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Development of Digital TV in Europe

2000 Report

Finland

Prepared by CTI

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Contents

1 Digital TV market overview

1.1.Roll-out of digital services

The following timetable[1] outlines the milestones in the digital TV domain in Finland:

31.12.1995, first report from the Ministry of Transport and Communications (MTC): ”The Strategy for Broadcasting - Radio and Television 2010”

15.4.1996, The second report from the MTC: ”The Digitalisation of Broadcasting in Finland”

8.5.1996, The principal decision by the Government of Finland to go ahead with digitalisation of broadcasting in Finland

10.2.1997, Digital TV Expert Group the was appointed by the MTC

15.7.1997, “TV Finland” the first Finnish digital TV channel is launched via satellite. It uses the DVB-S system.

25.9.1997, first DVB-T (8k) - test transmissions using the YLE’s transmitter in Espoo Kivenlahti

15.5.1998, The third report from the MTC by its Digital TV Expert Group is put forward

16.6.1998, Digital TV Forum Finland established

October 1998, Canal Digital launches digital services, including 19 Pay-Per-View channels and an EPG, to the Finnish market.

16.12.1998, The MTC declared the licences for digital television operations open for applications

23.6.1999, Licences for national digital commercial TV services, and a multiplex for YLE for public service broadcasting were granted by the government for 10 years, from September 2000 to 31 August 2010.

1.4.2000, VIASAT starts digital transmission of the premium pay-TV service, TV 1000 / Cinema.

15.8.2000, Digital terrestrial network under implementation projected to cover ca. 40 per cent of the Finnish population.

1.1.1 Satellite digital services

The penetration of direct satellite reception is still low in Finland. At the end of 1999 about 120.000 households (5.2% of the Finnish TV households) were considered to be satellite households, of which 98.000 households subscribed to a satellite TV service. The premium pay-TV services available in the Finnish market are: Canal+ from Canal Digital (owned by the C+ group and Telenor, the national telecom company of Norway) and its competitor

[1] The timetable is partly based on information from Digital TV forum Finland.

TV1000 (owned by AB Kinnevik and Time Warner/HBO) from VIASAT (a part of MTG group).

As it can be seen from the above timetable, Canal Digital started its satellite digital TV service provision in autumn 1998[2]. At the end of 1999 the market for digital satellite TV was limited to the Canal Digital 10.000 digital subscribers.

"TV Finland", the first Finnish digital satellite TV channel in Finland, provides programmes that are derived from those of TV1, TV2 (public TV channels), and MTV3 (commercial TV channel) is available in Canal Digital's general offer in other Nordic countries.

VIASAT and the parent business group Modern Times Group (MTG) have less engagement in the Finnish satellite market than in the other Scandinavian counties. In particular the core service, the entertainment channel TV3, is not offered to the Finns, and VIASAT only provided the premium channel TV1000. VIASAT, i.e., TV1000 had 18.000 subscribers at the end of 1999. At the time of writing (July 2000), VIASAT provides its services in digital form in Finland, but according to VIASAT only a few subscribers have converted to digital TV. VIASAT plans to give away digital set-top-boxes free of charge to all their premium subscribers. It is not decided when this conversion will take place.

1.1.2 Cable digital services

No digital cable services are available in Finland.

The number at the end of 1999 is estimated to be the same as the end of 1998 (1,2 millions), of which over 1,1 million subscribe to one or more services. The market for Cable TV in Finland approx. 200 cable operators, out of which the ten major operators account for 66% of the subscriptions. The two main actors in cable TV in Finland are HTV (Helsinki Television Ltd) and Sonera (former Telecom Finland).

HTV cable TV is owned by Helsinki Media Company Oy, which since the beginning of 1999 has been part of the Sanoma-WSOY Oy, which is the biggest media company in Scandinavia and publisher of e.g. the biggest newspaper in Scandinavia, Helsingin Sanomat. At the end of 1999 it had 201.598 subscriptions in Helsinki, Espoo, Vantaa and Kauniainen. Apart from TV services, HTV provides Internet services to their cable subscribers. According to HTV, "It is estimated that the entire network will be duplex at the end of year 2000. Then all households linked to HTV's cable network will be able to use not only the comprehensive programme services, but also the rapid information network services via HTV's cable".

HTV has already been testing digital TV broadcasting in their cable-TV network. For the commercial deployment, however, they are looking for common technical standards to develop further.

