



MINISTRY OF TRANSPORT  
AND COMMUNICATIONS FINLAND

TV2007 Group

# REPORT

on activities to promote television digitisation.

The TV2007 working group was appointed in February 2006.  
Its assignment involved

1. Conceptualisation and execution of the necessary practical arrangements for realising digitisation
2. Co-ordination of all operators' actions relating to digital television
3. Contact with the target demographics and stakeholders of the switchover
4. Organisation of any advisory and installation services to be provided
5. Promotion of digital readiness in the public sector
6. Follow-up studies and surveys pertaining to digital television.

The Group's work ended on 29 February 2008.

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## Finnish television has been digitised

The Government resolution made in an evening session in May 1996 concerning the digitisation of the television operations network has been realised. The analogue broadcast network has been closed. When the Government confirmed 31 August 2007 as the date that analogue broadcasts would end, it considered the setting of a binding date to be a prerequisite for the complete switchover to digital television. The binding date provided consumers with clear information about the switchover date and simultaneously promoted the development and sales of receiver devices in addition to encouraging the production of new digital services. At the last minute, a decision was made according to which the television companies allowed cable television companies to continue to broadcast so-called basic channels in analogue format for another six months without, however, preventing the switchover to digital TV. In September the rate of digital coverage for antenna households was the anticipated 97 percent. Seventy-two percent of cable television viewers were already within the scope of digital television.

It is notable that television viewing increased by 3 percent after the digital switchover in autumn 2007, and by nearly 10 percent during the first two months of spring 2008 in comparison to the same period in the previous year. Viewers have also found target demographic channels. The much-discussed drop in television fees has proven to be much smaller than speculated. During the last five years, 40,000 television fees have been cancelled. In February 2008 the number of television fees began to rise again.

Analogue broadcasts on cable television channels ended on 1 March 2008. According to measurements taken in the second week of March 2008, digital penetration in TV households was 95 percent. Ninety-two percent of cable households and 98 percent of antenna households were digitised at the time of the study.

Digitised broadcast operations form the foundation for a large change in the future, the signs of which are already evident. The digitalised terrestrial transmission network has already made mobile television possible, and its breakthrough is expected to occur in 2008. The offering of television companies has become segmented. Target demographic channels have emerged alongside the broad-ranging general channels. Channels offering high definition television services will become more common in the next decade. The future funding model for Yleisradio also has to be resolved before 2010.

The Ministry of Transport and Communications focus with regard to digital television solutions has been in the preparation of new licence decisions. Citizens now have access to four multiplexes, in which the viewer generally selects 11-12 free channels and up to 20 Pay-TV channels. Two of the multiplexes also have digital radio channels.

The Ministry's role in the actual digital switchover has been to co-ordinate and communicate. The Ministry has established three working groups to promote cooperation between the operators.

The communications group was established in 2003, and its members represent all the central digital operators. The group is responsible for communication with citizens.

In 2005, the Ministry established a broad-based digital television monitoring group comprising representatives from all the television companies, central authorities, Digita Oy, Finnish Cable Television Association, and home appliance stores. The monitoring group evaluated the progress

of digitisation and made proposals concerning measures to promote digital television. The final report of the monitoring group was published in a Ministry of Transport and Communications series (12/2008).

A third co-ordination group, TV2007, was established in the spring of 2006, with representation from the Ministry and four central operators: Digita Oy, MTV Oy, Swelcom and Oy Yleisradio AB. The Group's task has been to promote digitisation, including the conceptualising and implementing the necessary practical arrangements, co-ordination of digital television measures by all operators, contact with the target demographics and stakeholders in the reform, organisation of any advisory and installation services to be provided, and co-ordination and production of digital television follow-up studies.

The activities of the monitoring group and TV2007 Group continued until 29 February 2008.

The TV2007 Group responsible for practical co-ordination produced an interim report regarding its activities during the period from 20 February 2006 to 19 October 2007. The report was supplemented to produce this final report. Information on the Finnish digital switchover has been compiled in the report. There is good reason to utilise the experiences gained in future solutions.

I would like to thank all parties that have assisted in the realisation of the digital switchover.

Tauno Äijälä  
Project Manager  
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# 1. Lessons garnered from the digital switchover

The TV2007 Group has compiled the following summary on issues and experiences from different stages of the switchover to all-digital television. We have boldly written our observations in the form of advice in some cases, because we believe that it is important to learn from such processes that concern the population in order to prepare for large national projects in the future. If requested, we are also prepared to provide information about our experiences to other countries that are preparing for the digital switchover.

1. A sufficient number of set-top boxes and integrated television sets must be available on the market from the very launch of the digitisation project. Local measurements directed at the population to determine actual service area and the advisory services put in place on the basis thereof must be started as soon as the digital broadcasting network has been completed. In Finland this would have meant the turn of the year 2005-2006.
2. Once the network has been completed, the prerequisites for good antenna reception must be intensively communicated to the population. If we had succeeded in getting this message across in Finland in 2005-2006, the population would have had 18 months to make the necessary antenna upgrades. The duty falls on the authorities to define good and adequate antenna reception, and to communicate this to the population.
3. An independent testing and approval procedure for set-top boxes should be put in place. Prime examples include the testing organised by Cable Ready in Finland and Teracom in Sweden. Many European countries only approve tested set-top boxes for the market.
4. Once the network has been completed and measurement and advisory services are in progress, the necessary additional decisions can be taken to provide service in shadow areas in accordance with legislation and the terms of licences. Service issues in particularly difficult terrain and in fringe areas must be resolved as quickly as possible.
5. A maximal concatenated advisory organisation shall be set up for the switchover to digital television. A combination design as in the Finnish model with representatives of broadcasters, television companies and device importers is recommended. The most diverse possible expertise on the part of advisory staff and a large amount of resources are keys to successful citizen advisory services.
6. The roadmap to the digital switchover must hold. Decisions taken must also be implemented: dates, technical solutions and permitted exceptions are key factors in this respect. In Finland, however, the alleviations of April 2007 facilitated the termination of analogue broadcasts. Nevertheless, decisions should be taken at a sufficiently early stage – the media treat wishy-washiness in a deservedly critical fashion. All changes undermine consumer confidence in the process, the long-term plans of television companies need to be altered and the risk involved in the changes is borne by retailers and importers.
7. Decisions on any subsidies from society to the population and taxation policies concerning devices and the required installation and deployment work must be taken already at the launch stage.

8. Seamless cooperation between all operators is vital to success. The standard of cooperation seen in Finland has been excellent.
9. Every effort should be made to involve volunteer organisations in the advisory services for senior citizens. The cooperation with volunteer organisations in Finland was excellent, allowing us to build a social safety net for the elderly.
10. A knowledgeable and convincing spokesperson to give a face to the undertaking should be identified. Our solution model, in which the spokesperson had a background as a television personality and was a senior citizen, added credibility to the project.
11. The switchover to digital must be branded. The decision made by the digital television communications group to enlist actor Sulevi Peltola to front the civic communications effort proved successful.
12. Civic communications should be based on only a few fundamental promises that are sure to hold. Instead of technology, communications should be spearheaded by content and the benefits of digitisation to the population. Digitisation must only offer carrots – no sticks!
13. In addition to the development of the penetration rate of digital reception, survey data on attitudes, device development and the challenges pertaining to use must be obtained at regular intervals. In Finland this was accomplished superbly, not only through the cooperation between the Ministry of Transport and Communications and operators but also through surveys conducted by the Consumer Agency and FICORA.
14. Angry people cannot be avoided. Critical voices must be allowed to speak but media visibility and communications skills must be used to ensure that the voice of “the defence” is always heard as well.
15. The mood of the general public must be established. The only way to accomplish this is to for the operators to be in direct contact with the public to hear their opinions and concerns first-hand.
16. No contact from the public at large may go unanswered.
17. Special interest groups must be taken into account: individuals and the elderly, the disabled, persons on subsistence allowance, immigrants. Each group represents a different set of challenges that must be met.
18. A “task force” needs to be established. A matrix organisation consisting of operators’ representatives rather than a distinct office guarantees the support of the organisations. In the Finnish model, weekly meetings and clear-cut project responsibilities increased the efficiency of the Group’s activities.
19. Regular contact must be maintained with all stakeholders. TV2007 achieved this through meetings and a widely distributed monthly bulletin describing recent events related to digitisation and the Group’s future plans of action.
20. All questions that come up must be answered – an information bank to support the working group / office is well worth establishing.
21. Companies involved in the switchover to digital must also commit to internal measures. The extensive activities of Yleisradio to promote digitisation are a prime example of this in Finland.

22. The geographic coverage of the multiplexes must be equal at the very outset. This means that gapfillers must also transmit the programs in all the multiplexes in the main transmitter.
23. Antenna fitters and housing company managers require the details of frequency solutions in new multiplexes well in advance so that any antenna solutions in housing companies can be coordinated and implemented in an economically sensible manner. The introduction of multiplex E showed that there were hundreds of housing companies where the antenna installations were not in order.
24. When the fundamentals are in order, the switchover to digital can take place on a rapid schedule.
25. Project responsibility does not end with the switch-off of analogue broadcasts. People need advice and instruction also after the switchover.
26. Information shall be provided on a regular basis regarding the services for the disabled provided by the television companies, and on the single-card system of Pay-TV companies in the terrestrial network.
27. Although the first stage of the switchover to digital is now over, the fast pace of technological developments requires all television operators also in the future to have access to a shared forum which addresses the details of future solutions.

## 2. Towards all-digital television

### 2.1. Changes in legislation and licence terms

The Government decision on commencing digital television operations was taken on 8 May 2008 in an evening session of the Cabinet. Underlying the decision was a memorandum of the Ministry of Transport and Communications on developing public service broadcasting, which in essence stated that the digitisation of television was an imperative that would enable wider and more diverse service to the viewers, enhance the efficiency of limited frequency resources, and improve both picture and sound quality in television, and allow new additional services to be transmitted to the public.

The guidelines for arranging digital television in Finland included in the Government resolution were far-reaching in nature. The new commercial licences to broadcast national analogue radio and television should be declared open for application, at which time the relationship between these licences and the licence fee for commercial channels should be determined; the funds accruing from licences should be placed in a separate Radio Fund instead of being directed to Yleisradio Oy (Finnish Broadcasting Company, YLE); the transmission equipment of YLE should be incorporated into a separate entity; and the position of Swedish-language programming in the various channels should be defined.

The same Government resolution confirmed that Finnish television broadcasting would be based on terrestrial television networks also in the future. Nearly half of all Finns receive television broadcasts over the terrestrial network, and there was no desire to change this status quo. Terrestrial transmissions are well suited for Finland's geographic locations and also enable mobile reception.

Helsinki Media began broadcasting on Finland's first satellite transmission digital television channel, PT4, on 1 July 1996. Yleisradio began terrestrial digital network test transmissions from the Espoo radio and television station and the Santahamina transmitter on 25 September 1997. The first licences for digital television operations were granted on 23 June 1999 to eight operators for a period of ten years (1 September 2000–31 August 2010).

The Government issued two statements in conjunction with the decision. With respect to Pay-TV, it was required that "if Pay-TV services are provided, the operators shall in collaboration strive to commit to a single-card service solution and to consistent customer and subscriber administration that best serves consumers". In addition, the Government set the target of being able to discontinue analogue television services at the end of 2006.

The Digi-TV-Forum was established on 16 June 1998 as a common cooperation tool for the operators. On 22 March 1999, this group issued a recommendation according to which Finnish digital television shall be implemented as an open system based on the DVB-MHP standard.

On 23 September 1998, the Administrative Council of Yleisradio decided to incorporate its transmission equipment into a subsidiary. Digita Oy began its operations on 1 January 1999.

Licence holders commenced digital broadcasts in three networks on 27 August 2001. Companies that belonged to the same multiplex at the starting point were required to agree on administration of the multiplexes and on cooperation. However, this was a short-term arrangement. All the multiplex network licences were granted to Digita Oy on 14 November 2002. A fourth multiplex is reserved for mobile television. On 23 March 2006 the Government granted Digita Oy a

network licence for 20 years. A network licence for a fifth multiplex was granted to Digita Oy on 15 June 2006. Yleisradio gave up the remainder of its Digita shares in March 2005.

The number of set-top boxes at this time was still fairly low, which in part contributed to the decision of certain licence holders not to commence the licensed operations or to the cancellation of the licence. New licences, including local ones, were granted on 13 March 2003 to replace the aforementioned.

