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Development of Digital TV in Europe

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1 Digital TV market overview

1.1 Roll-out of digital services

1.1.1 Digital service offers

As is well known, the main characteristic of the mode of reception of TV signals in Belgium is doubtless the exceptionally high ratio of cable penetration : indeed, 95 % of TV households have access to TV programmes via CATV networks.

In mid-1999, three cable digital offers are available on the Belgian market :

- ✓ in the North (Dutch-speaking area), since April 1998, CANAL + VLAANDEREN has offered, through its subsidiary V2D, a digital bouquet of about 15 services *(Canal Digitaal);*
- ✓ in the South (French-speaking area), CANAL + BELGIQUE has been broadcasting since 1 March, 1998, a multiplexed version of its analogue channel *(Canal + Numérique);*
- ✓ since January 1999, the same company, together with the Walloon CATV operators, has offered, still in the south of Belgium, a larger group of digital services, marketed under the brand name *Le Bouquet*.

These offers are being progressively completed or enlarged :

- ✓ CANAL + VLAANDEREN has added to its digital offer in May 1999 *Fox Kids*, and in June *Muzzik*, as well as some interactive services (E.P.G., game services, *Interactive Music Mosaïque*, etc.);
- ✓ *Canal + Numérique* has presently 6 multiplexed channels, three in the 4:3 format, three in the 16:9 format;
- ✓ *Le Bouquet* has been enlarged by an Electronic Program Guide and should soon be completed with supplementary movie services in the 16:9 format.

The high ratio of cable penetration in Belgium makes the development of a terrestrial digital offer unlikely; it does not seem a serious short term perspective, either in the north or in the south of the country.

However, the hypothesis shared by several actors in case a terrestrial digital offer should emerge, is that it would be an initiative by CANAL + which may attempt, in that way, to have its different digital bouquets received in Brussels as well as in other markets where the cable operators refuse to distribute them on their networks (see below).

Moreover, the free-to-air broadcasters present on the Belgian market haven't sought, up to now, to use the satellite transmission to reach the final consumer directly. Significantly, TVi whose premium channel is broadcasted via satellite (digital transmission), has chosen to scramble this service because of legal issues on the one hand – the analogue terrestrial broadcasters generally only owning the broadcasting rights for the Belgian market – and on agreement with the cable operators who are the only ones able to descramble the programmes on the other hand. It is known that the cable operators accept to pay for an important part of the technical transport costs of transmission of premium TVi channel through the cable in order to benefit from this exclusivity. This highlights the efforts undertaken by cable operators not to suffer from competing direct satellite reception.

In such a context, direct satellite reception is limited to the foreign programmes. This reception is significant only in the German-speaking area of the country (60 000 persons) and for the foreign population residing in Belgium.

Presently, the commercialisation of the bouquets or of foreign digital services received by satellite on the Belgian territory can be viewed as a marginal phenomenon. Furthermore, as far as we know, there is no existing project based on a MMDS technology.

1.2 Market development

Concerning the commercial results obtained until now by the different thematic services available on the Belgian market, the most striking development is that, in a few months and with a potential customer base significantly smaller than that of *Canal Digitaal*, *Le Bouquet* has succeeded in reaching a nearly equivalent number of subscribers.

We can observe three reasons behind this phenomenon :

- ✓ Firstly, as the analogue offer of CANAL + BELGIQUE has been heavily promoted for a number of years, thereby establishing the fame and the brand name of CANAL +; *Le Bouquet* also undoubtedly benefits from the competing marketing efforts of the two main digital operators present on the French market, TPS and CANAL SATELLITE, which raised awareness in Wallonia;
- ✓ *Le Bouquet* which broadcasts – except for movie services – the most appreciated services of TPS and CANAL SATELLITE on the French market, may moreover be viewed as a particularly "up -market" digital offer;
- ✓ Finally, being broadcast only by a part of the cable network of Flemish Region (see infra), Canal Digital has only proceeded, up to now, to a "soft launch" so described by one of the representatives.

