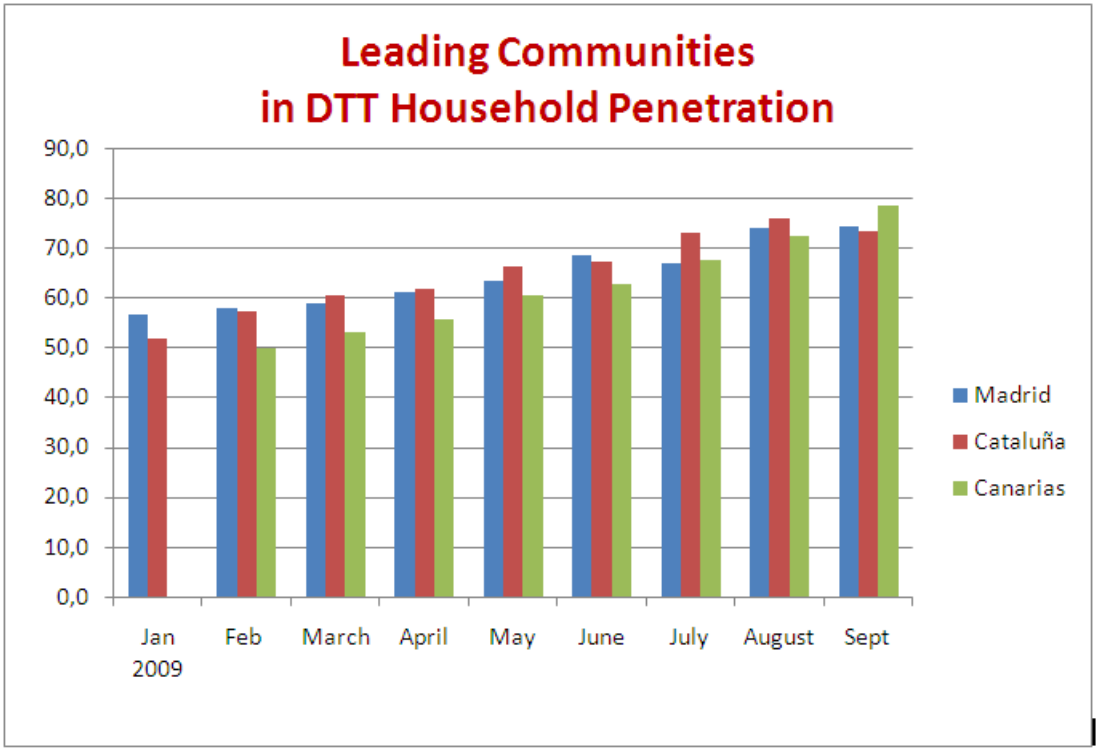
In the last month examined in this paper, September, Sofres reported that in the summer months DTT penetration continuedincreasing although this year did not have the incentive of the sporting events of the last summer. In the Canary Islands 78.7% of households already had DTT, while the Community of Madrid (with 74.3%)took the second place, followed by Catalonia with 73.5%. Among the autonomous communities with less penetration wasthe Basque Country with a DTT household penetration of 49.2%. The most plausible explanation for this situation is the large presence of cable services in this territory. The rest of communities exceeded 60% of m penetration.



Source: Author's creation based on data from *Sofres and Impulsa TDT*.



Source: Impulsa TDT's Observatory. The table shows DTT penetration in Spain with the percentage of households with DTT during the months studied in this article.



Source: Author's creation based on data from Sofres and*Impulsa TDT*.

The first chart, based on data from *Sofres Impulsa TDT*, presents the progressions in DTT penetration during 2009 in the Community of Madrid. The second chart, created by *Impulsa TDT*'s Observatory,shows the difference in the progressionsacross the whole country. The third chart presents the top three leading autonomous communities in DTT household penetration in the months studied in 2009, which shows that the Community of Madrid has always occupied the first places.