The working group sitting in spring 2001 and chaired by Member of Parliament Jouni Backman submitted on 18 May 2001 its proposal, according to which

- no licence fee would be charged for digital broadcasts during the first licence period ending on 31 August 2010;
- the licence fee for analogue broadcasting would be halved effective upon entry into force of the new Communications Market Act (393/2003) on 1 July 2007;
- commercials would no longer be shown in sports broadcasts on the channels of YLE;
- the television fee system would be revised so that effective from the beginning of 2004, the fee is to be revised annually by the rate of inflation plus one percent;
- domestic programme production would be supported by increasing the share of programming acquired from independent production companies to 15 percent instead of the 10 percent required under the Television without Frontiers Directive.

The working group held that the funds becoming available from the removal of the licence fees should mainly be used for the development of digital broadcasting and content provision.

Upon adopting on 7 February 2003 the second-stage reform of the Communications Market Act with the amendments proposed by the working group chaired by Member of Parliament Jouni Backman, Parliament attached the following petitionary motion to the Bill: Parliament requires that in order to promote the provision of new services made possible by the development of the information society, the Government shall without delay determine the necessary further measures needed to expedite the switchover to digital television broadcasting.

The Ministry of Transport and Communications appointed a parliamentary working group to draft a proposal for organising the funding, duties and administration of Yleisradio, expediting the switchover to digital television broadcasting and its timetable, and for developing the must-carry obligation in cable television. Secretary General Seppo Niemelä was asked to chair the working group.

On 4 March 2004, the Government issued a resolution on the basis of the proposal by the working group, according to which

- analogue broadcasts would be switched off on 31 August 2007;
- no new analogue licences would be declared open for application;
- the frequency plan would be revised so that it would no longer be possible to use the frequencies available for analogue use for analogue television broadcasting after the switch-off;
- MTV's and Nelonen's analogue licences would be extended until the date of switch-off;
- Yleisradio's Administrative Council would take a decision on transition to all-digital broadcasting; and
- the operators would commit to extending the digital distribution networks to cover the entire country by the end of 2005.

## **2.2. New decisions in the final stage**

In 2007 two separate decisions still affected digital development in our country:

- On 3 April 2007 Yleisradio published an announcement stating that it would not intervene in the efforts of housing companies to convert the digital signal into analogue provided that the digital signal is simultaneously guaranteed and transmitted to all households in the housing company. The announcement impacted on the sales of set-top boxes in April and May, but ultimately only a few “central set-top boxes” of this kind were acquired by housing companies.
- In a meeting organised by Minister of Communications Suvi Lindén on 20 June 2007, operators in the television sector and cable TV companies agreed that cable television companies would continue until 29 February 2008 the analogue broadcasts of the basic channels, and in Swedish-speaking locales also FST5, that were broadcast in analogue at the time. Underlying the decision was the low rate of digital penetration among cable households, which at the time stood at 56 percent. In this context, however, the television companies stressed that 29 February 2008 was the absolute deadline.
- On 19 November 2007 the Finnish Association of Televisions updated a public statement in which it called on cable television companies to initiate an information and advertising campaign aimed at cable customers and covering the entire transition period. The Association considered a quick transition to all-digital broadcasting to be important and felt that it was essential that analogue broadcasts in the cable network be switched off on 29 February 2008.

Analogue TV broadcasts in the antenna network ended on 1 September 2007 at 4 am. Broadcasts of the new digital multiplex E started in the afternoon of the same day. The converted transmissions in cable networks ended in the period between 29 February and 3 March 2008 as agreed.

## **2.3. Reaching the viewer at home – TV technology and reception**

### **Development of the terrestrial transmission network**

#### *Technical test transmissions*

The switchover to digital television in Finland was implemented in stages as elsewhere in the world. The first technical test transmissions in the digital terrestrial transmission network began from the Espoo radio and TV station on 23 October 1997. The actual test transmission stage began on 1 September 2000 with digital transmissions from the Espoo, Tampere and Turku TV stations. The service areas covered 39 percent of the population. TV1, TV2, MTV3 and Nelonen programs were transmitted as parallel broadcasts in the digital network.

#### *The first stage of television network digitisation*

The simultaneous digital television launch of the TV companies was implemented on 27 August 2001, which is considered to be the national digital television commencement date. At that time, approximately 50 percent of the population already lived within the scope of a digital television network. In addition to the Espoo, Tampere and Turku TV stations, digital broadcasts were transmitted from the Lahti and Eurajoki TV stations. At the end of the year, 72 percent of the population had access to digital broadcasts (74 percent for YLE channels). This is considered to be the first stage of digitisation of the television network.

#### *The second stage of television network digitisation*

The second stage of television network digitisation was completed at the end of August 2004, when multiplexes A and B reached 94 percent of the population. Multiplex C was available to 70 percent of the population.

### *The third stage of television network digitisation*

The third stage of television network digitisation was completed in August-September 2005. At that time, multiplexes A and B covered a calculated 99.9 percent of the population of mainland Finland.

Multiplex C now has a population coverage of 78-90.4 percent, depending on the channel. For example, population coverage for the sports channel Urheilukanava is approximately 90.4 percent.

There are difficult reception locations within the actual service area, usually because of the terrain. The transmission network has been supplemented by gapfillers in 2006-2008 in several dozen locations.

Digita is building a fifth digital transmission network (the so-called multiplex E). The network came online on 1 September 2007. Initially it covers southern and central Finland and will gradually expand to the rest of Finland as well. Multiplex E had a population coverage of 63 percent at the beginning of September and 80 percent in early October. In spring 2008 it will cover 95 percent of the population.

### *Shadow areas*

Even after the completion of the gapfillers, certain shadow areas and blind spots generally remain within the service areas, mostly due to difficult terrain. Shadow areas have been discovered all over Finland, and the areas have usually been very small in size. Digita performed regional field measurements in autumn 2007 to assess the extent of possible shadow areas. Consumers can report possible shadow areas to Digita using the form in the web service [www.digitv.fi](http://www.digitv.fi) or directly by mail. In 2007 a decision was made concerning 50 new gapfillers, 44 of which were completed by March 2008. Construction of six gapfillers has been delayed by international frequency coordination.

### *Instructions for households*

In spring 2007 FICORA prepared a manual for households on how to proceed when there are problems with digital television reception. The manual defines the fundamental prerequisites for digital television reception in properties with antenna reception and provides instruction on how to proceed in the event of unsuccessful TV reception despite a proper antenna system. In addition to FICORA, the working group included Digita, MTV MEDIA, Satellite and Antenna Association SANT, Electrical Contractors' Association of Finland STUL, SWelcom, the TV2007 Group, and representatives of YLE.

## **Receivers**

It was possible to watch broadcasts using rented set-top boxes on 27 August 2001, the national commencement date for digital television. Basic set-top boxes were also on sale in stores in November 2001, but set-top boxes compliant with the MHP standard were only expected in the following spring. Sales of set-top boxes were slow in the early stage and there were a lot of problems, especially with regard to digital subtitling.

A year after the commencement of digital TV transmissions, 31,000 households had purchased a set-top box, and that number had reached 126,000 after two years. The number of set-top boxes has grown steadily since spring 2004, with the strongest growth coming only in 2006. According to a Finnpanel survey, 84 percent of Finnish TV households owned a set-top box in September 2007. A total of 72 percent of cable households and 97 percent of other households were able to watch digital TV broadcasts. When digitisation was completed in mid-March 2008, digital penetration

already stood at 95 percent: 92 percent for cable households and 98 percent for antenna households.

## **2.4. Digitisation of cable television**

The development of digital television technology began in Europe at the beginning of the 1990s. Sweden's Telia was the first to start developing digital TV services, and Finland also learned from these efforts. The cable network was found to be well suited for digital transmissions after the acquisition of digital multiplexers. HTV was the first cable operator to start test transmissions of digital television broadcasts in March 2001. Digital television services in the cable network were launched simultaneously on the national digital television commencement date of 27 August 2001.

Cable households were passive in their interest towards digital television services. The penetration rate developed slowly, as cable households already enjoyed a substantially wider supply of programming than antenna households. Sound and picture quality in the cable transmission network were also good. Set-top boxes were mainly purchased in order to view Pay-TV services.

Nonetheless, progress in digitisation of the cable network was made alongside the digitisation of the antenna network. On 19 January 2004, the Finnish Cable Television Association issued a statement to the Ministry of Transport and Communications in support of the switch-off of analogue broadcasts in the manner proposed by the Niemelä group. The cable sector was thus also committed to all-digital television.

There were initially only a few set-top boxes suitable for the cable network on the market due to scant supply on the part of device manufacturers. In Finland consumers can purchase the set-top box of their choice at any appliance store, while elsewhere in Europe the boxes are a part of the cable subscription. Integrated television sets for the cable network first became available in 2005. To ensure the proper functioning of set-top boxes, cable operators commenced testing in 2006. Approved models were granted the right to use the Cable Ready sticker of the Finnish Cable Television Association. Personal video recorders proved especially attractive to cable households. Every fourth household had a personal video recorder in March 2008.

The functions of the Finnish Cable Television Association were combined with those of the Finnish Federation for Communications and Teleinformatics (FiCom) on 1 January 2008.

## **2.5. What did digital provide?**

When digital television broadcasts started in August 2001, the supply consisted of Yleisradio's familiar TV1 and TV2 and the new digital channels YLE Teema, YLE24 (subsequently YLE Extra) and FST (FST5) in multiplex A. Multiplex B carried the channels MTV3 and Subtv, created on the foundation of TVTV!, plus the sports channel Urheilukanava programming and the channel logo of Wellnet. Nelonen took over multiplex C, which had also been allocated to two channels that never got operations off the ground: Swelcom's movie channel and WSOY's educational channel.

The increase in supply did not initially reach large audiences. Some of the channels started up as planned, while other operators quickly gave up. MTV3+ launched its Pay-TV operations with programme packages regionally in autumn 2003, and nationally in spring 2004. The multiplexes were reorganised on 1 April 2004, at which time Nelonen joined the MTV channels in multiplex B, which was to be built to cover the entire country. The pay-TV service of Canal+ commenced in November 2004, and Canal Digital operated sales of the company's four channels to antenna households. The package has since been expanded with the launch of the Disney Channel.

The supply carried in multiplex C is the responsibility of Canal+ and Urheilukanava along with The Voice, initially named Viisi until acquired by SBS, and Digiviihde operating under a short-term licence. The channels IskelmäTV Harju & Pöntinen and regional Turku TV are also transmitted in this multiplex. In summer 2007, the pay-TV channel Urheilu+ was added to the C multiplex, where it shares a frequency with the Disney Channel.

Having secured the broadcasting rights for Formula 1 races, MTV Oy launched two pay-TV channels for antenna households in November 2006 in partnership with pay-TV operator PlusTV. Nelonen introduced a new channel entitled JIM to multiplex B in winter 2007. The programming licences for multiplex E were granted in December 2006. The switch-off of analogue broadcasts on 1 September 2007 brought to the screens the channels Discovery Channel, Eurosport, KinoTV, MTV (Music Television), MTV Fakta, Nickelodeon, and SVT Europa, all of which are available as pay-TV only.

Following the switchover to all-digital television, homes in Finland can view 12 national public service channels via antenna and up to 20 pay-TV channels in the packages of two operators. Multiplexes A and C also carry radio stations. Short-term licences further boost the supply. Once the last of the gapfillers have been completed, multiplexes A and B will cover 99.96 percent of the Finnish population. Multiplex C was available to 78-90.4 percent of the population and multiplex E to 80 percent of the population in October 2007.

In other words, the higher number of channels and greater options with the advent of pay-TV channels have made good on the promise of wider supply. The benefits of the so-called DVB subtitling used by Yleisradio and MTV's pay-TV channels has received less attention. It offers viewers different language versions. Yleisradio also uses DVB to broadcast subtitling and audio subtitling to the hearing and visually impaired.

## **2.6. All the digital channels and even more in cable households**

Based on the must-carry obligation in the Communications Market Act, cable operators offer all TV channels freely broadcast in the terrestrial TV network to viewers. However, digital supply does not end there: cable companies also offer their customers dozens of digital pay-TV channels.

Thus, the digital carrot has been offered in the cable network. However, factors slowing the transition to digital viewing included a broader analogue programme offering and better quality picture and sound as well as the analogue distribution of Subtv and Urheilukanava, which only broadcast digitally in the antenna network, in nearly all networks. Thus, the analogue supply in the cable network gained new and interesting domestic channels as digital transmissions began.

Finns spend an average of three hours per day watching television. Thus, it is natural that digital television accelerated TV content more than any other factor. Studies showed that the desire to view, for example, Subtv, YLE Teema or Urheilukanava in an antenna household was a motivating factor for purchasing a set-top box.