Another lesson learned from the Belgian situation is that, when viewers have the choice between subscribing to a premium multiplexed service, to a bouquet of thematic channels, or to a package of both offers – which is the case in the south of the country but not in the north -, it seems that the choice tends primarily towards the mixed offer.[1]

In other respects, the relatively small number of subscribers to digital services – barely more that 40 000 at the end of June 1999 – makes the gathering of accurate information about the household profiles difficult. Some surveys have indeed been conducted on that subject, but they remain today the property of the operators of bouquets who do not disclose the results publicly.

[1] The Belgian example, - especially in the northern part of the country -, shows relative important price sensitivity for pay TV services, partly related to the fact that the Belgian consumer has access to a very diversified offer of audiovisual contents through the basic analogue offer. It shows also that when the price of a bouquet is of the same level as the price of a premium channel, it is easier for the operator of a bouquet to convince premium channel customers to extend their subscription, and take additional services than to capture new customers.

Table 1 : DTV platforms in Belgium

Name of the service	*Ownership*	*Date of launch*	*Nb of subscribers June 1999*
Canal + Numérique	40% Canal + Group 30% Deficom 17% R.M.B. 6% R.T.B.F. 4% Brutélé 2% Realia	March 1998	5 000
Le Bouquet	Canal + Belgique ACOW (Association of Cable Operators in the Walloon Region)	January 1999	19 000
Canal + Digitaal	Canal + Vlaanderen (100% Canal + Group)	April 1998	21 000

1.3 Details of services

1.3.1 Number and types of services

The absence of national services

Wherever we are, the prospects of returns on investments in digital TV services are constrained, in a first step, by the number of installed set-top boxes. This constraint is obviously and particularly strong when these services are specifically directed to a national and/or linguistic small sized market. In the case of Belgium, potential market is a priori too small to encourage development of many dedicated national or regional services.

This explains why - except for premium pay-TV services , whether simulcast, or in a digital multiplex format- Belgian bouquets consist exclusively of foreign thematic services :

- ✓ services included in the CANAL + VLAANDEREN package come essentially from TBS (Turner Broadcast System), Discovery Communication, and NBC;
- ✓ services of "*Le Bouquet*" come mainly from CANAL SATELLITE, TPS, AB-Sat and TBS.

Table 2 : Digital services available in Belgium

Digital offer	*Channels*	*Provider*
Canal + Numérique	Canal Plus, Canal Jaune, Canal Bleu	Canal + Belgique
Le Bouquet	Canal J, Comédie, Forum Planète, Fox Kids, Muzzik, Pathé Sports, Planète, Voyage	Canal Satellite
	Mezzo, M6 Music, Odyssée, Teletoon	TPS
	AB Animaux, Automobile, Histoire, XXL	AB Sat
	The Cartoon Network, TNT	T.B.S.
	National Geographic	National Geographic
	Audio services	Multi music
Canal + Digitaal	The Cartoon Network, TNT	T.B.S.
	Animal Planet	Discovery Commn. (D.C.I.)/BBC Worldwide
	Discovery	D.C.I.
	CNBC	N.B.C.
	Fox Kids	Fox Kids Netherlands
	Muzzik	CanalSatellite
	Audio services	Music Choice Europe

Except for CANAL+ Numérique, these services are broadcast without being adapted to the Belgian market. Notably, these services do not include in their programmes any advertisements specifically aimed at Belgian viewers.

Moreover, the project of the Flemish Community, attempting to promote the emergence of a local thematic offer, seems to be definitively in jeopardy. TNCC (The Narrow Broadcasting Company), which had requested a broadcasting permit, has indeed stopped its activities.

Nevertheless, it seems that the operators of the bouquets are currently negotiating with the representatives of the national/regional and local free-to-air analogue TV channels in order to simulcast their different services.

The progressive development of interactive services

The small size of the Belgian market – or more precisely, the small size of the Dutch-speaking and the French-speaking markets – also explains the relative caution of operators facing the development of interactive services which entail a number of fixed costs.

In that respect, an evolution seems to be occurring : in 1999, CANAL + VLAANDEREN enlarged its digital offer with an Electronic Programme Guide (E.P.G.), games services and a service called *Interactive Music Mosaïque* (identification of musical hits broadcast on radio). As for *Le Bouquet* which, at the time of its launch, didn't have an E.P.G., this omission was remedied a few months later.