3.3.2. Information campaigns about DTT in the Community of Madrid

We must remember that the first clause of the resolution of 8 November 2008 ordered information workdirected tothe citizens of the Community of Madrid to ensure DTT awareness and penetration. This strategy of information for citizens should be a complement to the work of extending the DTT coverage. It is important to remember that the penetration of DTT requires the active participation of citizens, and therefore, their awareness is essential. This first clause requires, therefore, launching a plan information, dissemination and promotion of DTT.

Since the period examined by this study begins in October 2008, the first communication activity we found was the fall campaign of *Impulsa TDT* to promote the adaptation to DTT. This campaign covers the last quarter of the year, starting on 15 November and ending on 8 December. Although the campaign covers the whole Spanish territory, it has a great impact in the Community of Madrid and is also aired on the Community's autonomic network. It is an innovative campaign compared with the previous ones, since it takes an advertising approach aimed to raise awareness about the need to adapt the antenna and the TVset to the digital technology. In that sense the campaign presents some spots based on the relevant role of television in our lives and the need to check the conditions of the antenna and theTV set before the arrival of the new technology. Data obtained afterwards on the effectiveness of these ads confirm that the campaign increased the sales of external decoders in the last week of November.

Moreover, in October two national newspapersoffered readers the opportunity to get a free decoder through a system of coupons. On 2 December the Ministry of Industry, Tourism and Commerce launchedan institutional communication campaign on DTT encouraging people to give away decoders in Christmas as presents. The campaign had a total budget of 6 million Euros and lasted until 5 January. During this time more customer-loyalty promotions were launched by several media (*Marca, As, La Vanguardia*) which offered the delivery of decoders for free or at very low prices. In May, there were other two promotions that offered to deliver TV sets with DTT tuners integrated.

The Community of Madrid, as a community affected by phase 1 of the ASO, carried out various activities in the spring of 2009 to inform about DTT. In June, through*Telemadrid*, theCommunity launches a campaign that is presented in *Madrid Directo*(Direct Madrid) and travels to the northern towns where the ASO will arrive earlier, and delivers decoders and shows how to install them. The campaign also included the production of a video informing citizens about all the key issues involved in the imminent transition from analogue to digital broadcasting. The video tackles the most common questions about the change to DTT. The end of the video shows the official website of the Community of Madrid: *madridtdt*.

The information strategy for the citizens of the Community of Madrid focused primarily on three lines of action: the publication of informative guides on the new DTT technology,the dissemination caravans that travelacross the various municipalities of the Community of Madrid, and the development of informational websites.

On 12 March 2009 the municipality of Villanueva de la Cañada presented the *Guía TDT/SMS Premium.Nuevas Tecnologías: televisión digital terrestre y mensajes de telefonía móvil con tarifa especial* (Premium DTT/SMS Guide. New technologies: DTT and mobile phone messages with special rates), which people can obtain from the Municipal Office of Information to the Consumer (Sierra Madrid, 12/10/2009). The publication (which included a total of 1,600 copies) was edited by the General Directorate of Consumer Affairs, which is part of the Ministry of Economy and Finances. It was developed in collaboration with 23 municipalities and commonwealths of the Community of Madrid. The presentation of the publication was one of the events organised by the General Directorate of Consumer Affairsto disseminate this technology.

The guide presents basic,clear and simple information on the ASO, and outlines all the essential information on DTT (how to adapt the TV set and the antenna to receive the signal), and the advantages of the digital technology. It also informs which are the rights of consumers, the subscription to and invoicing of the short messages (SMS Premium) with special rates, which are those used to participate in contests, download melodies or images, content aimed at adults, etc., through one call to numbers 905, 803, 806, and 807, which are qualified as having an “additional tariff”, to avoid surprises in phone bills. For example, it is explained which numbers have higher rates, what kind of services is offered by each number,and how this costs should be reflected in the phone bill. s

27,000 copies were made in the first run and they were distributed through the offices of consumer affairs of all municipalities of the Community of Madrid. According to the general director of consumer affairs, Carmen Martínez Sola, this “requires an informative effort from administrations so that consumers know what steps to follow to continue enjoying free television” (*Diario de Boadilla*, 12/10/2009). Apart from the printed version, the guideswere made available online at Madrid.org.