## **2.7. Digitalisation made the Pay-TV breakthrough possible**

During the era of analogue broadcasts, pay-TV channels could only be viewed with cable or satellite reception. Important parts of the most popular sports events among Finns – Formula 1 racing and the national hockey championships – have transferred to pay-TV channels in recent years. Channel package marketing has substantially advanced digital penetration. In March 2008, 30 percent of all TV households were pay-TV customers.

Television fees in Finland generate revenues of some EUR 400 million annually compared to television commercial revenues of some EUR 300 million. No significant growth in either is projected for the near future. Pay-TV revenues, on the other hand, may well rise to EUR 300 million in next few years, meaning that the number of pay-TV subscribers will rise to 40-50 percent of all television households.

However, the Government has designated a group of sports events that will remain on public service channels. The list includes:

- the summer and winter Olympic Games
- the opening, quarter-final, semi-final and final games of the Men's World Cup of Football and Finnish national team matches
- the opening, quarter-final, semi-final and final games of the Men's European Championship of Football and Finnish national team matches
- the World Men's Hockey Championship in its entirety
- the FIS Nordic World Ski Championships
- the World and European Championships in Athletics

Of these events, the opening, quarter-final, semi-final and final games of the World Cup and European Football Championships and all Finnish matches must be broadcast live in their entirety. The same requirement applies to the semi-final and final games of the World Men's Hockey Championship and all Finnish games. The other events on the list may be transmitted wholly or partially in live or recorded format.

The list includes those sports events that have traditionally attracted large viewer audiences and which have gained public interest in advance. This list of socially important events was compiled on the basis of the EU's television directive. More sports are also available for viewing at no cost: increased channel capacity makes it possible to schedule more live broadcasts in the digital era than ever before.

## **2.8. Does digital always mean problems?**

### **2.8.1. Devices**

The digitisation of television has not been completely problem-free. To begin with, the availability of devices proved to be more complicated than expected. Once the devices were brought to market, all their features did not always function as planned. On the basis of experience, the TV2007 Group warmly recommends the creation of a testing system like that in Sweden (Teracom) or the cable operator system that later developed in Finland (Cable Ready). Open dialogue between importers, retailers, authorities, TV companies and operators is also of extreme importance. In Finland, FICORA and the Consumer Agency among others have created discussion environments.

Although a device purchased for the household might function very well, the use of two remote controls sometimes proved challenging. Two remote controls represent a challenge for special interest groups – and a nuisance in the opinion of others. The use of an integrated digital television only involves one remote control. Of course the market already has set-top boxes in which one remote control can be used to operate both the device and the television. Many people would be prepared to purchase a new flat-screen, digital television. However, until recently such devices were slow to reach the market, and the substantially higher price of integrated televisions in comparison with picture-tube models means that the majority of the population has selected a separate set-top box at this point.

The standard presented challenges for penetration development: the early investment in MHP (Multimedia Home Platform) additional services also made MHP services a key factor in the marketing of digital television. The TV companies expected interactive devices to appear on the market. However, the basic models appeared in the stores first – and created a market. Nevertheless, people still remembered the original "information society's blue bus" campaign used

years earlier in the initial stage: broadband Internet services have since made the blue bus obsolete and brought the information society to Finns in a more efficient manner. On the other hand, the transmission and reception of DVB-standard subtitling (YLE's channels, Subtv Leffa and MTV3 Fakta) has proven to be more challenging than expected. One of the most important issues is the ease and reliability of set-top box use: all difficulties contribute to a bad reputation.

In autumn 2007, Yleisradio initiated set-top box testing with the target of eliminating problems with subtitling. The project inspired a lot of public discussion, but the end result was the removal of poorly functioning devices from the market.

### **2.8.2. Availability**

Measured on the basis of permanent place of residence, the digital television network's multiplex A and B reached a coverage rate of 99.96 percent at the end of 2005. There were also clear signs that consumers had begun to believe in digital television once the network was completed. This significantly increased the need for local advisory services regarding reception.

Digitisation of the last 0.01 percent of the Finnish population proved to be difficult. Yleisradio solved this problem in autumn 2005 by offering people who lived in shadow areas Yleisradio channels on two satellite operator cards. This clearly conflicted with the 100 percent terrestrial distribution requirement set for commercial TV operators in multiplex B. Nearly one year after the network had, in the opinion of the operators, been completed, FICORA required the operators to build new gapfillers: a decision was made on the construction of a total of 84 gapfillers in two batches.

The licence terms of the commercial companies were changed at the end of June 2007 so that they were also allowed to offer satellite as a solution for people living in shadow areas. Marketing of the satellite solution only hit full pace just before the digital switchover, although it should have been an option for people and available months earlier!

In August, TV operators YLE, MTV and Nelonen agreed on arrangements to ensure that the approximately 2,000 households outside the service area and in temporary shadow areas would have access to TV channels via satellite reception. Since that time, digital broadcasts have been available to nearly everyone living in Finland. The operators and pay-TV operator Canal Digital offer households the opportunity to acquire a digital set-up comprising a combination set-top box suitable for antenna and satellite reception, satellite dish, and satellite card. Customers can also purchase installation at an additional charge. The satellite card included in the package provides access to YLE TV1, YLE TV2, YLE Teema, YLE FST5, YLE Extra, MTV3, Subtv, Nelonen and JIM. In temporary shadow areas, the card is free of charge until the completion of the gapfillers. The price of the device package is EUR 50 without installation. Some 1,000 satellite packages had been ordered by March 2008.

### **2.8.3. Yleisradio (Finnish Broadcasting Company Ltd)**

Yleisradio has played a central role in the digital switchover. In the early stages of digitisation, Yleisradio was an active operator in, for example, the Finnish digital television forum that began in 1998 and the digital television technology group, RYT's (association for cooperation in the radio sector) digital television department and the marketing group. Simultaneously Yleisradio invested strongly in digital programme production by launching three new digital channels on 27 August 2001. As the digital switchover neared, Yleisradio intensified its own advisory services by training some 40 digital sponsors to help citizens in different parts of the country with their digitisation-related problems. Yleisradio has also produced many informative TV programmes and information bulletins, starting with installation instructions for set-top boxes and ending with the digital

municipality of Pihtipudas. The digital switchover for municipal residents and public organisations has been followed for several years in Pihtipudas. It is natural that Yleisradio, as a public corporation, has been under the greatest pressure as the target of public outbursts. The Digirinki group, which specialises in providing digital advisory services and answering the questions of citizens, has operated in Yleisradio since August 2007.

#### **2.8.4. Help!**

The digitisation of citizens has not gone smoothly in every way. People would like more personal support and advice. Some people would like this to take place in conjunction with the purchase of devices. Others, for various reasons, would like to ask questions first without any intent to purchase. Some consumers have also been disappointed with the competence at stores.

Digita's technical advisory activities were reorganised in spring 2004, leading to the termination of regional technical advisory services. The department operating in Helsinki, Antenni Info, mainly focused on serving housing company managers and antenna contractors with the most difficult reception problems. After the fact, the termination of regional advisory services was a poor decision in terms of the successful digitisation. The expertise level of the small resources of Digita's Antenni Info has been outstanding, but nothing can replace local advice. In spring 2007 agreement was reached concerning project-based regional advisory services funded by the TV operators. There were a total of 650 of these advisory visits.

Operators, including set-top box importers, decided to offer citizens an advisory hotline early in the digitisation process. DigiTV Info began its operations in December 2003. Although this was an expensive solution for the operators, a highly professional service team answered more than 660,000 digital questions from citizens by phone or e-mail. DigiTV Info ceased to operate on 14 March 2008. In terms of need, the activities ended too early. The most common questions were those involving basic installations of set-top boxes, subtitling, shadow areas and antenna alignment as well as general enquiries related to digitisation.

#### **2.8.4. Media publicity and digital missteps**

The unsuccessful launch of MHP certainly did little to improve the media's critical attitude towards television digitisation. During its first 50 years, the only new feature in television was colour, but now the rapid development made it seem as if technology development was uncontrolled. At times the media's attitude has made it challenging to communicate even the most fundamental messages.

There have also been plenty of missteps. Of course, such an extensive project that affects nearly every Finnish person should not be implemented without being questioned! The most frustrating issue is that difficulty in reversing some incorrect accusations, for example, "these will be obsolete in two years anyway"...On the other hand, when looking back on the "nightmare week" in April 2007, the decision to approve central set-top boxes and allow open discussion of the extension for cable made the August digital switchover much easier.

It is unfortunate for citizens that a decision that an otherwise sensible decision becomes public in an unclear manner and confuses many people about what is about to happen – and how they should act if they want to watch television in the future.

### **3. Not at random or even close: research data to support the work**

#### **Quality and amount: research has to cover many perspectives**

Research information regarding the development of digital penetration has provided important background support for television digitisation. Various operators have supplemented the figures by examining user experiences of the devices, price development, and attitudes towards digitisation. The number of digitised households has been monitored by means of the TV Households in Finland survey conducted by Finnpanel Oy since 2001

However, no survey has been able to sufficiently assess the condition of the antenna network of Finnish households. Data has been collected from antenna contractors and housing company managers, but the greatest challenges were in single-family houses and non-professionally managed housing companies. Furthermore, antenna questions demand a fairly high level of expertise from those providing the answers – this has also been directly reflected as antenna reception problems in households.

#### **3.1 Attitude surveys provide information about attitudes towards digital television**

The attitudes of the Finnish population towards television digitisation were studied in four rounds of surveys in 2005-2007. The surveys were planned by the Ministry of Transport and Communications in cooperation with Yleisradio, conducted by TNS Gallup. Knowledge of the digital switchover date increased after summer 2006, when more than half of TV households were digitised. As of March 2006, approximately 70 percent of all TV households knew the exact date of the switchover, and an additional 10 percent assumed that the switchover would take place as early as January 2007. Right from the start of the project, awareness of the exact date was higher in older people than younger respondents, although both age groups were clearly slower than the middle-aged in terms of acquiring devices.

As the number of digital households grew, the proximity of the digital switchover was primary factor motivating households to make digital purchases. Simultaneously the significance of price increased. Non-digital households were stricter in assessing the costs of digitisation than households that had already made their purchase, and they were also less interested in the extensive 2006 launch of pay-TV than households that had already acquired their digital television. Non-digital households were also more critical in their assessment of the added value provided by digitisation for TV viewing in, for example, the form of additional channels: this was particularly apparent in the slower digitisation of cable households. The take-up of personal video recorders in households that began in 2006 increased interest in acquiring digital TV, and this was more evident in non-digital households. The opportunity for installation assistance that was either free of charge or, when subject to a fee, more diverse had a positive impact on purchases in 2007.

In 2006 about half of digital households considered digital television to be positive, while in 2007 three quarters were satisfied with the receivers, 83 percent with communication about digital issues, 79 percent with YLE's digital provision and 61 percent with the digital provision of commercial channels. The least satisfied group was non-digital households and antenna households in particular, who were most suspicious of the functioning of digital receivers. Thus financial issues, the added value provided by digital television and device functioning have been the most critical factors in the digitisation of Finnish households with regard to attitudes.

When 85 percent of TV households were digitised in September-October 2007, 64 percent of digital households were satisfied with the digital switchover on the whole. As the switchover progressed, satisfaction with communications and marketing dropped to 76 percent although this was the area with which people were still most satisfied. A total of 12 percent of digital households

were very dissatisfied with the switchover on the whole. The causes of the most dissatisfaction were the switchover schedule and the functioning of devices. A total of 72 percent of digital households felt that they received enough information and advice from various sources. Personal advisory services were considered most important. Five percent had not received enough advice, and this number was 10 percent for people over the age of 60. Consumers were interested in the new channel offering, and more than one quarter of digital households had purchased pay-TV channels.

This meant that only 15 percent of households were still dependent on analogue transmissions alone, and 29 percent of these had not yet made a decision concerning acquisition in September-October 2007 – regardless of whether they were antenna or cable households. Antenna households debated whether to purchase a basic set-top box or to stop watching TV altogether, while cable households in which the switchover was scheduled for the end of February 2008 were considering whether to buy a personal video recorder or a basic set-top box.

### **3.2. Price information for consumers to support purchase decisions**

The Consumer Agency has conducted semi-annual price comparisons to monitor the prices of set-top boxes and digital televisions. This market information has been of great interest to Finns. Along with other Consumer Agency measures, it has increased people's confidence in their ability to survive the "digital jungle": the prices and features of devices were examined and presented by a trusted operator. Brochures have been continuously distributed at public events and have also been available on the Consumer Agency website. Important digital switchover issues have also been collected in comprehensive reports.

The Consumer Agency has also produced print and online materials to support both the sellers and purchasers of digital devices. The Consumer Agency and TV2007 Group also cooperated to survey the competence level of sellers with regard to digital issues and provided training for sellers. The Consumer Agency's support has been important for the advancement of digitisation. Feedback indicates that Finns have been particularly pleased with the opportunity to receive product information from the authorities.