Despite all that, the main part of the digital offer remains today, in Belgium, an offer of TV services. Specifically, so far there are no pay-per-view services nor Internet access offer nor any electronic shopping channel using a digital decoder. Similarly, due probably to the small number of subscribers, we have not so far seen the broadcasting of interactive advertisements.

1.3.2 Details of the DTV offers

Canal Digital

Since 1996, meaning since the purchase of NETHOLD by the CANAL + GROUP, CANAL+ TELEVISIE - a wholly-owned subsidiary of CANAL+ - has replaced FILMNET as the pay-TV service in the Flemish Community of Belgium (Flanders + Brussels). Its analogue offer is made up of three services : *CANAL +*, a service designed in line with the French concept - multiple showings of films, soccer, some series and documentaries, packaged like a general channel -, *CANAL + Blauw* (a kind of "multiplex" of the first service, e.g. same programmes scheduled in a different time/date order but on another channel) and, for former subscribers to FILMNET, the series channel *HALLMARK*, which is produced in the Netherlands.

The takeover of FILMNET has transferred to the CANAL + GROUP, NETHOLD's previous responsibilities, such as those resulting from the agreement concluded with the Flemish cable operators[2], dealing with the broadcasting of a digital offer on cable. So on 21 April 1998, CANAL+ TELEVISIE launched on the Flemish cable networks, *Canal + Digital*, the first "Belgian" digital bouquet which now comprises about 15 services:

- ✓ the multiplex of the premium analogue channel;
- ✓ a dozen thematic services;
- ✓ an E.P.G.
- ✓ Lunapark (interactive games) and I.M.M. (Interactive Music Medles)
- ✓ ... so without offering Internet or PPV.

However, a TV service offering viewers the possibility of selecting the camera view will be proposed before the end of the year, on the occasion of Formula 1 car racing. Moreover, CANAL + VLAANDEREN is presently considering the opportunity of developing a second bouquet of less "premium" channels, but proposed at a lower price in order to boost the number of digital decoders in use.

We must note that only one (*Muzzik*) of the services included in the digital bouquet comes from CANAL SATELLITE's offer : generally, these services are English or American channels that are already carried – sometimes in the basic offer - on Flemish cable networks and thus already adapted (dubbed or subtitled) in Dutch. These services are unscrambled, reassembled and rescrambled, using the so-called "transcontrol technique", in a central platform belonging to the VLAAMSE DIGITALE DIENSTMAATSCHAPIJ (V2D), a wholly-owned subsidiary of CANAL +, which manages Subscribers Management Systems for itself and the cable operators.

[2] In fact, with the cable operators operating in the context of mixed (private-public) intermunicipal associations.

Channel line-up

Offer	Price per month
Canal + Vert, Canal + Bleu, Hallmark + 10 thematic TV services and 5 audio services	1,495 BEF (set-top box incl.)
Same offer + 40 audio services	1,695 BEF (set-top box incl.)
10 thematic TV services + 5 audio services	995 BEF (set-top box incl.)
40 audio channels (MUSIC CHOICE)	695 BEF (set-top box incl.)

Major channel providers

Channels	Provider
Cartoon Network, TNT	T.B.S.
Animal Planet	Discovery Commn. (D.C.I.)/BBC Worldwide
Discovery	D.C.I.
CNBC	N.B.C.
Fox kids	Fox Kids Netherlands
Muzzik	CanalSatellite
Audio services	Music Choice Europe

Canal + Numérique

CANAL+ BELGIQUE, the only pay-TV channel in the French Community of Belgium (Walloon Region + Brussels), started digital broadcasting on 1 March, 1998. For the broadcaster it was indeed a matter of satisfying the needs of new subscribers, since the production of analogue decoders (TVDI 14 from PHILIPS) had been stopped early in 1998.

As of 30 June, 1999, CANAL+ BELGIQUE has been offering, in digital, six multiplexed versions – three in 4:3 format and three in 16:9 - of its analogue channel : *CANAL +*, *Canal Jaune*, and *Canal Bleu*. Those services, directly injected into the cable from a digital broadcasting platform in Charleroi, are carried via the fiber-optic backbone managed by A.C.M., a company comprising various Walloon cable operators and some state or state-linked financial partners (CREDIT COMMUNAL DE BELGIQUE, S.M.A.P., S.R.I.W.), and are distributed to nearly all the cable networks in the Walloon Region and to the Brutélé network in the Brussels area.