In its information strategy for citizens, the Community of Madrid also set up an informative caravan which travels the region offering information about the ASO and DTT in the community. This caravan had a long calendar of activities that started on 19, 20 and 21 June 2009 at the *Puerta del Sol*of Madrid, and afterwards traveled differentmunicipalities and endedup again in Madrid on 27 and 28 November in the area of *Oporto*. The caravan’s slogan was“*La Comunidad de Madrid se enciende”* (The Community of Madrid lights up).The tour strategy was to start on the municipalities which would experience the ASO before 30 June, and should know first the advantages of DTT and the requirements necessary to receive the signal.

In this singular way, the caravan also informed that the regional government has invested 4.5 million euros in the expansion of the coverage of DTT, through actions in 42 broadcasting and receiving centres and the construction of 5 new centres during the two ASO phases.All the information provided by the informative caravan was also offered online in the corporate website Madrid.org.

Another informational initiative was the creation of awebsite focused on DTT: www.madridtdt.org. From 9 June citizens have access to practical information on the DTT adaptation,operation, programming, and coverage; the ASO schedule; and the dates and route of the informative caravan. Apart from general enquiries, the users can also make specific queries about their particular situation, for instance a user can ask when his or her municipality will switch to digital TV or the date that the caravan will be in his or her town.

The Community of Madrid also collaborated in advertising campaigns of smaller magnitude, like the distribution of explanatory booklets, videos, and promotional material for DTT which were distributed through the different municipalities. Another important action was theSupport Plan for the collectives underthe risk of exclusion which was launched on 19 June 2009 by the Ministry of Industry. It consists in the distribution of DTT decoders to elderly and disabled people living inthe municipalities included in the first phase of the National Plan for DTT (Third Vice-Presidency of Government). This turned out to be a popular measure that also increased the dissemination of information about the new technology.

Added to these campaigns wasthe interest of administrations to disseminate any act, information or event related to the introduction of DTT. Thus, the delegate of the Government of Madrid,Amparo Valcarce, accompanied by the Secretary forTelecommunications and the Information Society, Francisco Ros, and the General Secretary of the Council of the Government of the Community of Madrid, Salvador Victoria, presented on 9 June the instructions for the implementation of DTT in the municipalities of the Community of Madrid. The conference hoped the journalists would disseminate the information, which in some cases was irrelevant for the citizens, through their media.

As a general comment on the informative campaigns about DTT it can be noted that they may have been pressured by the ASO schedule and they focused on the ability to receive the signal and to decode it rather than on information about the new features that DTT can provide. In this sense the campaigns denote a lack of a futuristic vision and a fear

to ask citizens a greater economic effort, bynotinforming in depth about the possibility of high definition or the need for a reception device with Multimedia Home Platform(MHP) to allow interactivity on DTT, a feature that should be developed in the coming years to achieve a real control of DTT.

In January 2009, the Efe informed that "the Spanish households already have more than 14 million DTT terminals, but only 250,000 of themare enabled for advanced interactive services, according to José Luis Vázquez, Chief Executive of the company *Mirada*"(*Cincodías.com*, 2009). On the other hand, according to a report published by *Impulsa TDT* in December 2008, of the 13.6 million receivers sold until then only 0.1% had built-in MHPmiddleware or the return channel which allow the interactive applications. These figures reflect the very low implementation of receptors that allow interactivity in households. In the following months thenormal process of acquisition of DTT tuners continued but the acquisition of flat-screen with built-in tuner is larger thanthe acquisition of external decoders.