### **3.3. Close monitoring of user experiences**

FICORA, on the other hand, has studied user experiences and problems related to digital viewing in a series of four surveys starting at the end of 2005. Based on the surveys, households that have purchased a set-top box have found the usability of the devices to be quite good – they received a rating of 3.62 on a scale of 1-5 according to the latest study. However, the study revealed that some people had difficulties with introduction (19 percent in 2007) and connections with other devices, such as TVs, video recorders, and DVD players (slightly less than 10 percent).

A usability survey also investigated problems with use of the devices. The most common problems mentioned had to do with subtitling, picture quality and the devices seizing up. Purchase intentions were also examined in a usability survey. This indicated that some Finns wanted to wait for more advanced devices and that the new content supply has not been a sufficient incentive as yet. The acquisition was considered unnecessary for the time being.

### **3.4. Progress! Penetration development until March 2008**

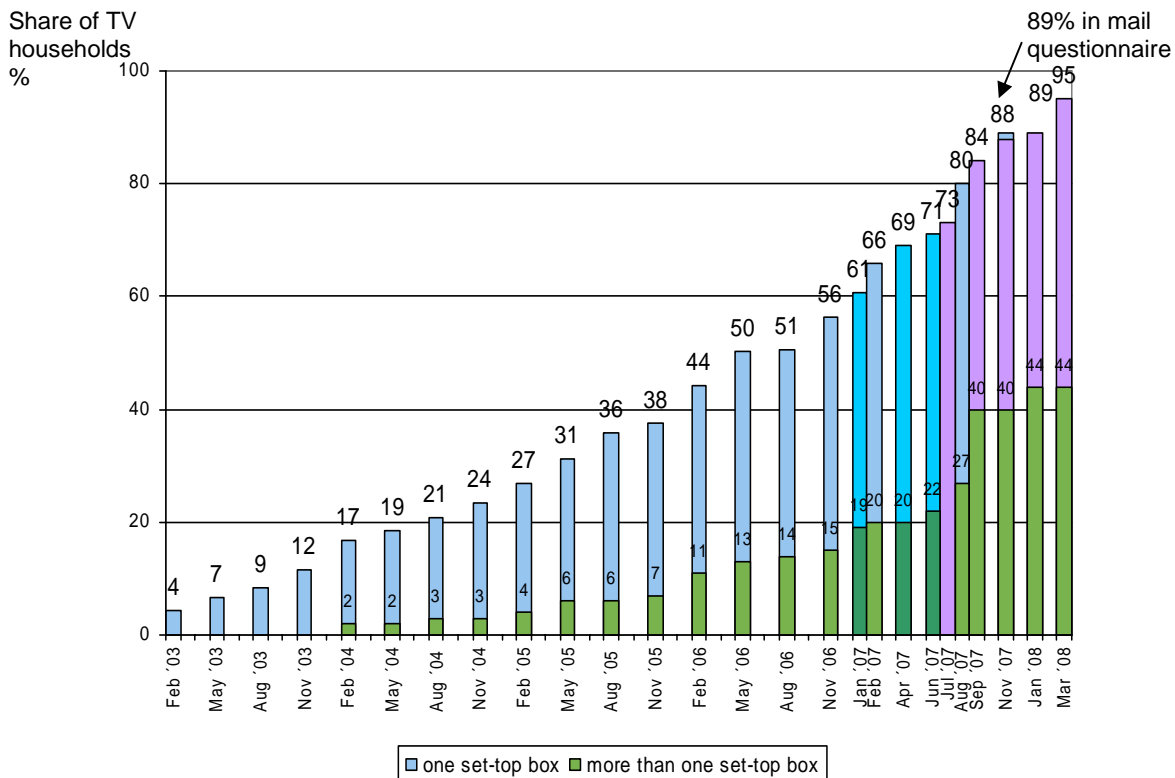
When the TV2007 Group started its operations in February 2006, 44 percent of Finnish households had purchased a set-top box. The first leap in penetration happened in the Christmas season of the previous year, when the number of digital homes rose by 6 percent. Digitisation progressed

steadily in antenna homes. The leap for cable took another leap forward in the 2006 Christmas season and again in February-March 2007, when the cable figure had risen to 51 percent – at that time penetration on the antenna side had already reached 78 percent. The decisions of that spring had a somewhat confusing effect on both retail and penetration development.

In July 2007 85 percent of antenna homes and 61 percent of cable homes were digitised. However, record sales in August meant that 97 percent of homes with antenna reception had acquired a set-top box by the time of the digital switchover. Cable also reached the 72 percent figure. The extension period for cable switchover has proven to be justified – however, penetration development indicates a smooth ending of analogue transmissions in the cable networks on 29 February 2008.

Of the remaining non-digital households, 4 percent planned to purchase a set-top box by the end of 2007, 2 percent had not made a decision concerning the time of purchase, 3 percent did not plan to make a purchase, and 7 percent planned to wait until 2008 to make their purchase. In September 2007, 81 percent of all viewing was already digital viewing. Nearly all non-digitised households were people living alone in apartments. A total of 78 percent of the devices had conditional access (card slot) and 29 percent had a recording hard drive. Television programmes recorded on hard drive accounted for 3 percent of viewing in September 2007. The September channel shares also illustrated the fragmentation of viewing. The purchase of digital devices also helped people find so-called small channels. On the other hand, only long-term monitoring can confirm the permanent nature of fragmentation.

### Prevalence of set-top boxes in TV households



Source: Finnpanel March 2008

### **3.5. The message about digitalisation reached people**

The cornerstone of the civic communications implemented by the digital television communications group was public service announcements for TV featuring actor Sulevi Peltola. The reach of these announcements was studied in autumn 2006. The campaign achieved a recognition rating of 93 percent and was the third most noticed of the entire year. Additional questions were asked in conjunction with the study to examine the message of the public announcements: the message about the digital switchover date was understood, as was the information about how people could digitise their own television set.

### **3.6. Costs of digitalisation**

When examining the total cost of digitisation it must be borne in mind that technological advances are ongoing in which digitisation is only one element. In any case, replacements and new investments in broadcasting networks and equipment would have been necessary over the past "digital decade". The following evaluations of cost examine the switchover to digital mainly from the viewpoint of TV households, involving evaluation of costs relating to the purchase of set-top boxes, antenna upgrades, and household electricity consumption.

Household purchases of set-top boxes amounted to EUR 420 million by the end of August 2007 (consumer outlays include value-added tax). The lowest outlay needed for a household to enter the digital era was the EUR 50 charged for a basic set-top box, putting the total cost at EUR 150 million. However, nearly a third of the set-top boxes acquired were higher-end personal video recorders, putting the median price of the box at EUR 160.

Digitisation involved an upgrade of the antenna network, particularly in older properties built before 1980 and equipped with antenna reception. Housing companies hooked up to the cable networks as well as individual houses had little need for antenna network upgrades. The outlay for antenna network upgrades totalled EUR 130 million.

Thus the cost of digitisation incurred by households by the end of August comes to EUR 550 million as indicated above. If the population had settled for basic set-top boxes, the total cost including antenna network outlays would only have been EUR 280 million. During the same period, purchases of flat-screen televisions amounted to EUR 800 million and the revenues of the pay-TV business grew from some EUR 20 million to EUR 100 million, with no end in sight. For the sake of perspective, we might note that purchases of mobile phones between 1 January 2004 and 31 August 2007 totalled EUR 1,300 million.

Digital set-top boxes require 60 MW of power. In the cold season, the power consumed by the boxes is put to use in heating. The net increase in a household electric bill per set-top box is EUR 4 per year, taking into account the heating benefit. The switch-off of analogue parallel broadcasts reduced the power requirement of the broadcasting network by 6-7 MW.

The investments in terrestrial transmission networks, cable TV networks, and the systems of TV companies necessitated by the switchover to digital came to EUR 55-65 million. The majority of these investments concerned the terrestrial transmission network. Cable networks and the production platforms of TV companies had mainly already been digitised at an earlier stage. The termination of analogue parallel transmissions reduced the distribution costs of TV companies by EUR 30 million per year.

Digital technology makes the use of frequencies approximately five times more effective than with analogue technology, which opens up new business potential within the framework of the existing frequency spectrum. Growth sectors include mobile TV. A report on the total cost of digitisation will be completed in April 2008.

## **4. International digital development**

### **4.1. Review of the European TV scene**

All of Europe will switch over to television broadcasts compliant with the DVB standard by 2012. However, differences between countries regarding schedules and the take-up of distribution technologies also affect the digitisation project.

In the Nordic countries the majority of TV is watched via an antenna or cable network. The distribution between different reception means is quite even. With the exception of Finland, satellite reception is also quite common, especially in Norway, where the terrain makes antenna reception difficult.

In Central Europe television is almost always watched via the cable network, and the share of satellite reception is also significant. Less than 5 percent of households in Germany, the Benelux countries, Switzerland, and Austria depend on antenna transmissions.

In the United Kingdom satellite reception increased in popularity when BskyB purchased the broadcast rights for football. In contrast to the rest of Central Europe, only 10 percent of households in the United Kingdom are within the scope of a cable network. Approximately one third of households receive their television broadcasts through an antenna network.

The majority of consumers in Southern Europe and France have access to antenna transmissions. Development of the cable network began late and has not yet achieved a significant position. On the other hand, the weak cable network has led to faster IPTV development than in the rest of Europe.

Digitisation measures in Eastern Europe are under development, but many questions in the legislation still need to be addressed. For this reason, many issues in the sector are unresolved.

### **4.2. European digital switchover**

Analogue broadcasts were switched off for the first time in Berlin in 2003. The Netherlands was the first country in the world to switch over to entirely digital terrestrial broadcasts on 11 December 2006. The switchover was not radical, because analogue broadcasts continued in the cable network. At the time of switchover, only about 77,000 households were wholly dependent on antenna distribution, and these mostly consisted of holiday homes. Finland and Sweden were the first countries in Europe where digitisation has been an extensive national project. Finland is the first country in the world where cable television broadcasts have also been digitised.

There has been no lack of poor judgement in the history of European digitisation. Interactive services and pay-TV were expected to be the most important drivers of the project. In Spain and the United Kingdom the first DTT services were abandoned as unprofitable after just a few years. In many countries interactive services have faded out or their use has been noticeably less than planned. Digital viewing has only significantly increased when digital television has been able to expand its supply of free channels or offer interesting exclusive content, such as sports events. In Italy the state has subsidised set-top boxes. The device subsidy in Croatia is EUR 28 per household and USD 80 per household in the United States.

### 4.3. Finland's solutions in comparison to other European countries

Finland's situation differs from that of other European countries in terms of some important issues. In Finland a decision was made to switch over to digital broadcasts simultaneously throughout the country. The length of the transition period in Finland was considered to be short. Although Finland is one of the first European countries to switch over to all-digital television viewing, a six-year transition period is not particularly short. In contrast, Finland's transition period may turn out to be the longest in Europe. For example, the transition period in Norway is only two years, and three years in Denmark and the Netherlands. In Austria, Portugal and Slovakia the switchover will be implemented in four years.

With regard to project implementation, the ability of the Finnish TV sector to work together is exceptional. For example, TV companies in Sweden and the United Kingdom have in part remained outside the campaigning, and civic communications measures are handled in a centralised manner by the commission preparing the switchover to digital television in Sweden and by DigitalUK in the United Kingdom. In Finland all of the TV companies have taken part in the project and cooperated in countless different working groups. Furthermore, the participation of importers in financing the DigiTV Info hotline and the effort of volunteer organisations in assisting elderly people has been unique in nature.

In many ways the situation for cable companies in Finland differs from that in other European countries. The device market in Finland is horizontal, which means that each cable viewer can buy the terminal device of his/her preference. The reason for this may be the slow development of pay-TV in Finland, which has allowed cable households to watch a broad selection of channels even without a box. The cable companies decided in 2004 to switch to digital with the rest of Finland. Finland is the only country where cable households also entered the digital era. As a result of slightly slower penetration than in antenna households, the transition period for cable was extended by six months.

Simultaneous digitisation of all households made digital television campaigning easier, allowing for the organisation of nationwide communications and advisory campaigns. It also, for example, ensured a considerably higher level of national media visibility of the Digital Weeks, during which information was distributed on TV channels, than might otherwise have been possible. The opportunity to refer to a single date and all households made it easy to formulate the message in a clear and simple way. The decision on an extension period for cable households made just a few months before the switchover date helped to ease the burden on the advisory hotline but didn't complicate the campaign message.