Channel line-up

Offer	Price per month
Canal Plus, Canal Jaune, Canal Bleu - (4 :3 et 16 :9)	1,485 BEF (1)

(1) : service + decoder

N.B. : Special package - CANAL PLUS Numérique +"*Le Bouquet*" (cf. infra) : 1.930 BEF

Major channel providers

Channels	Provider
Canal Plus, Canal Jaune, Canal Bleu	Canal Plus Belgique

Le Bouquet

Since 15 January 1999, a larger bouquet of digital services has been proposed on cable networks in the south of Belgium.

This launch was implemented through an association between CANAL+ BELGIQUE and the Walloon cable operators.

As of mid-June 1999, *Le Bouquet* has included mainly thematic channels being comprised in the three French bouquets – CANAL SATELLITE, TPS and ABSat – and from TBS (Turner/Time Warner). All these services are unscrambled and rescrambled using the so-called "transcontrol" technique. An audio offer also distributes the services offered by MULTIMUSIC.

As a first step, *Le Bouquet* may use the equivalent of three analogue channels that could enable the broadcasting of about 24 digital TV services. In the medium term, the offer could increase.

Channel line-up

Offer	Price per month
25 audio services	695 BEF
19 TV services + 25 audio services	1,295 BEF (1)

(2) : service + decoder

N.B. : Special package - CANAL PLUS Numérique +"*Le Bouquet*" (cf. supra) : 1.930 BEF

Major channel providers

Channels	Provider
Canal J, Comédie, Forum Planète, Fox Kids, Muzzik, Pathé Sports, Planète, Voyage	CanalSatellite
Mezzo, M6 Music, Odyssée, Teleton	TPS
AB Animaux, Automobile, Histoire, XXL	AB Sat
The Cartoon Network, TNT	T.B.S.
National Geographic	National Geographic
Audio services	MultiMusic

1.4 Operators and market structure

1.4.1 Intervention of public authorities

Facing the development of digital television, the Belgian public authorities have little room to manœuvre :

- ✓ the thematic services contained in the bouquets marketed in the north and in the south of the country all benefit from a broadcasting permit granted by another member State of the Union. Due to the Directive "*Télévision sans frontières*" and to the Court of Justice's decisions on this issue, cable operators may broadcast them without authorisation from the Belgian public authorities;
- ✓ moreover, broadcasting of the multiplexed versions of CANAL + BELGIQUE and of CANAL + VLAANDEREN is authorised *de facto* in accordance with the general licence granted to those bodies, in the framework of their analogue offer.

Up to now, the intervention of the public authorities – in the French-speaking part as well as in the Dutch-speaking part of the country – has been limited to the transposition of the Directive on Conditional Access to "national" law :

- ✓ in Flanders, for the moment, it has been transposed, by an Order of the Government (13th October 1998), A decree project, which has been presented to the Parliament, will soon finalize the transposition of the Directive in the Belgian law, for the Flemish Community.
- ✓ in the French Community, the Directive has been transposed by the Decree of 4 January 1999.

However, today, it seems that the development of digital television is arousing debat on certain issues:

- ✓ the Belgian institutional structure is in fact such that it is hard to perceive today how and by whom the provisions intended to enable any service-provider to reach potential end-users by means of another's conditional access system on a non-discriminatory basis, could actually be enforced;
- ✓ and mostly, it now seems obvious that, in a country where 95% of households receive cable television, it would be desirable for these provisions to be supplemented with other measures more specifically designed to guarantee that service suppliers could obtain fair access to the cable networks.

1.4.2 Agreements between cable operators and digital service operators

The brief history of digital television in Belgium is first of all that of complex, sometimes conflicting, relations between on the one hand, the two subsidiaries of the CANAL + GROUP concerning access to the new services by the end consumer via the cable networks, and, on the other hand, the CATV operators wishing to diversify their income sources and to no longer play just a role of carrier, but rather to offer services with higher added value.