In early 2009 there is a small scandal on the sale of receivers from the moment the Government authorizes pay DTT and people find out that this technology is not enabled to watched the new private channels. This is when it becomes obvious that it would have been wiser to have invested in set top boxes, which are more expensive but offer more benefits apart from just watching TV: decoders with mph, hard drives to record programmes, with dual tuners, HD, and interface for the PCMCIA card that allows access to pay-per-view content. José Luis Vázquez says that the Administration is facing the problemdue to "the delay in the implementation of an integrated plan by the different actors of the audiovisual market, the manufacturers and the public administration". As he added, to that day "when the penetration of decoders has already reached the vast majority of households", "the decoders have not met the standard that allows access to advanced TV services in such important areas as education, health, or entertainment, (*Cincodías.com*,2009).

On 13 August, 2009, the Council of Ministers approved the Royal Decree-Lawallowing the provision of pay services on the DTT platform. Regarding DTT tuners, this regulation states that all tuners sold so far will remain operational for watching open-to-air content, while access to pay channels must be based on a technological open standard that decrypts any signal of any providers of payment-based content. This will require either a decoder enabled for conditional access ora TV-compatible Conditional Access Module.

3.3.3. Antenna installation in the Community of Madrid

The Resolution of 8 November also establishedthe specific antenna installation actions that had to be made in buildings. It was considered that the actions of the previous campaigns, which discriminatorily delivered direct grants to citizens, in two stages throughout 2007, were no longer applicable. It intended to dedicate a certain economic support specific actions of antenna adaptation and installation in any given location, as a way of pilot project.

Previously to this resolution, the regional government had developed numerous initiatives of antenna adaptation and installationin-buildings with an investment of 1.7 million euros, which covered the adaptation of antennas of over 200,000 homes, which allegedly benefited to 700,000 people in Madrid. The government also informed that all the requests made within the established deadlines were met. For example, the government made an agreement with *AMIITEL*, the Madrid Association of Telecommunications Installation Companies to fix reference prices that were very advantageous to the user. On this reference price the Community of Madrid subsidized up to 50% of the installation price depending on the number of homes in the building (Madridtdt.org). To facilitate the information about the subsidies for antenna adaptation and installation the government organized informative seminars with the buildings' administrators, in collaboration with its Official Association, as well as information campaigns in press, radio and television.

4. Conclusions

In the Community of Madrid everything seems to indicate that its Government will achieve the first objective with regards to DTT, which was to implement this technology through the total signal coverage in the territory of the community within the legally recognised deadlines, due to the proximity of the ASO. This objective has already been met in the *Madrid Norte*project, and it seems that it will also be achieved for the*Torrespaña*project before the final ASO in 2010. The policies undertaken by the Government of the Community of Madrid have, therefore, been effective.

It is undeniable that the population has received sufficient information to understand the necessity of this technological change and has become aware of this as well as of some of the advantages of the adaptation to this new technology and has therefore played its part in the process. The population of the Community of Madrid has invested in the infrastructure of their homes in order to be able to decode this signal. On the one hand, they have invested in antennas, both individual and communal, and, on the other hand, they have personally invested in decoders or digital TV sets, which are the tools that allow the household penetration of DTT, along with the coverage contributed by the national government and the Community of Madrid.

The variable examined in this work is the penetration of DTT in the Community of Madrid, a variable that represents the number of households with capacity to receive DTT, because they have DTT tuner, adapted antenna and signal coverage in the area they live. This study shows the constant progression of household penetration in this Community and the leading position of the Community in the whole country.

In this sense, during the period examined in this study, the Community of Madrid heldthe first place in penetration of DTT over all the other Autonomous Communities until February 2010 when Catalonia exceeded the Community of Madrid and broke the barrier of 60% DTT household penetration. Catalonia, Madrid and the Canary Islands occupied the leading positions and surpassed the national average throughout the study. At the end of the period analysed, it

was the Canary Islands which has a higher level of DTT penetration.