The situation in Sweden, where the switchover was implemented at nearly the same time but in a region manner, provided Finnish operators with valuable information. In particular, the number of people who purchased a set-top box at the last minute would have caused more worry in Finland if Sweden had not experienced the same phenomenon. The exchange of campaign experiences with Sweden and the United Kingdom also provided more perspective. In part, each country implemented the same measures with similar results. Two of the most important examples are the use of visual material in civic communications (Sulevi Peltola in Finland, the pink colour world in Sweden, the Digit-AI character in the United Kingdom) and the importance of media visibility. In contrast, all countries reported poor results from direct public mailings.

## **5. TV2007 Group 2006-2008**

### **5.1. Meet the Digital Grandpa**

TV operators contacted the Ministry of Transport and Communications in autumn 2005 and proposed the hiring of a project manager to coordinate the measures required to complete digitisation. At the same time it was agreed that the four central operators, Digita, MTV, Nelonen and Yleisradio, would invest human resources in the project.

The TV2007 Group was established in February 2006. The Group's role of promoting digitisation was derived from the project manager's duties. Tauno Äijälä has also served as the spokesperson for the project. Digitisation needed a "face", someone with the substance and confidence to also be the "national villain", as the role was sometimes described. Äijälä called himself the digital grandpa, and decades of experience as a TV director made him well qualified for the position.

His duties included brainstorming and executing the practical measures needed to implement digitisation, coordination of all operators' actions relating to digital television, and communication with the target demographics and stakeholders of the switchover. In addition, the Group's tasks included organisation of any advisory and installation services to be provided, promotion of digital readiness in the public sector, and coordination of follow-up studies and surveys pertaining to digital television.

The members of the TV2007 Group are: Jessi Frey (SWelcom, until September 2007), Riitta Kontula (Digita, until September 2007), Mika Ojamies (Yleisradio, from September 2006), Pirkko Rajala (MTV Oy) and Mauri Vakkilainen (Yleisradio, February-August 2006). Following Kontula's retirement and Frey's transfer to another position, Birgitta Selonen (Digita) and Outi Vitie (SWelcom/Welho) joined the Group in October 2007. A total of 78 meetings were held in 2006-2008.

Throughout the process, a separate digital television communications group led by Katariina Kivistö from the Ministry of Transport and Communications has been responsible for civic communications relating to digital television. The TV2007 and digital television communications groups have three joint members. The division of work between the groups was clear: civic communications were implemented in the communications group, while measures to promote digitisation were the responsibility of the TV2007 Group. The joint members (Kontula, Ojamies, Rajala) handled the flow of information between the groups.

### **5.2. From ideas to action via studies**

The TV2007 Group launched its activities with a study of the status and action potential of digitisation in meetings with the authorities, the industry, volunteer organizations, and the communications group. Some sixty different parties were consulted (Appendix 1, Action survey and cooperative parties). The project manager's extensive contact network and recognition had a significant impact on the success of the study and initiation of cooperation. Doors were opened and our message was heard.

It quickly became clear that the digitisation of people over the age of 65 and living alone in cities is slower than that of other groups. They were also judged to need external assistance in switching over to digital viewing.

### **5.3. Reaching citizens in person and through the media**

Right from the start, the group was in great demand to talk about digital television to many different audiences. Over a period of two years, the group attended nearly 200 events. Major civic events such as the DigiTV tours (2006) and Digipysäkki (2007) gave group members access to thousands of people at once all over Finland.

From the viewpoint of citizens, speeches and civic events provided the best possible means of understanding the challenges of digitisation (Appendix 2, Presentations and civic events). More than 100 people attended some of the events. Discussion was brisk, and critical voices were also given a chance to be heard. Everything possible was discussed: people wanted to have their devices “diagnosed”, and operators were asked to solve many difficult questions were brought to the events by consumers. Many people were satisfied simply to have their opinion heard.

The digital television bus tour organised by the Ministry of Transport and Communications' digital television communications group reached thousands of people in ten municipalities. Experts helped people enter the digital era – TV2007 put some of its personnel out in the field to meet Finns. The questions ranged from enquiries about in-depth technology matters to what should be done – or why. On August 31 2006, exactly one year before the first digital switchover date, a forum organised by the communications group attracted hundreds of Finns in the Itäkeskus district of Helsinki.

Digita and the Satellite and Antenna Association SANT cooperated with the TV2007 Group to organise the Antenna Day on 30 May 2007. The aim of the day was to provide consumers with information about alignment of reception antennas and the importance of proper antenna systems in the reception of digital television broadcasts. The topic was addressed in several stories in both print and electronic media.

The Digipysäkki event organised by the TV2007 Group and the cable television companies during the Digital Week in August 2007 also gathered thousands of citizens in seven municipalities to get information from digital experts. With only three weeks until the switch-off of analogue broadcasts in the antenna network, communications regarding the proximity of the digital switchover date had clearly been heard. Along with antenna reception, questions mainly concerned connecting other home appliances (video recorders, DVD players) in the digital era. In each town, the experts met a small group of citizens who were still unaware of the switchover. There was concern about the ability of some citizens to manage after the switchover. Fortunately, the experts were able to provide these people with contact information for the advisory organisation. The civic event organised by the digital television communications group on the digital switchover weekend of 30 August-1 September 2007 also attracted a large crowd of people and their digital questions in downtown Helsinki. TV2007 was involved in answering those questions. The Cable Open! weekends offered by the cable television companies, during which the majority of pay-TV channels could be viewed free of charge, also contributed to promoting digitisation.

However, the most visible element of the Group's work has been project manager Tauno Äijälä's media presence. Numerous TV and radio interviews as well as newspaper articles served to promote digitisation. The media adopted Äijälä as the “official” face of the issue. This ensured that the Group's messages have been heard even when digitisation was subjected to criticism. Simultaneously the message was communicated to the general public. Other Group members also spoke in the media on matters pertaining to digitisation.

#### **5.4. Digital promotion and digital soup!**

During its initial study, TV2007 observed that promotional events would be needed to promote digitisation. The active participation of television companies in the switchover created the opportunity for effectively reaching wide audiences. The Group's idea of a Digital Week received support from the TV companies, and two Digital Weeks were ultimately arranged by the TV2007 Group: the weeks of 12 February and 13 August in 2007.

During both Digital Weeks, digitisation was addressed on TV in a very concrete manner, on the basis of questions coming in from the public. Critical voices were also heard. Pay-TV operators were intensely involved, offering free viewing of their programming for those who had already switched over to digital.

As the moment of truth neared, TV2007 wanted to interact with the Finnish population. The solution was Operation Digipysäkki: a bus tour of seven towns during the second Digital Week in August. The aim of the tour was to answer citizens' digital questions and encourage digital penetration amongst cable viewers. The local cable operators in each town served as partners, and this was a successful arrangement. Digital soup was served in honour of the spring events. The citizens enjoyed the soup, but the issues that came up were serious: there were still people with very little information about the switchover. They were offered support in the form of contacts with the digital assistants from the Association for Educational Activity. In some locations, people lined up to receive answers to their antenna and shadow area questions. There was no need to question the importance of the Digipysäkki events or any other last-minute advisory services.

#### **5.5. Eläköön yhteys! (Links for Life) project**

Survey negotiations conducted in February-October 2006 provided a clear picture of the need and possibilities to assist senior citizens with entering the digital era. The Ministry of Transport and Communications budget was small and little support came from other administrative branches. Thus, volunteer organisations played a key role, and three outstanding partners were found during the negotiations: the Lions Club offered to serve as a national installation group, the social work services of the Tampere Evangelical Lutheran parishes attended a national hotline while the Helsinki Mission took responsibility for a hotline in the Helsinki Metropolitan Area and a large number of installation projects.

The project was called Eläköön yhteys. A total of 34 training events nationwide were organised in October 2006 and between January and March 2007, providing training to more than 1,500 Lions Club members and Helsinki Mission volunteers as well as over one hundred other volunteers in the installation of set-top boxes for the elderly. At the same time, 77 volunteer employees at service centres were trained to schedule installations over the phone. Key partners in these training events in the provinces were the local cable TV operators, who provided the premises and assisted in arranging these events.

The start of the campaign coincided with the start of the first Digital Week. The campaign received excellent publicity in both electronic and print media. The combination of volunteer work and a good intention was an effective one. Television companies provided massive visibility for the TV spots, with a cumulative audience of some 35 million. The campaign also had a significant indirect effect, as children were roused to attend to the set-top box needs of their parents and grandparents. All of this combined to achieve a snowball effect: the stores were filled with senior citizens accompanied by their relatives, and family members assisted many seniors into the digital era.

The campaign ran from 12 February to 9 March 2007 and resulted in well over 6,700 senior citizens having a set-top box installed and being trained in its use. Demand would certainly have been sufficient for a longer period, but the implemented service in relation to the appropriation and volunteer resources was a great success. A key factor in the project was the achievement of the security guaranteed to its beneficiaries: there were no unpleasant incidents and the digital installations were conducted in an atmosphere of mutual trust.

The Eläköön yhteys project was followed by one implemented by the Association for Educational Activity, in which well over 300 assistants based in a total of 105 locations were trained during February and March in 15 events organised by the TV2007 Group. Their work continued until 30 September 2007, and in total they assisted some 500 persons on the basis of roughly 1,000 contacts.

In August-September 2007, Helsinki Mission and the Lions Club organised their own assistance projects in the Helsinki Metropolitan Area that helped hundreds of senior citizens switch over to digital. A separate report has been compiled on the Eläköön yhteys project.

Eläköön yhteys 2008 served senior citizens with access to cable television between 18 February and 12 March 2008. Volunteer employees from the Association of Finnish Lions Clubs and Helsinki Mission visited 2,100 homes to install set-top boxes and provide instruction in their use. The Lions hotline also provided consultation for 700 TV households.

During three service rounds, the Eläköön yhteys project reached more than 10,000 TV households that required assistance.

## **5.6. Other projects from salesperson training to general influence**

The Consumer Agency has been an active operator in television digitisation. The materials and opinions produced by the Agency have helped to encourage citizens to switch over to digital. Good cooperation has allowed TV2007 to utilise the print materials in its own events and highlighted issues related to the rights of the purchaser and the responsibilities of the seller.

In February 2007 the Consumer Agency and TV2007 decided to implement a digital competence survey among set-top box salespeople and, at the same time, train the salespeople in the most important digital issues. The survey indicated that the sales staff in specialist stores had varying levels of competence. The training was found to be beneficial, and hopefully at least the staff at the 100 stores that went through the training process improved their ability to serve purchasers of digital devices. All in all, hundreds of people selling digital devices took part in the training in eight cities around Finland. The technical knowledge level in supermarkets was weaker than that in specialty stores. A total of 69-70 percent of salespeople knew the operating principles of digital subtitling that enables YLE's services for the disabled.

Libraries also undertook a significant project to promote the switchover to digital television. Together with the TV2007 Group and with funding from the Ministry of Education, a library project team organised a series of events across the country at 24 provincial or other larger libraries to disseminate information about the switchover and devices. The tour was a success. Libraries in the Helsinki Metropolitan Area arranged further distinct projects in spring 2007 (libraries in Vantaa) and in August in cooperation with Lions Club volunteers. During the Digital Week of 13-19 August, instruction in the use of digital devices was available in the libraries of Helsinki, Espoo and Vantaa. Libraries in the Metropolitan Helsinki Area also loaned out set-top boxes so that people could learn about them in their homes. The cable operator Welho partnered with the libraries in this undertaking.

Advisory services were also provided in some libraries before Christmas 2007 and in the week of 25 February 2008.

One of the duties of the TV2007 Group was to promote digitisation of the public sector. To this end, the Group organised a public sector discussion event, where various administrative branches assessed the situation in relation to digitisation.

### **5.7. Switchover to digital television in hospitals and facilities**

A working group of the Association of Finnish Local and Regional Authorities proposed to the Ministry of Transport and Communications and Yleisradio that the transition period for hospitals and care facilities be extended. The working group estimated that five years would be sufficient for a sensible and economic switchover to digital television. The Association based its proposal on the following reasons presented by the hospital districts:

1. Transmission of television programmes is not one of the core tasks of facilities.
2. Set-top boxes are not suitable as a basic solution for hospitals. The amount of installation, instruction and maintenance is too high. There are also problems with technology, operational readiness and hygiene regarding, for example, the use of two remote controls, extra electrical wires and the structures for wall racks to hold receivers.
3. A compact digital receiver is a basic solution, but these are not yet available at a reasonable price.
4. The transfer of digital sound to patient-specific earphones poses a problem.
5. The assessment of the condition of antenna networks is only just beginning, and the extent of the need for repair is unclear as yet.
6. The switchover to the digital television era must be possible with economically sensible solutions.