Due to the conjunction of different factors (presence or not of several digital bouquets in the same language, CATV networks capacity, respective importance of private, mixed or public CATV operators, state of relations between Canal + and the cable operators, etc.), the broadcasting conditions of these digital offers on the cable networks are now pretty varied :

- ✓ in the North, CANAL + VLAANDEREN has made an agreement with the cable operators, who are organized in mixed intermunicipal associations (association between the districts in question and ELECTRABEL, the leading producer and distributor of energy in the country, subsidiary via TRACTEBEL (39%) of the French Group SUEZ-LYONNAISE), concluding that CANAL PLUS remunerates the cable operators with an inclusive payment (180M BEF per year) for the use of their networks.
  - ✓ Even though they are frequently the subject of discussions between the various parties, the main decisions concerning both the composition of the bouquet and the commercial strategy are made by the pay-TV operators.
  - ✓ Nevertheless, the public intermunicipal associations (amongst which INTEGAN and INTERELECTRA) do not carry the digital offer, either because they want a bigger remuneration for the use of their carrying capacities, or because they wish to intervene more actively in the management of this digital offer.
  - ✓ in the South (Walloon Region), the launch of *Le Bouquet* has been fulfilled within the framework of a participating association between CANAL + BELGIQUE and the Walloon CATV operators. According to the terms of the agreement signed by the parties, CANAL + BELGIQUE provides its know-how in the area of the marketing of subscriptions, while the cable operators provide distribution capabilities. *Le Bouquet* is managed by CANAL + BELGIQUE under the control of a Board of Directors, where the cable operators have a voting majority.
  - ✓ in Brussels, only the cable operator Brutélé, a minor shareholdere in CANAL + BELGIQUE, carries *Le Bouquet*. The other operators– TVD-Radiopublic, Coditel, Wolu-TV – have agreed to carry multiplexed versions of CANAL + BELGIQUE only after being so constrained by a decision of the High Court of Brussels. However, as of mid-1999, they are not yet carrying *Le Bouquet*. Furthermore, TVD-Radiopublic, which is now in the UPC group, proposes different analogue bouquets including some services also available in the bouquet developed by CANAL + BELGIQUE and by the Walloon operators.

Table 3 : Access by Region to cable networks and number of digital subscriptions

	Subscribers to cable networks	Subscribers with a potential access to Canal Digitaal	Subscribers with a potential access to Canal + Numérique	Subscribers with a potential access to "Le Bouquet"
Flanders (Dutch speaking area)	2 200 404	1 481 047	0	0
Brussels (French and Dutch speaking area)	362 351	0	362 351	76 283
Wallonia (French speaking area)	1 123 246	0	1 123 246	1 123 246
Belgium	3 686 001	1 481 047	1 485 597	1 199 529

		Canal Digitaal	Canal + Numérique	"Le Bouquet"
Total of digital subscriptions	45 000	21 000	5000	19 000

1.4.3 Concentration of the pay-TV market

It emerges from this analysis that Belgium is one of the European countries where, as of now, no real competition exists between the actors involved in the offer of digital television services.

Two of the three digital offers – Canal + Numérique and Canal + Digitaal – come from the analogue pay-TV operator. The third offer – "Le Bouquet" – is the product of an association between the cable operators in the south of the country and the analogue pay-TV operator.

This matter of fact might be explained by the relative small market size which seems to empede the development of competiting offers. However, it is questionnable whether at maturity, the belgian market will progressively attract other market players and in case this effectively happens, whether the market will be sufficiently open to foster competition.

1.5 Technical issues

1.5.1 Decoders issues

Considering the small size of the market, the operators have very little autonomy in choosing the set-top boxes and defining their technical applications. Unless they accept major additional costs, they have to keep the configurations already adopted in the on major markets.