The Community of Madrid informed its citizens about DTT through aplan ofDTT information, dissemination and promotion, which fundamentally involvedinformational caravans traveling across the municipalities of the Community, the publication of an informative guide, and the creation and maintenance of websites. Furthermore, the Community was also benefittedby the national campaigns. There are no studies on the impactsthese campaigns had on the knowledge of users, but this study considers thatduring this period Madrid's society acquired knowledge on DTT technology which is sufficient to incorporate it into their homes.

Finally, it is necessary to remark that this study considersthat the information offered to the citizens of the Community on the new interactive and HD features that the DTT platform can offer, provided it has the proper infrastructure, has been inadequate. Perhaps the urgency to assimilate this technology as a priority did not favoured an in-depth information campaign.

5. References

AMIITEL, the Madrid Association of Telecommunications Installation Companies.Website: http://www.amiitel.com/AMD.php

Badillo Matos, A. (2007): "La nueva televisión de proximidad: Un (incompleto) mapa de la TDT local y autonómica" (The new television of proximity: An incomplete map of local and regional DTT), in Marzal Felici, J and Casero Ripollés, A. (Eds.), *El desarrollo de la televisión digital en España* (The development of Digital Television in Spain), (Dir. M. Murciano Martínez). Oleiros: Netbiblo.

BOE: Boletín Oficial del Estado (Official State Bulletin). Available at: http://www.boe.es/

BOCM: Boletín Oficial de la Comunidad de Madrid(Official Bulletin of the Community of Madrid). Available at: http://www.madrid.org/cs/Satellite?language=es&pagename=Boletin%2FPage%2FBOCM_home

Bustamante, E. (2007): "Lecciones de un laboratorio peculiar. La televisión digital y sus tortuosos caminos" (Lessons from a peculiar lab.Digital television and its tortuous roads), in *Cultura y comunicación para el siglo XXI. Diagnóstico y políticas públicas* (Culture and communication for the 21stcentury. Diagnosis and public policies)(Coordinator: Bustamante, E). La Laguna: IDECO

Community of Madrid. Website: http://www.Madrid.org/CS/Satellite?pagename=ComunidadMadrid%2FHome. Last visited in October 2009.

Diario de Boadilla (Boadilla newspaper). Available at:http://www.diariodeboadilla.es/content/view/3180/572/

Diario El Mundo (El Mundo newspaper). Available at: http://www.Elmundo.es/Elmundo/2009/07/01/Madrid/1246464190.html. Last accessed in July 2009.

Efe (2009): "El 86% de los hogares de la Comunidad de Madrid ya están conectados a la TDT" (86% of households in the Community of Madrid are already connected to DTT), in *Ecodiario*, August. Available at:

Efe (2009): "España apenas cuenta con terminales plenamente interactivos para la TDT" (Spain hardly has any fully interactive terminals for DTT), in Cincodias.com: Last visited in October 2009.

García Leiva, M. T. (2006): "La introducción de la TDT en España en el contexto de la política europea para la transición digital en televisión" (The introduction of DTT in Spain in the context of the European policy for the digital transition in televisión), in *Eptic On Line*, *VIII (1)*, 48-71. Available at: http://www.eptic.com.br/portugues/Revista%20EPTIC%20VIII-1_MariaTrinidadLeiva.pdf

García Matilla, A. (2004): *Una televisión para la educación. La utopía posible*(A television for education. The possible utopia). Barcelona: Gedisa.

Impulsa TDT. Website: http://www.impulsatdt.es/impulsaTDT/quienes-somos/objetivos/

Annual Report 2008: http://www.impulsatdt.es/pdf/impulsa-tdt-anuario-08.pdf.