The matter was discussed among the Association, Yleisradio, and the Ministry on several occasions during 2006, and the following solution was arrived at on 30 November 2006:

1. The antenna systems of hospitals and other facilities will be upgraded to receive digital signal.
2. Effective 1 September 2007, the patients and other persons treated at hospitals and facilities shall have access to television sets on public premises transmitting the digital signal inclusive of all additional services.
3. The digitisation of all television sets will be accomplished in hospitals and facilities by 31 August 2010 at the latest.
4. In respect of those television sets that are not digital-ready on 31 August 2007, remodulation can be performed, meaning that the centralised conversion of digital service to analogue (PAL system). Remodulation shall be a temporary and supplementary solution to be implemented as part of the digital upgrade. Remodulation allows the viewing of certain channels selected by the relevant facility and permitted by the television companies with the existing analogue television sets in hospitals. The upgraded digital antenna system also allows the introduction of new digital receivers as the hospitals replace their old analogue television sets with these.
5. The procedure described above shall be restricted only to hospitals, wards of a hospital nature, and facilities providing round-the-clock care where the facility is responsible for the television sets.

The Administrative Council of YLE approved this solution on 12 December 2006. The Association of Finnish Local and Regional Authorities shall provide Oy Yleisradio Ab and the Ministry of Transport and Communications with a report of the development of digital readiness in hospitals and facilities on 31 August 2008, 31 August 2009 and 31 August 2010.

## **5.8. Many people did concrete work to promote digitisation**

Commercial operators began to develop functional device installation packages as digitisation progressed. Solutions that provided local support or advice after the actual installation appeared to be especially successful. Many consumers were willing to pay for good service.

We were able to learn about and, to a certain extent, participate in various digital projects that were established along the way. For example, the Finnish Terminology Centre compiled an excellent digital television vocabulary in three languages. In Tampere, the eTupa online information service widely distributed digital advice while the social services of the Tampere Evangelical Lutheran parishes had been providing assistance in the digital switchover long before the Eläköön yhteys project.

The TV2007 Group has also encountered many “digital angels” that have spontaneously arisen. We have been informed of housing companies that decided to voluntarily “digitise the grannies” and communities that have systematically looked after people who have difficulties with technology. Although it is impossible to measure the extent of neighbourly assistance, the extent of this has also been significant.

## **6. Evaluation of TV2007 Group activities**

### **6.1. The good and the bad**

The Group's strength lay in its direct links to central operator bodies. Information about the Group's plans reached operators immediately, thus enabling quick feedback and the necessary support. Organisations did not perceive the TV2007 Group as a competitor or as an external player because they were represented in the Group. The project manager personified the digital project and served as its spokesperson with the authority of the Ministry behind him. The Group had strong and diverse links to stakeholders, an ideal age distribution, and complementary areas of expertise, thus enabling a clear division of work that utilised each member's strengths. Extensive campaigns were implemented on a small budget thanks to the skills and determination of the organisations involved. The group was very independent in many ways– even to the extent of graphic design.

Better cooperation between the digital groups in the Ministry would have made it possible to achieve even more. Although it took time to establish cooperation with the Finnish Cable Television Association, this eventually developed into natural interaction. Special thanks should be directed to the cable TV companies operating throughout the country, which were always ready and willing to participate in diverse and constructive cooperation. Digital support staff was trained with the cable TV companies and often in their premises, advisory events were arranged and staff interacted with the people in public locations.

It was impossible for the organisations to sufficiently meet the citizens' need for antenna advisory services. We were cautiously optimistic at the time of digital switchover, when it appeared that everything possible had been done and the measures of message communications were very high. It was impossible to forecast that so many uncertain persons would leave their digital purchase to the last minute. No advisory organisation could have met those needs, and if something should have been done differently, it would have been the appointment of a strong technology guru for digitisation who had good public speaking skills.

### **6.2. Technical development and the economic boom supported digitisation**

Television devices went through a revolution at the end of the digitisation process, as flat-screen television sets finally made their breakthrough on the picture tube television market. Nearly all models in 2007 were digital (terrestrial distribution), and the steadily decreasing price level encouraged people to put new flat-screen televisions in their living rooms. The clear added value of personal video recorders also contributed to boosting sales and digital penetration.

The technology in itself also proved to be a threat as, for example, the challenges of DVB subtitling seemed to be nearly overwhelming at times. It seemed impossible to predict the effect of any attempts at change. Fortunately a balance was achieved in autumn 2007. Experience made it possible to forecast the impacts that changes on the transmission side would have on devices, and untested changes are no longer implemented.

### **6.3. More could have been done – but only with help from decision-makers**

The ministry status of the TV2007 Group's activities definitely provided more impetus – there was no need to “be afraid” of anyone or anything. This position was certainly important in terms of inspiring the interest of volunteer organisations. Organisations working with the elderly and other

groups proved to be a great opportunity with regard to solving the digital problems of special interest groups. When the extensive Eläköön yhteys project was launched, the “army-like” of the Lions Club organisation was a major benefit – information management rolled through the entire existing system.

The discovery of a joint interests and way of operating with cable company operators allowed them to simultaneously advanced their own business opportunities. In addition, the cable companies played a decisive role in the provinces when the digital assistant training events of Eläköön yhteys and the Association for Educational Activity were held. We were given access to premises, devices, experts and plenty of organisational assistance. A pace of growth that exceeded all the expectations of pay-TV also contributed to promoting basic digitisation. Many consumers decided to purchase a device because of a favourite TV programme or sporting event, and pay-TV did its part to keep digital issues in the spotlight.

The spring 2007 parliamentary election in was expected to be the “digital election”. Shadow area issues were justifiably highlighted, and this certainly contributed to accelerating decisions regarding the last gapfillers, but other more important themes also arose during the election campaign.

The Ministry of Transport and Communications made two separate proposals to the Ministry of Finance concerning the expansion of the tax deduction scheme for household work to cover information society services, and especially the purchase of services related to digitisation. The Ministry of Finance has not approved the proposals. A favourable decision would have had a decisive impact on easing the digitisation process in the most challenging groups. The deduction would have been particularly needed in the tens of thousands of antenna households where antennas had to be inspected and realigned.

Discussions were held with the Ministry of Social Affairs and Health regarding the application of the Act on Social Assistance to set-top boxes. On 5 September 2006, the Ministry of Social Affairs and Health issued a press release to the Finnish News Agency (STT) in which it emphasised that in the Act on Social Assistance a set-top box is comparable to a television, computer or mobile phone, none of which are considered to be essential expenditures. According to the release, social assistance can only be granted for the purchase of a set-top box under special circumstances. However, compensation for a set-top box can be granted to a disabled social assistance recipient for whom a television may be an important window on the world. Families that have been on social assistance for a long period can also receive assistance for the purchase of a set-top box. The Ministry did not prepare general instructions concerning the situations in which the purchase of a set-top box should be taken into consideration when granting social assistance.

Many players hesitated regarding digital issues, but the group considered the unwavering support of Prime Minister Vanhanen, the ministers of transport and communications and, as a result, the entire Government to be an important factor affecting the adherence to decision on digital issues. The public consultation arranged in Parliament on 31 January 2007 by the Transport and Communications Committee provided both the committee and the other members of parliament that were present with a clear overall picture of the digital transition and the chance to present more detailed questions regarding problem areas.

The opportunity to provide technology pioneers with something completely new was not utilised. Perhaps, for example, multi-channel sound should have been used as a motivating factor in order to turn the pioneers into proponents of the technical advantages of digitisation?

## 7 Is the work done?

The TV2007 Group arranged a “final seminar” on 19 October 2007, after which a summary of the Group’s activities from February 2006 until October 2007 was completed. The Group’s work continued until 29 February 2008. In particular, the following issues were on the Group’s work list in autumn 2007 and spring 2008:

1. A focus on getting the message to the people. The possibilities to implement advisory events aimed at the public in February in the most important cable TV cities were examined in cooperation with the cable TV companies and the Communications Group. As there was no specific need for advisory events, a decision was made to use the TV spot and the Eläköön yhteys campaign to reach those that still required assistance. The TV spots were presented more than 300 times between 18 February and 5 March 2008 on the following channels: YLE TV1, YLE TV2, MTV3, Sub, Nelonen and JIM.
2. A service campaign to support the digital switchover for elderly people was implemented in the weeks of 18 February, 25 February and 3 March 2008 throughout the country in cooperation with the Helsinki Mission and Finnish Association of Lions Clubs volunteer organisations. The social services of the Lutheran Evangelical parishes continued its work in Tampere with the Suurella Sydämellä project.
3. A media-centred digital week was not arranged, because the penetration figures were already so high that repetition of fundamental issues would have irritated citizens that had already switched over to digital viewing. However, Yleisradio’s regional operations and Radio Suomi carried many live call-in programmes.
4. Collaboration with the Helsinki City Library led to the arrangement of advisory campaigns in Metropolitan Helsinki Area libraries in December and February.

The “final seminar” held on 19 October 2007 revealed a few important issues that required further measures:

1. There are still deficiencies in device functioning. The most important of these concern problems with subtitling of Yleisradio programmes, recording, responsibility for service measures and overly long repair times, seller’s responsibility after the warranty period, and Finnish language instructions that are in part deficient.
2. New shadow areas have been found. Solutions are expected in the Kalajoki-Raahe district, the Möhkö area of Ilomantsi and the Tolonen area of Inari. The Kalajoki-Raahe area has since had its own gapfillers installed. However, a “frequency permit” for six planned gapfillers was still missing at the beginning of April 2008. The frequencies of these six gapfillers require coordination with neighbouring countries.
3. Communications and interaction between Digita and the cable television companies will be improved by drafting a written agreement concerning the procedures to be observed. Digita initiated the meetings, and in December 2007 the parties signed an agreement regarding communications.
4. Citizens do not have enough information about the single-card system of pay-TV operators in the terrestrial system or the services for the disabled offered by Yleisradio.

Communications about these must be improved.

5. Operators throughout the television sector, from importers to television and network companies and antenna contractors, will need a common forum in the future as well. The Ministry of Transport and Communications will serve as the organiser of this forum.
6. When renewing network licences, a clear coverage target should be set for network operators.
7. The imbalance between multiplexes C and E must be eliminated. The gapfillers associated with the main transmitter of multiplex C must also be brought within the scope of full service. This has been the procedure with other multiplexes.
8. The need for an independent testing organisation for set-top boxes and integrated television sets will be examined. Now only devices intended for the cable network are tested.
9. Upon the launch of any new multiplexes, details of the frequency solutions must be sent to the antenna contractors at least 10 months prior to the start of transmissions in order to allow the housing companies to complete the necessary change work.
10. Continuously updated assessments of future development, high definition television in the terrestrial network, all the different IPTV options, and mobile television will be needed to ensure the future functions of all operators in the sector.
11. Further cooperation is needed in the area of communications and advisory services in order to promote the cable transition. One argument that has been proven in practice to promote cable transition is to emphasise the ease of recording with set-top boxes with a hard drive.

The operators at the final seminar were unanimous in declaring that analogue transmissions in the cable network will end on 29 February 2008. The TV2007 Group worked to address the challenges listed above in the final stages of digitisation.

Helsinki, 3 April 2008

TV2007 Group

Jessi Frey  
*Until 30 September 2007*

Riitta Kontula  
*Until 30 September 2007*

Mika Ojamies  
*From 1 September 2006*

Pirkko Rajala

Birgitta Selonen  
*From 1 October 2007*

Mauri Vakkilainen  
*Until 31 August 2006*

Outi Vitie  
*From 1 October 2007*

Tauno Äijälä

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## Summary of the Group's stakeholder meetings in the survey stage

The project manager and members of the TV2007 Group strived to meet as many TV operators and potential partners as possible during the first six months. For example, the list includes TV operators, TV companies, pay-TV operators, device importers and retailers, authorities, ministries, civic organisations, and volunteer organisations.