Sonera cable TV (Sonera Ltd. is the former Telecom Finland) had 137.700 connected cable TV subscribers, in its more than 50 networks by the end of 1999. According to Sonera, the technological development in the cable TV networks in Finland is going towards upgrading the networks to a two-way, duplex network.

[2] Canal Digital started digital transmission in the autumn 1997 with a test phase until the summer 1998. During the summer 1998 Canal Digital started transmitting their current digital services, but the subscription service and provision of program cards, etc., began only in the autumn 1998.

Sonera has traditionally percieved the cable Internet services to be more important than digital TV. The barrier to digitalisation is primarily the high costs of upgrading the networks to a two-way facility, and the cable Internet services are seen as a better source of revenue than the digital TV programs. Another difficulty is the negotiation position vis-à-vis the programme providers because of the rather small Finnish market. As a continuation of this strategy, Sonera is now undertaking R&D efforts into testing interactive digital services, which are accessed via a www-browser that runs on the TV screen. The set top box decodes the information for the TV screen. This is not to say that Sonera writes off involvement in the digital TV market. On the contrary, it was in negotiations with the Finnish Broadcasting to acquire a 34% holding in Digita OY, the operator of the digital terrestrial network. What is more, it withdrew from the deal when the Competition Council only would allow the deal to go through if Sonera would refrain from applying for a digital TV license in the future. Sonera stated that it pulled out of the deal because it wanted to reserve the right to apply for a digital TV license at a later date. The firm thereby maintains its previous position of waiting until one uniform technical platform is in place for digital terrestrial and cable markets; a stance taken by several of the larger cable operators in Finland.

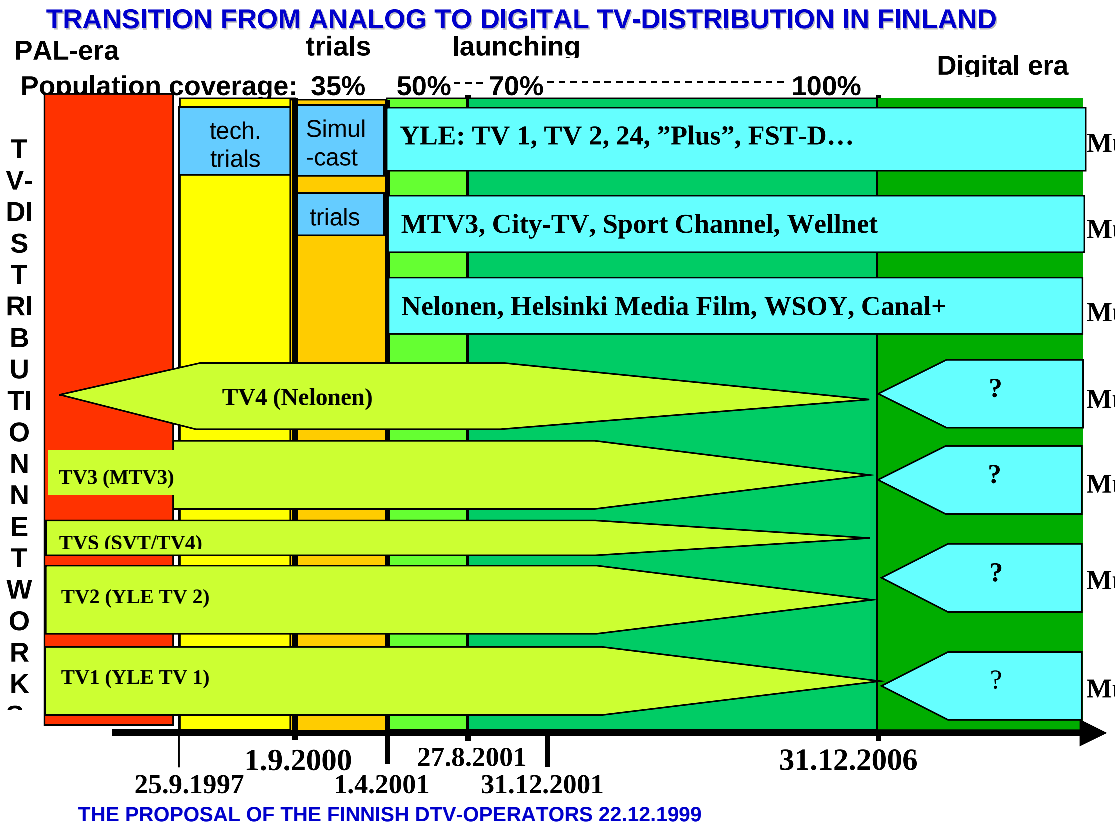
1.1.3 Situation of MMDS

MMDS is non- existent in Finland.