The decoders in use in Belgium are thus very similar to those used in France and Spain – except for the cable tuner, the modem (V22bis) and the software. At this time, these are manufactured in Hasselt (Belgian Limburg) and supplied by PHILIPS. So far these set-top boxes have been rented, and the rental price is included in the subscription price of the digital services. We may expect however that during the year 2000, the market will open up to other manufactures (Sony, Pioneer, Pace, Samsung, Dassault Electronique, maybe Nokia, etc.) and that decoders probably will be offered for sale in the “brown products” market. They will be MHP decoders, probably also giving access to Internet

Table 4 : Conditional access

	Available for sale	CA agreements	Technology
Canal Digitaal	No	None	Mediaguard Mediahighway
Canal + Numérique	No	None	Mediaguard Mediahighway
Le Bouquet	No	None	Mediaguard Mediahighway

1.5.2 Widescreen (16:9)

Several digital services are proposed in the 16:9 format. That is the case notably for the multiplexed services of the “premium” channel of CANAL + BELGIQUE that are simultaneously broadcast in 4:3 format (three services) and in 16:9 formats.

Table 5 : Number of TV households with 16:9 sets

	1996	1998
Belgian households with installed 16:9 set	147 440	229 140

Source : E.A.O.

1.6 Conclusion

The state of development of the digital TV market in Belgium today may be explained by different factors related to the high penetration rate of cable in the Belgian households, as well as the particular institutional and economic context in which cable operators do carry television signals to their customers:

- ✓ With 95% of cable penetration rate in Belgium, the cable operators provide the majority of households with on average 30 channels at a relatively low utility price through cable connection. This profusion of channels causes price sensitivity to premium pay-TV, particularly in the Flemish part of the country.
- ✓ Compared with other countries and more specifically to the Dutch situation where consolidation of the CATV networks and where internationalisation of their owners is well under way, the Belgian cable networks remain, although interconnected, scattered between a multiplicity of mainly municipal owners. The only international operator is UPC who owns a network in Brussels and in Leuven. This situation has contributed to delay market development, as digital pay-TV operators have to negotiate with many market players.
- ✓ A particularity of the Belgian situation is also the regulatory context and more particularly the must-carry obligations. As the offer of digital bouquets is not treated in the same way as the analogue premium TV which benefits of a must carry in certain parts of the country, the transmission of the bouquet has not been accepted by all cable networks. The most reluctant to do so were also those who had initially refused to transmit the digital offer of CANAL+.

Table 6 : Must-carry obligations

	Flemish Region	Brussels Region	Walloon Region
Canal Digitaal	No	Yes	Yes
Canal + Numérique	No	Yes	Yes
Le Bouquet	N/A	No	No

The future of digital television in Belgium seems to be marked, in a short and middle term perspective, by two major elements of uncertainty :

- ✓ the introduction, which now seems almost certain, of a digital offer in Northern Europe by the American group UPC, will probably modify the relations between CANAL + VLAANDEREN and cable operators in Flanders.
- ✓ In presence of two competing digital bouquets, the cable operators of Flanders could indeed be tempted to abandon their simple role of carriers. So, the situation applicable in the north of the country could be closer to the situation in the south, where the presence of three competing French language offers from outside Belgium – Canal Satellite, TPS and AB-Sat – has objectively strengthened the position of the cable operators in their negotiations with the Canal + Group, and enables them to be associated as real partners in the management of the digital services.

Moreover, the conditions under which the cable networks will have to move towards a full digital offer, remain today largely uncertain.

The proliferation of the number of services – broadcast or interactive services – likely to be broadcast on the cable network, will necessarily lead cable operators to improve the capacity of their networks by increasing bandwidth, and/or to broadcast progressively in digital format services which until now were broadcast in analogue format.

In that context, ELECTRABEL has recently reported its willingness to increase the number of broadcast services in the north of the country, without increasing bandwidth – through the intermediary of the growing recourse to digital technologies– and to apply from now a more active policy of audience segmentation. But obviously, all operators – some of whom manage networks with 850 MHz bandwidth – are not facing a similar need to move rapidly towards digital broadcasting. Furthermore, their choice will depend largely on the directions taken by the public channels (RTBF, VRTN) and the commercial channels (TVI, VTM), which so far do not appear to have taken any definitive decision concerning the eventuality of digital broadcasting.