<b>Company/organisation met and name of the person(s)</b>	<b>Date</b>	<b>From TV2007</b>	
Digita Oy	S. Ojala, Harno	22.2.2006	TÄ
Yleisradio Oy	Ruohomaa	20.2.2006	TÄ
Finnish Cable Television Association	J. Ojala	23.2.2006	TÄ
MTV Oy	Miettinen	23.2.2006	TÄ
Hansel Oy	Rantanen	24.2.2006	TÄ
Yleisradio Oy	Heinonen	27.2.2006	TÄ
MTV Oy	Räisänen	27.2.2006	TÄ
SWelcom	Kallioja, Jaakola	28.2.2006	TÄ
MTV Oy	Karhuvaara	1.3.2006	TÄ
Finnish Homeowners' Association	Valkama	1.3.2006	RK
Consumer Agency	Peltonen	1.3.2006	TÄ
ETPartners and Association of Home Appliance Importers (KOTEK)	Karipuu	7.3.2006	TÄ, PR
Association of Finnish Local and Regional Authorities	Kopra, Lunnas, Tanner, Rantasalo	9.3.2006	TÄ, MV
Association of Electronics Wholesalers	Herttua	13.3.2006	TÄ
TeliaSonera and Finnish Cable Television Association	Flykt, J. Ojala	10.3.2006	TÄ
Canal+	Leno	10.3.2006	
Lasipalatsi/Libraries	Salminen, Ojanperä	10.3.2006	TÄ, MV
ETK/KOTEK	Herttua	13.3.2006	TÄ
Finnpanel	Sandell, Oilinki	14.3.2006	TÄ
Welho	Nissinen	15.3.2006	TÄ
FICORA	Koivunmaa, Saari, Rasilainen, Virta, Aaltonen	15.3.2006	TÄ
Kjaerulff1 Oy	Von Zwegbergh	15.3.2006	PR
Canal Digital	Timonen	15.3.2006	TÄ
Tampereen Tietoverkko (TTV) /Elisa	Tulin	16.3.2006	TÄ
Enter		21.3.2006	TÄ
Nelonen	Louhelainen	22.3.2006	TÄ
Yleisradio Oy	Laiho, Tommiska-Jarva	23.3.2006	TÄ
City of Helsinki Social Services Department	Hirvonen	26.3.2006	TÄ
CTV	Weckman	28.3.2006	PR
Finnsat	Saarela	29.3.2006	TÄ
PlusTV	Wessberg	31.3.2006	TÄ
ET-Partners	Karipuu, Laure, Kytösaho	3.4.2006	PR

Mikrotie project, IT volunteers	Sundström	6.4.2006	PR
Consumer Agency	Puomila, Turunen	10.4.2006	TÄ, PR
Church Council	Lindqvist, Rajamäki	11.4.2006	TÄ, MV
Digita Oy	S. Ojala	12.4.2006	TÄ
Finnish Federation of the Visually Impaired	Sylberg, Möttönen	12.4.2006	TÄ, MV
Ministry of Education	Savola, Arhinmäki	19.4.2006	TÄ, MV
Maxinetti	Blom, Blom	20.4.2006	TÄ, MV
FICORA	10 persons	25.4.2006	TV2007
Association of Electronics Wholesalers	Herttua	2.5.2006	TÄ, PR
SAK	Huutola, Tukiainen, Järvinen, Vento, Juntunen	10.5.2006	TÄ
Suomen 3KTV Oy	Saarentaus	11.5.2006	TÄ, JF
Central Union for the Welfare of the Aged	Karjalainen, Salopirtti	18.5.2006	TÄ, MV
Plain Language Centre	Virtanen	19.5.2006	RK, PR
Viasat	Nordlund	22.5.2006	TÄ
KOTEK/Philips	Yrjänheikki	23.5.2006	PR
Yleisradio Oy	Tommiska-Jarva, Grenman	24.5.2006	TÄ
Helsinki Mission	Mursula	31.5.2006	TÄ, RK
Homeowners' Association / Kylätalkkarit (village handymen)	Training event	31.5.2006	TÄ, RK
FRC Volunteer Friend Service	Kanerva	12.6. and 12.12.2006	RK
Finnish Consumers' Association		14.6.2006	TÄ
KOTEK/Philips	Yrjänheikki	27.6.2006	PR
Association of Finnish Lions Clubs	Ikäheimonen	2.8.2006	TÄ
KOTEK Board		9.8.2006	TÄ
Church Social Work: Church Board	Hiilamo	15.8.2006	TÄ, MV
Central Union for the Welfare of the Aged	Karjalainen, Salopirtti	12.8.2006	TÄ, RK
Helsinki Mission	Valtonen, Mursula	9.8.2006	TÄ, RK
SOCCA Centre of Expertise on Social Welfare in Helsinki Metropolitan Area	Liikanen	9.8.2006	TÄ
Association for Educational Activity	Mäkipää, Ilvonen	9.8.2006	TÄ, MV
Finnish Federation of the Hard of Hearing and Finnish Association of the Deaf	Heiskanen, Virtanen, Härkänen	9.8.2006	TÄ, MV
KS-Antennipalvelu	Turunen (virtual meeting)	10.8.2006	TÄ
E-Tupa	Littunen (virtual meeting)		TÄ
Finnish Rotarians / Pasila Rotary Club	Salminen, Jänkälä	14.8.2006	TÄ
Association of Finnish Lions Clubs	Ikäheimonen	30.8.2006	TÄ
Ylen Hyvä charity	Kämppe	8.9.2006	TÄ
Ministry of Social Affairs and Health	Snellman, Turpeinen	11.9.2006	TÄ
Association for Educational Activity	Mäkipää, Ilvonen	17.10.2006	TÄ, MO
Association for Educational Activity	Mäkipää, Ilvonen	30.10.2006	TÄ, MO
Association of Finnish Lions Clubs	Ikäheimonen	31.10.2006	TÄ
Eero Mäkinen	Virtual meeting		TÄ

**IN ADDITION THE GROUP WAS REPRESENTED IN THE FOLLOWING:**

Digital television monitoring group	Äijälä
Digital television communications group	Kontula, Ojamies, Rajala
DigiTV Info steering group	Rajala
FICORA's digital TV technology working group and its sub-groups	Kontula, Rajala

## TV2007 Group involvement in civic events 2006-2007:

<u>EVENT</u>	<u>Location</u>	<u>Date</u>	<u>From TV2007</u>
<b>DIGI-TV BUS TOUR 2-16 JUNE 2006</b> The digital television communications group organised a bus tour of 10 towns.	Helsinki	2.6.	TÄ
	Rovaniemi	5.6.	TÄ
	Oulu	6.6.	TÄ, PR
	Kuopio	7.6.	TÄ
	Joensuu	8.6.	RK
	Jyväskylä	10.6.	TÄ, PR
	Turku	13.6.	TÄ
	Töysä	14.6.	RK, PR
	Vaasa	15.6.	TÄ, PR
	Tampere	16.6.	TÄ, RK

### **DIGITAL TV ADVANCE NATIONAL COMMENCEMENT DAY 31 AUGUST 2006**

The digital television communications group organised a civic event in the Itäkeskus district of Helsinki. Members of the TV2007 Group distributed digital information, and Minister of Transport and Communications Huovinen also took part in the event.

### **DIGIPYSÄKKI bus tour 13-19 September 2007**

TV2007 organised the tour in cooperation with cable operators. The digital television communications group organised a press conference at each stop. Minister of Communications Lindén took part in the events held in Oulu, Tampere, Jyväskylä, and Vaasa.	Oulu	13.8.	PR
	Turku	13.8.	TÄ
	Tampere	14.8.	TÄ, RK
	Jyväskylä	16.8.	TÄ, PR
	Vaasa	17.8.	MO
	Kuopio	17.8.	TÄ, JF
	Hämeenlinna	18.-	MO, TÄ
		19.8.	

### **DIGI-TV CIVIC EVENT 30 AUGUST-1 SEPTEMBER 2007**

The digital television communications group organised a civic event at the Kolmen sepän statue in Helsinki on the digital transition weekend. The TV2007 group participated in the event as advisors.

### **DIGI-TV -INFO 16 JANUARY 2008**

The Ministry of Transport and Communication cooperated with Finnpanel Oy to arrange a press conference in which the cable sector's decision to end analogue broadcasts on 29 February 2008 was confirmed.

## TV2007 Group presentations 2006-2007

<u>Convener</u>	<u>Location</u>	<u>Date</u>	<u>Speaker</u>
Pirkkola Homeowners' Association	Helsinki	21.3.	TÄ
Finnish Rheumatism Association	Forssa	25.3.	TÄ
YLE daytime call-in programme	Radio	28.3.	RK
Culminatum (Helsinki Region Centre of Expertise)	Seminar	29.3.	TÄ
Haaga block association	Helsinki	29.3.	RK
RYT (association for cooperation in the radio sector)	Annual meeting	31.3.	TÄ
Event organised by Musta Pörssi chain	Myyrmani	31.3.	RK + Welho
Turku senior citizens	digi update, Turku Cable TV	3.4.	Turku Cable TV
Leppävaara Martha Club	Espoo	11.4.	RK
Communications group press conference	Ministry of Transport and Communications	18.4.	Entire group
Kantakaupunki national seniors association	Cable / Welho	21.4.	RK
The technology supports access to culture seminar	Turku	24.4.	TÄ
FICORA, internal digital group	FICORA	25.4.	Entire group
Yleisradio staff info session		27.4.	TÄ
Regional Council of South Ostrobothnia	Seinäjoki	28.4.	TÄ
Swelcom, internal results info	Ravintola Pankki	5.5.	TÄ, JF
Media forum for digital actors	Majvik	16.- 17.5.	TÄ
National meeting of consumer advisors	Consumer Agency	10.5.	TÄ, RK, JF, PR, Digita/Siitonen and Ahonen, Welho/Orre
Viasat Launch of new channels		17.5.	TÄ
Central Union for the Welfare of the Aged	Helsinki, Malmi	18.5.	TÄ
MTV monthly sales info		19.5.	TÄ
Radio Yle 1	J. Kulmanen interviews	22.5.	TÄ
Advisory Board on the Elderly and Pensioners	STM/Carita Wuohenjuuri	23.5.	TÄ
Seminar on free cultural work	Ministry of Education	24.5.	TÄ
Adults students	Digital TV info	29.5.	TÄ
Information Society Council		31.5.	TÄ
Kylätalkkarit (village handyman) training	Digita	31.5.	TÄ, RK
KOTEK Board		8.6.	TÄ
Ministry of Trade and Industry's working group on consumer policy		9.6.	TÄ
FICORA	Staff info session	12.6.	TÄ
Media & Message	Jyväskylä	2.-3.8.	TÄ
Kuusiokunnat municipalities, IPTV project / Seminar	Töysä	4.8.	TÄ, PR
Finnish Association of the Deaf and Finnish Federation of the Hard of Hearing	Valkoinen talo (White House)	11.8.	TÄ, MV
Representatives of pension associations	Ministry of Transport and Communications	17.8.	Entire group
IT-talkkarit (IT handyman) / training	Kouvola	23.8.	RK, PR, Alpo Siitonen/Digita
Public sector digital day	Ministry of Transport and Communications	28.8.	Entire group
Digital TV event – 1 year to switch-off, the communications group plans and implements	Itäkeskus	31.8.	TÄ, RK, PR

Morning TV, digital chat and Radio Finland talk show about the digital transition	YLE	31.8.	TÄ
Huomenta Suomi morning TV programme	MTV	1.9.	TÄ
Helsinki Shipyard		5.9.	JF
Digital lecture	Myyrmäki	6.9.	RK
Studio Kymppi radio and TV entertainment club		7.9.	TÄ
Kannelmäki senior citizens	Helsinki	11.9.	RK
State pension recipients	Kinaporinkatu, Helsinki	12.9.	RK
Pori Radio and Satakunnan Kansa newspaper	Pori	12.9.	TÄ
Training event for digital trainers	Ministry of Transport and Communications	15.9.	All
Uusimaa region pension recipients	Virrat	19.9.	PR
Helsinki Association for the Deaf (HKY) afternoon club		19.9.	RK
SANT board		20.9.	TÄ
Vantaa branch of the Finnish Federation for the Hard of Hearing	Vantaa	20.9.	RK
Finnish Homeowners' Association/ regional contact persons for the Kylätalkkari (village handyman) project	Helsinki	21.9.	RK
Jakomäki, housing company customer evening	Helsinki	21.9.	RK
Good Age fair	Messukeskus	21.- 23.9.	RK/entire group helped staff the booth
Helsinki ICT	Wanha Satama	27.9.	TÄ
Nurmijärvi senior citizens	Nurmijärvi	28.9.	PR
Yle Kulmilla tour	Tampere	29.9.	MO + sponsors
Digital advisors' training events:	Helsinki/MTV's auditorium	2.10.	Entire group
	Helsinki/YLE's auditorium	16.10.	Entire group
	Turku	12.10.	TÄ
	Tampere	26.10.	JF
	Kuopio	6.11.	JF
	Oulu	13.11.	RK
Digital TV evening and device exhibition	Heinola	4.10.	TÄ, Digita/AS
Pukkila/Week of the Elderly		6.10.	PR
CEOs of cable TV companies	Ministry of Transport and Communications	10.10.	Entire group
Open house at Finnish Adult Education Centre of the City of Helsinki	Helsinki	10.10.	TÄ, JF
Syystie Service Centre, Malmi	Helsinki	19.10.	RK
Kontula Martha Club	Helsinki	23.10.	RK
	Raisio	26.10.	YLE's digital sponsor
Forssa Rheumatism Association	Forssa	26.10.	TÄ
Auranlaakso Adult Education Centre	Pöytyä and Marttila	30.10.	TÄ
Lempäälän eläkkeensaajat ja Ylöjärven eläkeläiset		1.11.	YLE/Tampere sponsor
Simonkylä senior citizens	Vantaa	1.11.	TÄ
Pitäjänmäki-Konala block association	Helsinki	1.11.	RK
Herttoniemi Church, digital event	Helsinki	2.11.	TÄ
Central Union for the Welfare of the Aged's meeting for repair advisors	Helsinki	9.11.	RK
SANT Technical Day for the antenna sector	Tampere	9.11.	TÄ
Finnish Rheumatism Association	Helsinki	10.11.	RK
Kirkkonummi Rheumatism Association	Kirkkonummi	10.11.	RK