1.1.4 Situation of terrestrial digital television

The following diagram from Digital TV Forum Finland[3] shows the transition from analogue, through a simulcast period, to the digital era. The Ministry of Transportation and Communications granted the licences for the three Multiplex blocks on 26.3.1999.

[3] The Digital TV Forum Finland is an open organization for co-operation on digital television established on 16th June 1998. By 21st April 1999 altogether 114 different bodies, interested in developing digital television in Finland, have joined the Forum.



Test transmissions are undertaken in four large cities in the Helsinki area and the plan is that the first multiplex should reach 50% of the population by summer 2000 and that three multiplexes will be operational by the end of year 2000. The first digital terrestrial network currently covers 39 per cent of the Finnish population. YLE plans the first terrestrial digital television broadcasts to be launched in the southern Finland at the beginning of September. During the initial phase, the programmes of YLE TV 1, YLE TV 2 and both of the commercial television channels, MTV3 and Channel Four, will be broadcast in parallel over the digital network. In addition, YLE will be carrying two special digital channels from the Olympic games in Sydney as a technical test from mid-September until the conclusion of the Games.

When the simulcast period ends there will be seven digital multiplexes in Finland if the government decides to use all the current analogue frequencies for digital TV.

Applications for Digital Terrestrial TV

In December 1998, the Ministry of Transport and Communication invited interested parties to apply for licences for digital television operations. By the end of the application period in February 1999, the Ministry had received 27 applications. Licences for digital television operation have been granted for three multiplexes.

Among the applicants were the present commercial television broadcasters Helsinki Media Company and MTV3, but also new entrants to the television scene (see the figure below) such as Canal +, Modern Times Group MTG, Societe des Transmission Sportives (SETS) and

Eurosport. Finnish telecom operators Sonera and Helsinki Telephone Company also submitted applications. Furthermore, 12 local companies applied for regional services.

One of the criteria for the allocation of capacity was that no single actor should gain full control over a multiplex, except YLE (Finnish Broadcasting Company). YLE did not have to apply for a licence as it operates under a special law and is entitled to digital air capacity in its own right.

Some of the actors interested in DTTV in Finland

- **THE SANOMA-WSOY-CAMP:**
  - Nelonen D (simulcast)
  - Film Channel (HMC pay-TV)
  - Sport Channel (HMC pay-TV)
  - News Channel (Sanoma - regional: Capitol Area)
  - Alfa-TV(WSOY partly pay-TV)
- **TELEOPERATORS:**
  - Helsinki Telephone Co.
  - Sonera
- **FOREIGN PLAYERS**:
  - Eurosport (pay-TV)
  - Canal + (pay-TV)
  - MTG (pay-TV)
  - SETS
- **THE ALMA-CAMP**:
  - MTV3D (simulcast)
  - MTV Plus (partly pay-TV)
  - MTV Sport (partly pay-TV)
  - City-TV – regional: all of Finland
- **OTHER DOMESTIC PLAYERS:**
  - Magazine – (Yhtyneet Kuvalehdet, partly pay-TV)
  - A4 Broadcasting
  - Hyvän Sanoman Radio
  - Saraxa/MoonTV
  - Wellnet
  - Aluetelevisioyhtiö ATV/Deljet – regional
  - Skycom – regional: Capitol, Pirkanmaa
  - Pal-Visio – regional: Satakunta
  - Alue-tv Netvisio – reg.: Päijät-Häme
  - Turun Kaapelitelevisio – reg.: Turku
  - Sisä-Suomen Kuvapäät– regional

The Allocation of Licences

On the 23rd of June 1999, the licences for operation of digital TV services were assigned (see below). The licence period is 10 years from 1st of September 2000 to 31st of August 2010. The services in the three multiplexes (named MUX A, MUX B and MUX C in the figure) are depicted in the following table.