Website of its Observatory: http://www.impulsatdt.es/observatorio/

La Sociedad en Red 2008. Informe anual de la Sociedad de la Información en España 2008 (Network Society2008. Annual Report on the Information Society in Spain). 2009 Edition. Availabble at: In http://www.ontsi.red.es/informes-anuales/articles/1449

Madrid comunidad digital (Madrid digital community). Plan para el desarrollo de la Sociedad Digital y del Conocimiento en la Comunidad de Madrid (Plan for the development of the Digital and Knowledge Society in the Community of Madrid).Available at: http://www.madrid.org/cpresidencia/madrid_comunidad_digital/index.html

Madridtdt. Website: http://www.madridtdt.org/madridtdt/. Last visited in August 2009.

Plan Avanza 2 (Advance Plan 2). Website: http://www.planavanza.es/

Plan Nacional Transición Televisión Digital Terrestre (National Plan for the Transition to DTT). Websites:

Prado, E., Franquet, R., Ribes, X., Soto, M. T., Fernández Quijada, D. (2007) "La publicidad televisiva ante el reto de la interactividad" (Television advertising facing the challenge of interactivity), in *Questiones Publicitarias*, nº 12, 2007*, PP. 13*-28. Also available online at: http://www.maecei.es/pdf/n12/articulos/La_publicidad_televisiva_ante_el_reto_de_la_interactividad.pdf, last visited in October 2009.

Producción Profesional (Professional production). Website:http://www.produccionprofesional.com/article.php?a=693, last visited in September 2009.

Red.es. Website: http://www.red.es/index.action

Sanmartín Navarro, Julián and Reguero I. Jiménez, Núria (2009): "La regulación de los medios audiovisuales de proximidad ante la digitalización en España. Antecedentes y perspectivas" (Regulation of the audiovisual media of proximity in view of the imminence of digitalisation in Spain. Background and perspectives), *Revista Latina de Comunicación Social*, N. 64. pp.437 to 443. La Laguna (Tenerife): University of La Laguna, retrieved on 15 November 2009, from: http://www.revistalatinacs.org/09/art/36_835_45_ULEPICC_18/Sanmartin_y_Reguero.html
DOI: 10.4185/RLCS-64-2009-835-437-443

Sebastián Gascón. Cortes Generales (General Courts). *Diario de sesiones del congreso de los diputados. Pleno y diputación permanente* (Journal of sessions of the Congress of Deputies. Full and permanent deputation). Year 2009 IXLegislature N. 67. Available at:http://www.senado.es/legis9/publicaciones/html/maestro/index_PL_067.html access in November 2009 .

Sierra Madrid. Website:http://www.sierramadrid.es/detalle.php?id=2636. Last visited in March 2009.

Televisión digital (Digital television). Consultation of coverage.
Website:http://www.televisiondigital.es/Terrestre/Cobertura/

Tv.adslzone. Website: http://tv.adslzone.net/2009/02/03/tdt-215000-madrilenos-con-problemas-para-recibir-su-senal/

Third Government Vice-Presidency. Webpages: Last visited in October 2009

* This work is part of the research project "*Las políticas públicas de impulso a la sociedad de la información en España: evaluación de las estrategias y actuaciones en nueve comunidades autónomas*" (Public policies promoting the information society in Spain: evaluation of the strategies and actions in nine autonomous communities), funded by the National R&D Plan of the Ministry of Science and Innovation, for the period 2009-2011. Reference number:CS02008-00587/SOCI. Directed by Marcial Murciano, Ph.D.

HOW TO CITE THIS ARTICLE IN BIBLIOGRAHIES / REFERENCES:

Salvat-Martinrey, G. (2010) :"Policies towards DTT in the Community of Madrid during 2008 and 2009", at *Revista Latina de Comunicación Social*, 65, pages 379 to 391. La Laguna (Tenerife, Canary Islands): La Laguna University, retrieved on ___th of ____ of 2_____, from
http://www.revistalatinacs.org/10/art3/907_Fuenlabrada/29_GuiomarEN.html
DOI: 10.4185/RLCS-65-2010-907-379-391-EN

Note: the DOI number is **part** of the bibliographic references and it must be cited if you cited this article.