Information session for Parliament organised by communications group	eduskunta	15.11.	TÄ, RK, MO
FICORA	Rovaniemi	16.11.	TÄ
Daycare Centre Ainola/Puotila (hard of hearing)	Helsinki	16.11.	RK
Rukatunturintie, customer evening	Helsinki	21.11.	RK
Children and New Technology seminar	Helsinki, Diaconia University of Applied Sciences	24.11.	TÄ
YLE events	Lappeenranta, Imatra	25.- 26.11.	MO, YLE digital sponsors
Finnish Rheumatism Association	Forssa	26.11.	TÄ
Malmi recreation centre	Helsinki	28.11.	MO
National Seniors/Hämeenlinna	Hämeenlinna	30.11.	RK
Finnish Club	Helsinki	30.11.	TÄ
Library project	Lasipalatsi meeting place	27.11.	YLE digital sponsors, PR
	Vantaa Tikkurila Lummes	7.12. 4.12.	
	Espoo Sello Akseli-s.		
Radio and TV Museum	Lahti	1.12.	TÄ
4H organisations, district representatives	Helsinki	1.12.	TÄ
Retired MTV employees	Helsinki	14.12.	PR

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Retired Alko employees	Helsinki	2.1.	RK
Toijala Region Ruskat Association	Toijala	11.1.	YLE digital sponsor
Kalvola pension recipients	Kalvola	11.1.	E.Mäkinen
Mellumäki Martha Club	Helsinki	15.1.	YLE digital sponsor
FICORA/foreign guests	Helsinki	11.1.	TÄ
Parliamentary Committee on Transport and Communications	Helsinki	11.1.	TÄ
East Helsinki disability pension recipients, Stoa	Helsinki	11.1.	RK
Kotka seniors	Kotka	16.1.	MO
North Helsinki Rotary Club (Käpylä)	Helsinki	22.1.	RK
Luckan meeting place, Simonkatu 8	Helsinki (in Swedish)	23.1.	RK
Hyvinkää Settlement	Hyvinkää	24.1.	RK
Parliament, public consultation	Helsinki	31.1.	TÄ
Tapanila / Uteliantien poppoo study group	Helsinki	7.2.	Welho/RL,YK
Herttoniemi Rotary Club	Helsinki	8.2.	TÄ
Radio Suomi's digital evening	National	11.2.	TÄ
Urheilukanava/basketball broadcast	National	12.2.	TÄ
All pension associations in Hartola	Hartola	12.2.	PR
MTV3 Huomenta Suomi morning TV programme	National	12.2.	JF
Urheilukanava/current affairs broadcast	National	13.2.	TÄ
A-Studio and OBS broadcasts	National	14.2.	Tä
Kumpulan Kiinteistöt Oy / 14 housing companies	Helsinki	Week 7	Welho
Finnish Adult Education Centre of the City of Helsinki	Kanneltalo, Helsinki	15.2.	RK
Public digital event	Tampere	15.2	TÄ
DIAS (Retired engineers and architects association)	Helsinki	16.2.	RK
Retired Tapiola employees	Espoo	20.2.	RK
Finnish Adult Education Centre of the City of Helsinki	Stoa	5.3.	JF
Building Trade and Home Renovation Fair 2007	Jyväskylä	10.3.	TÄ

Kontula Homeowners' Association, Kontupiste	Helsinki	12.3.	RK
The Service Foundation for the Deaf	Hyvinkää	14.3.	RK
Finnish Adult Education Centre of the City of Helsinki	Kaapeli	15.3.	TÄ
Digital cruise Melodia Oy / Viking Line	Helsinki-Stockholm	7.-9.3.	Entire group
Paavali parish senior club, 20 persons	Helsinki	19.3.	MV
Kerava national seniors	Kerava	22.3.	PR
Aurala Adult Education Centre	Turku	3.4.	TÄ
Lieto-Tarvasjoki Adult Education Centre	Lieto	3.4.	TÄ
Merikaari Service Centre	Helsinki	3.4.	RK
Riihimäki Rotarians	Riihimäki	4.4.	RK
Eira pensioners (in Swedish)	Helsinki	10.4.	RK
Pornainen Service Centre, digital presentation	Pornainen	10.4.	PR
Koivukylä library, digital event	Vantaa	12.4.	PR
Helsinki disability pension recipients	Helsinki	12.4.	RK
Kotiliesi sponsor club, Kamppi Service Centre	Helsinki	16.4.	RK
The Finnish Deafblind Association	Helsinki	18.4.	RK
Helsinki regional association for sickness and accident invalids, Kinapori	Helsinki	19.4.	RK
Housing Markets 07, Fair Centre	Helsinki	19.4.	MO
""	""	20.4.	PR
""	""	21.4.	TÄ
""	""	22.4.	TÄ
Liesitori Service Centre, Myyrmäki	Vantaa	27.4.	RK
Pohjanmaa Fair	Vaasa	28.-	TÄ
		29.4.	
Tapiola Service Centre	Espoo	4.5.	RK
Martinpuisto Service Centre	Vantaa	2.5.	RK
Sana Media Center, media breakfast	Helsinki	4.5.	TÄ
Oulu Pyrintö's digital advisory event	Oulu	7.5.	TÄ
Kouvola Homeowners' Association, spring meeting/digital presentation	Kouvola	8.5.	TÄ
Finnish Club/digital presentation for Nestor-Partners Oy	Helsinki	9.5.	TÄ
Digital cruise Melodia Oy / Viking Line	Turku-Stockholm	9.-10.5.	MO, PR
Helsinki Christian Workers' Association	Helsinki	22.5.	RK
Tuusula Rotarians / Krapihovi	Tuusula	23.5.	RK
OtaDigi Innovation Competition 2007	Espoo	24.5.	TÄ
Tikkurila Rotary Club	Vantaa	31.5.	TÄ
Tapiola Service Centre	Espoo	4.6.	RK
Finnsat spring meeting/digital presentation	Seinäjoki	8.6.	TÄ
Lions annual general meeting	Rovaniemi	9.6.	TÄ
Forsan Puhelin summer event/digital presentation	Forssa	12.6.	TÄ
Lions training	Helsinki	7.8.	Entire group
Lions training	Helsinki	28.8.	MO
Parliament	Helsinki	11.10.	TÄ, PR
Ministry of Transport and Communications final seminar (digitisation)	Helsinki	19.10.	Entire group
Finnish Cable Television Association/Ojala	Helsinki	9.11.	TÄ
Association of Finnish Lions Clubs/Ikäheimonen, Flaaming	Helsinki	15.11.	TÄ
Libraries/Sallmén, Salminen	Helsinki	16.11.	TÄ
Digita/Ojala	Helsinki	19.11.	TÄ
TV companies' frequency group	Helsinki	21.11.	TÄ
TeliaSonera/Yli-Äyhö	Helsinki	22.11.	TÄ
Ylen Aikainen radio programme	Uusimaa	29.11.	TÄ
Seminar for the Elderly	Kuopio	3.12.	TÄ
Consumer Agency	Helsinki	13.12.	TÄ

		<b>2008</b>	
USA embassy/Glenn K. Lewis	Helsinki	3.1.	TÄ
FiCom/Reijo Svento	Helsinki	4.1.	TÄ
Association of Finnish Lions Clubs campaign managers at the Ministry of Transport and Communications	Helsinki	7.1.	Entire group
Department of Communications, Energy and Natural Resources for Ireland	Dublin	9.1.	TÄ
Digita / Kiiskinen	Helsinki	16.1.	TÄ
Libraries / Sallmén	Helsinki	21.1.	TÄ
Switchover Strategies conference	London	5.-6.2.	TÄ
FICORA staff info	Helsinki	7.2.	TÄ
Minister of Transport and Communications for Colombia	Helsinki	14.2.	TÄ
Lions training	Vantaa	14.2.	TÄ, OV
Ajankohtainen Kakkonen TV programme	National	19.2.	TÄ
Huomenta Suomi morning TV programme	National	21.2.	TÄ
Ylen Aikainen radio programme	Uusimaa region	28.2.	TÄ
Pori Radio	Satakunta region	28.2.	TÄ
Aamu-tv morning TV programme	National	29.2.	TÄ
Julkinen sana radio programme (YLE Ykkönen)	National	3.3.	TÄ
Spanish TV	Interview	4.3.	TÄ
Lahti Radio	Päijät-Häme region	4.3.	TÄ
Digita staff info	Helsinki	5.3.	TÄ
AIST National Institute of Advanced Industrial Science and Technology / Ms Ayako Mizumukai	Helsinki	12.3.	TÄ

**TV operators helped to accelerate digitisation in many ways. Several examples of how the benefits of digitisation were presented to viewers are presented here. The two Digital Weeks organised by the TV2007 Group in the weeks of 12 February and 13 August 2007 were aimed at extensive media coverage of digitisation. TV operators were active participants in content production for the Digital Weeks.**

### **DIGITAL WEEK I, week of 12 February 2007**

The aim was to ensure that citizens have appropriate information about the date of the digital transition and that the media and other forums would distribute plenty of digital information. Another important goal was to promote device sales with six months to the transition.

Both the media and TV operators were involved. Pay-TV operators offered both antenna and cable households the opportunity to watch their programming at no cost. TV channels and radio stations addressed digitisation in many programmes, and the press also highlighted digitisation throughout the week.

The most important issue during the first Digital Week was the Eläköön yhteys project, which was launched at the beginning of the week. This assistance project received coverage in the news media. Further support came from the TV public service announcements presented by the TV companies, which reached a cumulative audience of 35 million.

### **DIGITAL WEEK II, WEEK OF 13 AUGUST 2008**

The aim of the second Digital Week was to increase last-minute device sales and provide the necessary information to consumers who had delayed digitisation of their homes. The Digipysäkki bus tour organised during the Digital Week clearly showed that citizens had many questions resulting from the extension period for cable switchover.

Once again the media focused strongly on digitisation, and free pay-TV introductory periods were available in both antenna and cable households. In particular, newspapers addressed the digital transition in a very factual and informative manner throughout the month of August. The information that they distributed was certainly very necessary in the opinion of a broad group of readers.

### **YLEISRADIO**

Yleisradio created an in-house digital sponsor system. A total of nearly 50 YLE employees around Finland were trained as digital experts. They answered citizens' questions, made presentations, and were also an important resource in terms of the

success of TV2007 Group events held all over the country. Yleisradio also produced its own digital campaigns involving stars of the company's television programmes. In addition, YLE's radio stations implemented many national and provincial call-in programmes in which citizens could get answers to their questions about digital problems.

Yleisradio selected Pihlajavesi as its "digital municipality" and took responsibility for ensuring its digitisation. The company also provided visibility for all TV public service announcements produced by the Ministry of Transport and Communications.

## **MTV3 AND SUBTV**

Subtv used its Analogue Family campaign to inform analogue viewers of the upcoming digital era. Both MTV3 and Subtv provided visibility for all TV public service announcements produced by the Ministry of Transport and Communications.

## **NELONEN**

Nelonen provided visibility for all TV public service announcements produced by the Ministry of Transport and Communications.

## **URHEILUKANAVA**

Urheilukanava promoted digitisation by means of information packages on digital topics that were produced in conjunction with its domestic sports broadcasts. The channel cooperated with the TV2007 Group in this work. The company also provided visibility for all TV public service announcements produced by the Ministry of Transport and Communications.

## **THE VOICE**

The Voice implemented a campaign that allowed its digital viewers to expose their non-digital friends in a friendly spirit – naturally the winner was brought into the digital era.

## **PAY-TV COMPANIES AND OPERATORS AND THE CABLE SECTOR**

Pay-TV companies, pay-TV operators and cable operators helped to advance digitisation by implementing theme days and weekends, during which all digital viewers had the opportunity to watch pay-TV programming without an operator's card and at no charge.