	National Licences granted (except MUXA)[4]	*Regional Licenses granted*
MUX A	YLE (TV1 & TV2), YLE24 (24 hours news channel), a fourth channel (FST) that probably will be in Swedish and a fifth service YLE Plus with cultural and educational profile.	
MUX B	MTV Oy (digital version of MTV3), Suomen Urheilutelevisio (Sports channel), Wellnet Oy (The service will cover health issues)	City-TV Oy Helsinki, City-TV Oy Pirkanmaa, City-TV Oy Suomi, City-TV Oy Turku
MUX C	Oy Ruutunelonen Ab (a digital version of Channel Four Finland), Helsinki Media Company Oy (Film channel), Werner Soderstrom Oy (Education channel), Deuterium Oy (the name will be changed to Canal+ Finland Oy)	

The national launch date for all the channels has been set to be 27.08.2001 and it is the intention of the government to stop analogue terrestrial transmission by 2006. By then the digital network must be national.

Digita ltd – responsible for developing the digital terrestrial broadcasting network

Until 1st January 1999, the transmission of the terrestrial broadcasting network was handled by YLE, the Finnish public broadcasting company. The network not only served YLE's two public service channels YLE 1 and YLE 2, it also provided the network for the two private TV channels MTV 3 Finland of MTV AB, and Ruutunelonen AB's Channel 4. From this date onwards, the transmission part of the network has been separated into a subsidiary of YLE named Digita Ltd. Digita is now the operator and owner of the terrestrial broadcasting network and is therefore in charge of the implementation of the digital network. It employs 400 people and the 1999 turnover came to about € 65 million (FIM 388 million).

In March 2000, Digita outsourced the broadcast transmission and management solutions for the DTT services to the two corporations Tandberg Television and Astoka Professional. They are to act as system integrators and will be responsible for the delivery, testing and operation of the entire network.

[4] MUX A is allocated to YLE who did not need to apply for licences.

1.1.5 Market development

Digital TV services are at an initial phase in Finland, where the foundation is still being placed for the future realisation of digital services for both cable and terrestrial networks. The market value (turnover) in 1999 can be estimated to only € 2 mill, which is a negligible part of TV market in Finland.

Name of the service	*Ownership*	*Date of launch*	*No. of subscribers*
Canal Digital	Canal+ & Telenor	Autumn 1998	10.000, at the end of 1999

The number and variety of services in the terrestrial network in Finland makes the terrestrial network a viable competitor to cable and satellite networks in the TV service provision. Penetration of satellite TV has been modest and cable TV providers have not yet started digitalisation of their networks. However, VIASAT has in late spring entered the digital market in Finland and this may infuse further dynamism into the markets. Furthermore, when the Nordig II receivers with the open DVB-MHP standard enter the market, it will remove an important barrier for the cable network operators.

The development of terrestrial digital TV in Finland will have an considerable impact on the further market development. Apart from the important weight of terrestrial TV, it will have an influence on digitalisation of cable networks. According to the actors in the cable TV market, they plan to synchronise digitalisation of their network with digitalisation of terrestrial network.

1.1.6 Barriers to competition or market development

Two important issues remain for development of satellite and cable networks in Finland, as they are related to the geography of the country:

The reception of satellite transmission gets harder the further north you go from the equator - the wider dish you need and the elevation angle becomes lower, making harder to reach the transmissions

Only half of the population is living in urban areas where it is economically feasible to connect to cable-TV networks.

Additionally, many of the smaller cable networks do not enjoy the necessary economies of scale for a digital upgrading to be profitable. Further, the larger networks such as Sonera are developing interactive services that run on digital platforms via the Internet. It is therefore possible for them to provide the same kind of additional interactive services without investing in the development of digital TV broadcasting.

1.2.Details of services

1.1.7 Number and types of services

In the following table the digital and analogue services available in Canal Digital Finland are listed.

Table A: Channels on digital terrestrial television

Multiplex	Operator	Free to air	Subscription	Coverage by 2001
1	Digita	YLE (TV1 & TV2) YLE24 (24 hours news channel) FST (Swedish language channel) YLE Plus (culture and education)		70%
2	Digita		MTV3Oy Suomen Urheilutelevisio (Sports channel) Wellnet Oy (The service will cover health issues)	70%
3	Digita	Regional : City-TV Oy Helsinki City-TV Oy Pirkanmaa City-TV Oy Suomi City-TV Oy Turku	Oy Ruutunelonen Ab (a digital version of Channel Four Finland) Helsinki Media Company Oy (Film channel) Werner Soderstrom Oy (Education channel) Deuterium Oy (the name will be changed to Canal+ Finland Oy)	70%

Table B : Digital Terrestrial Channel Types

Channel type	Number in type	Comments
Free to air	5	Four national channels and a channel for regional channels
Primary channels Free-to-air	5	Channel 4 Finland covering entertainment, one sport channel, one health channel, one education channel and MTV
Premium pay channels	2	One from Canal+ and one Finnish film channel

Prices

The price structure is still unclear for the digital terrestrial market.