2 Key figures for the Belgian market

2.1 Country fundamentals

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
Population (millions)		10,116	10,130	10,143	10,170	10,192	
Households (millions)		3,921	3,952	3,983	4,020	4,104	
GDP (Euros, in billions)		195,700	209,000	211,300	219,100	224,120	

2.2 Equipment

As of 31 of December	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
TV households (millions)		3,740	3,771	3,806	3,845	3,938	
TV households (% of total households)		95,4%	95,4%	95,6%	95,6%	96,0%	
TV Households with 2 TV sets or more (millions)		0,860	0,980	1,095	1,192	1,180	
TV Households with 2 TV sets or more (% of TV Households)		23,0%	26,0%	28,8%	31,0%	30,0%	
TV Households with 16:9 Television sets (millions)		0,100	0,120	0,147	0,192	0,229	
TV Households with 16:9 Television sets (% of TV Households)		2,7%	3,2%	3,9%	5,0%	5,8%	
VCR Households (millions)		2,301	2,385	2,485	2,536	2,717	
VCR Households (% of TV Households)		61,5%	63,2%	65,3%	66,0%	69,0%	
Digital STB Households (millions)		0,000	0,000	0,000	0,000	0,023	
Digital STB Households (% of TV Households)		0,0%	0,0%	0,0%	0,0%	0,6%	
IDTV Households (millions)		0,000	0,000	0,000	0,000	0,000	
Digital TV Households (% of TV households)		0,0%	0,0%	0,0%	0,0%	0,6%	
Digital Households (millions)		0,000	0,000	0,000	0,000	0,023	
Digital Households (% of TV households)		0,0%	0,0%	0,0%	0,0%	0,6%	

2.3 Access to DTV

Cable

	1993	1994	1995	1996	1997	1998	1999
Home passed (millions)		3,721	3,759	3,794	3,838	3,930	
of which digital (millions)		0,000	0,000	0,000	0,000	3,158	
Home passed (% of TV households)		99,5%	99,7%	99,7%	99,8%	99,8%	
of which digital (% of TV households)		0,0%	0,0%	0,0%	0,0%	80,2%	
Analogue Basic Subscribers (millions)		3,219	3,240	3,308	3,360	3,372	
Digital package subscribers (millions)		0,000	0,000	0,000	0,000	0,023	
Analogue Basic Subscribers (% of TV households)		86,1%	85,9%	86,9%	87,4%	85,6%	
Digital package subscribers (% of TV households)		0,0%	0,0%	0,0%	0,0%	0,6%	

Satellite

	1993	1994	1995	1996	1997	1998	1999
Satellite households (millions)		0,040	0,050	0,060	0,070	0,080	
Satellite households (% of TV households)		1,1%	1,3%	1,6%	1,8%	2,0%	
Satellite subscribers (millions)		0,000	0,000	0,000	0,000	0,000	
Satellite subscribers (% of TV households)		0,0%	0,0%	0,0%	0,0%	0,0%	
of which digital (millions)		0,000	0,000	0,000	0,000	0,000	
of which digital (% of TV households)		0,0%	0,0%	0,0%	0,0%	0,0%	

2.4 Television market estimates*

Millions Euros	1993	1994	1995	1996	1997	1998	1999
Analogue TV Market							
Public funding		252,000	265,000	241,000	239,360	246,505	
Advertising		246,000	288,000	302,000	345,800	389,200	
Subscriptions		87,000	98,000	90,000	90,054	89,726	
Total analogue TV		585,000	651,000	633,000	675,214	725,431	
Digital TV Market							
Public funding		0,000	0,000	0,000	0,000	0,000	
Advertising		0,000	0,000	0,000	0,000	0,000	
Subscriptions		0,000	0,000	0,000	0,000	0,248	
Total digital TV		0,000	0,000	0,000	0,000	0,248	
TV Market							
Public funding		252,000	265,000	241,000	239,360	246,505	
Advertising		246,000	288,000	302,000	345,800	389,200	
Subscriptions		87,000	98,000	90,000	90,054	89,974	
Total TV market		585,000	651,000	633,000	675,214	725,679	

** **"Public funding"** comprise grants and licence fees; **"Advertising"** also includes sponsoring expenditures whereas **"Subscriptions"** cover subscriptions to the basic multi-channel package as well as subscriptions to Premium pay-TV services.*