The structure of the Canal Digital digital satellite services is identical to Canal Digital's Swedish services.

Table C : Digital Satellite Channel Types

Channel type	Number in type	Comments
Non-subscription	6	Nelonen
News	5	Sky News, CNN, CNBC, BBC world
Entertainment	7	Hallmark, Eurotica (also stand-alone: € 8 (FIM 49)), Adult channel, Cinecinemas(also stand-alone € 8 (FIM 49)), BBC Prime
Documentaries	7	Four Discovery channels, Adventure One, National Geographic, [.tv]
Kids	5	Fox Kids, Nickelodeon, Cartoon Network, TCC
Music	3	Two from MTV,VH-1, Music Choice (20 channels)
Premium movies	5	Three from Canal+, TV1000 and Cinema
Stand-alone premium Channels	6	DR 1&2 € 15 (FIM 90) NRK International € 15 (FIM 90) Manchester United TV € 6 (FIM 35) ORT International € 13 (FIM 75)

Price (Some examples)

Channels	€ per month
Basic entry: (start fee)	€ 66 (FIM 395)
Canal Entertain	€ 17 (FIM 99)
Canal+	€ 50 (FIM 299)

1.1.8 Details of the DTV offers

One of the services exclusive to digital distribution is the service from Canal+ called Canal+ Sininen, that is only available in digital form and according to Canal Digital, it plans to transmit the majority of its programs in 16:9 format.

The vast majority of the services are foreign services, with the commercial service Nelonen as the only Finnish services available in Canal Digital's digital network. The concept used in Nelonen is known from e.g. the Danish TV Danmark with low budget American series and films and some self-production.

Apart from the numerous regular TV services that are available only in digital form, there are a number of other innovative services in Canal Digital's digital line-up, also known from the other Nordic markets:

"Kiosk", with 22 Near Video On Demand (NVOD) services.

EPG, the Electronic Programme Guide.

Music channels - 20 music channels are available.

The Finnish TV market differs from other Scandinavian markets in that VIASAT does not have a TV3-like national TV channel in Finland. Consequently, the impact of VIASATs digitalisation is not as strong as in other Nordic countries and as it can be seen from the table, the only contribution from VIASAT to the digital landscape is the two premium pay-TV services, TV1000 and Cinema.

1.3.Operators and market structure

1.1.9 Concentration of the pay-TV market

Several cable TV networks and two satellite operators provide the pay-TVchannels. However, digital pay-TV services are only present as an insignificant market share of Canal Digital, although this may change, as VIASAT has also gone digital. However, the premium Canal Digital pay-TV channel Canal+ has received a licence for transmission in the terrestrial network. It will therefore have an attractive competitive advantage by being available on both the digital terrestrial and the digital satellite market. Thus, until Viasat expands its digital subscribers of TV1000 / Cinema, the pay-TV market in Finland is extremely concentrated.

1.1.10 Agreements between satellite operators, cable operators and DTT operators

No technical/access agreement has been identified between Canal Digital and VIASAT or Digita. But as mentioned in the above, the Canal+ has obtained a licence to the terrestrial network. Further, the common DVB Multimedia Home Platform works as a de facto agreement between cable and DTT operators.

1.1.11 Vertical integration

There has been considerable vertical integration from the outset in terrestrial digital market. Although the ownership structure remains this way, the management of the networks has been characterised by increased outsourcing. Traditionally, YLE was both the main content provider and the owner of the network. With the introduction of the digital terrestrial network, the operation of the networks was handled down to the subsidiary Digita. Digita is currently fully owned by YLE, but there were plans to sell 34% holding in to the private cable operator Sonera. The negotiations fell through because Sonera withdrew[5]. Subsequently, the responsibilities for the implementation and maintenance of the digital terrestrial network have been outsourced to Tandberg Television and Astoka Professional.

Like in other Nordic countries, Canal+ as content provider and owner of Canal Digital may be seen as a case of vertical integration.

[5] See section 1.1.2 for further details

1.4.Technical issues

1.1.12 Decoder issues

Set top boxes from Philips and Nokia are used for Canal Digital's services. Information about the boxes is depicted in the following table. Canal Digital has shown a preference for the Philips set top box, which is used for their rental service.

Set Top Boxes

Name	*Provider*	*CA*	*API*	*Free to air compatibility*	*16:9 compatibility*	*Integrated Modem*
MediaMaster, S	NOKIA	Embedded Viaccess (+ DVB CI)	Open TV	Yes	Yes	Yes
Philips	Philips	Conax	Media Highway	Yes	Yes	Yes

For the terrestrial market, the Steering Committee of the Digital TV Forum Finland recommends that the Application Programme Interface (API) to be used in Finland shall meet the specifications of the Digital Video Broadcasting (DVB) Multimedia Home Platform (MHP) and that the profile option shall be Interactive Broadcast[6].

According to the Steering Committee, "with this API solution it would be possible to offer to television viewers new services with added digital value like Super Text-TV and interactive services using the return channel".

According to the Steering Committee of the Forum, the hardware/receivers for terrestrial network shall meet the NorDig II recommendations. This makes it possible to update the receivers later by downloading the DVB MHP API software when available. This solution opens access to advanced digital TV services with the downloaded API, without change of the receiver hardware. This approach is taken in order to avoid the temporary use of any legacy or proprietary API systems, or any systems not defined in DVB standards. For television viewers it would be inconvenient and expensive to switch from these temporary solutions to the permanent DVB MHP API.

According to one manufacturer[7], the Nordig II receivers with DVB MHP API were not on the market in summer 2000, but they will be available in time for the national launch of the digital terrestrial digital network in 2001.

[6] See section 1.4.1
[7] Information provided by Force electronics.

1.1.13 16:9

The table below shows the development in 16:9 TV sets. The Association of Electronic Wholesalers estimates that by the end of 2000, there will be about 70.000 and by the end of 2001 about 150.000 16:9 TV sets available in the market.

YLE uses the 16:9 format as a marketing tool for digital TV, especially in the high-end market. The number of 16:9 TV sets on the market is still modest. The new Canal+ service, Canal+ Sininen, transmits majority of its movies in 16:9 format. The intention is that the channel will be an only 16:9 channel in the near future

16:9 TV sets (Thousand sets)

	1994	*1995*	*1996*	*1997*	*1998*	*1999*	*July 1999*
16:9	0	0	0	0.4	3	18	43

Source: Elektronikan Tukkukauppiaat ry (association of electronic wholesalers)

1.1.14 Portable reception

The possibility for portable reception has been underlined by YLE several times and Digita plans the current terrestrial network for portable reception. Also mobile reception has been considered as a possibility for some of the MUX blocks in the future. Digita in cooperation with Nokia has performed several tests for mobile reception of digital TV services.

1.5.Conclusion

Digital TV is only available in Finland on the satellite network. The service has been further developed during 1999, but the number of subscribers is still very modest, about 10000 by the end of 1999. In late spring, VIASAT started digital transmission of its premium pay-TV channels TV 1000 / Cinema. Furthermore, new services like Canal+ Sininen have been added to the digital line-up.

Digital cable TV is not available in Finland. At present, the dominant technological advance taking place in the Finnish cable TV is the upgrading of the networks to high-speed Internet two-way (duplex) operations. The cable TV market in Finland consists of 200 network operators, out of which the ten largest have 66% percent of the subscribers. The many smaller networks do not have the necessary scale to justify a digital upgrading, and the larger operators do not want to engage in investments until the open horizontal standard DVB Multimedia Home Platform is on the market and the digital terrestrial TV is implemented. As an alternative, firms such as Sonera develop digital services using a WWW-browser.

The first three multiplex blocks are licensed for terrestrial digital TV and the time schedule for development of terrestrial network has been decided. The multiplexes will be operational by the end of year 2000 and the intention of the government is to have a simulcast period until 2006. This will result in minimum twelve digital channels providing a range of different services from public service to premium pay-TV, which will cover the majority of the Finnish population. In August 2000, the first multiplex operated by YLE, the Finnish public service broadcaster, covered 39% of population but the service provision to general public has not started yet. Standardisation of Nordig II and MHP are followed closely in Finland, as both terrestrial and probably the majority of cable networks will adopt these standards when they are available. VIASAT has also agreed to use the common Nordic standard (Nordig) and MHP, when they are available.

The DTT network can therefore be said to be a dominant factor in the development of the digital TV in Finland, with Digita as the operator and integrator of the network.

2. Key figures for the Finnish market[8]

2.1. Country fundamentals

	1993	1994	1995	1996	1997	1998	1999
Population (millions)	5.099	5.117	5.132	5.147	5.160	5.171	
Households (millions)	2.260	2.290	2.310	2.330	2.350	2.356	
GDP (billion Euro)	84.000	98.000	101.000	107.000	113.000	121.700	

2.2. Equipment

As of 31 of December	*1993*	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*
TV households (millions)	2.150	2.180	2.220	2.240	2.260	2.260	
TV households (% of total households)	95%	96%	96%	96%	96%	96%	
TV households with 2 TV sets or more (millions)	0.830	0.870	0.920	0.980	1.000	1.000	
TV households with 2 TV sets or More (% of TV households)	38.7%	40.0%	41.5%	43.8%	44.3%	44.2%	
TV households with 16:9 Television sets (millions)	0.000	0.000	0.000	0.000	0.003	0.018	
TV households with 16:9 Television sets (% of TV households)	0.0%	0.0%	0.0%	0.0%	0.1%	0.8%	
VCR households (millions)	1.380	1.400	1.460	1.510	1.570	1.580	
VCR households (% of TV households)	64.3%	64.4%	65.8%	67.5%	69.6%	69.9%	
Digital STB households (millions)	0.000	0.000	0.000	0.000	0.003	0.010	
Digital STB households (% of TV households)	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	
IDTV households (millions)	0.000	0.000	0.000	0.000	0.000	0.000	
Digital TV households (% of TV households)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Digital households (millions)	0.000	0.000	0.000	0.000	0.003	0.010	
Digital households (% of TV households)	0.0%	0.0%	0.0%	0.0%	0.1%	0.4%	

[8] Until 1998 all amounts are in ECU

2.3. Television market estimates

Millions Euros	1993	1994	1995	1996	1997	1998	1999
Analogue TV Market							
Public funding		236.500	261.300	266.300	265.300	261.100	248.200
Advertising		126.800	161.600	161.000	184.500	199.500	205.200
Subscription		55.020	61.860	68.050	62.190	70.980	72.810
Total analogue TV		418.380	484.760	495.350	511.990	531.580	526.210
Digital TV Market							
Public funding		0.000	0.000	0.000	0.000	0.000	0.000
Advertising		0.000	0.000	0.000	0.000	0.000	0.000
Subscription		0.000	0.000	0.000	0.000	0.100	2.620
Total digital TV		0.000	0.000	0.000	0.000	0.100	2.620
TV Market							
Public funding		236.500	261.300	266.300	265.300	261.100	248.200
Advertising		126.800	161.600	161.000	184.500	199.500	205.200
Subscription		55.020	61.860	68.050	62.190	71.080	75.430
Total analogue TV		418.380	484.760	495.350	511.990	531.680	528.830

2.4. Details of the subscription-TV market

Cable

	1993	1994	1995	1996	1997	1998	1999
Home passed (millions)		1.300	1.300	1.200	1.200	1.200	1.200
of which digital (millions)		0.000	0.000	0.000	0.000	0.000	0.000
Home passed (% of TV households)		60.5%	59.8%	54.1%	53.6%	53.2%	53.1%
of which digital (% of TV households)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Analogue Basic subscribers (millions)		0.892	0.924	0.976	1.025	1.07	1.11
Digital package subscribers (millions)		0.000	0.000	0.000	0.000	0.000	0.000
Analogue Basic subscribers (% of TV households)		41.5%	42.5%	44.0%	45.8%	47.4%	49.1%
Digital package subscribers (% of TV households)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Satellite

	1993	1994	1995	1996	1997	1998	1999
Satellite households (millions)		0.050	0.063	0.074	0.089	0.100	0.120
Satellite households (% of TV households)		2.3%	2.9%	3,3%	4.0%	4.4%	5.3%
Satellite subscribers (millions)		0.040	0.050	0.059	0.071	0.080	0.098
Satellite subscribers (% of TV households)		1.9%	2.3%	2.7%	3.2%	3,6%	4.3%
of which digital (millions)		0.000	0.000	0.000	0.000	0.003	0.010
of which digital (% of TV households)		0.0%	0.0%	0.0%	0.0%	0.1%	0.4%