



MINISTRY OF TRANSPORT
AND COMMUNICATIONS FINLAND

Milestones of Digital TV in Finland -one year after ASO

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ASO: September 1.9.2007 04.00, and finally also cable 29.2.2008

- ASO = analogue switch off
- The terrestrial digital television networks (4) cover about 99.9% of the population
- Standard DVB-T, MPEG 2
- By June 2008, more than 98 % of households had a digital receiver, terrestrial 98 %, cable 98 %
- Cable households had a six months extension period until 29.2.2008.
- Now Finland is all digital!



Facts about Finland

- Population 5,3 million
- 2.2 million TV households, terrestrial/cable 50:50
- 500 000 summer houses, digital penetration 50 %
- 7 % of all households – no television!
- PVR set-top-boxes 37 % of all TV households
- 1.5 TV sets/households
- PAY TV services, 28 % of all TV households
- Satellite households, 8 % of all TV households
- More than one set-top-box in household, 44 %
- Set-top-boxes with conditional access, 72 % of all TV households
- Terrestrial pay-tv gave a boost to digitalisation
- Conditional access: Conax



THE ONE YEAR AFTER

- Viewing figures: 13 % increase in viewing 2001-2008, specially in age group 45-64, decrease in age group 15-24.
- In households having PVR (personal video recorder), time shifting is 10 % of all viewing.
- How many channels people do watch? Average 5/day, 9/week.
- Refuseniks? During 2007 and 2008 altogether 53 000 households, 2,4 % of all licence payers. The core group is students under 35 years old, 22 % is not having TV set. They are for PC!

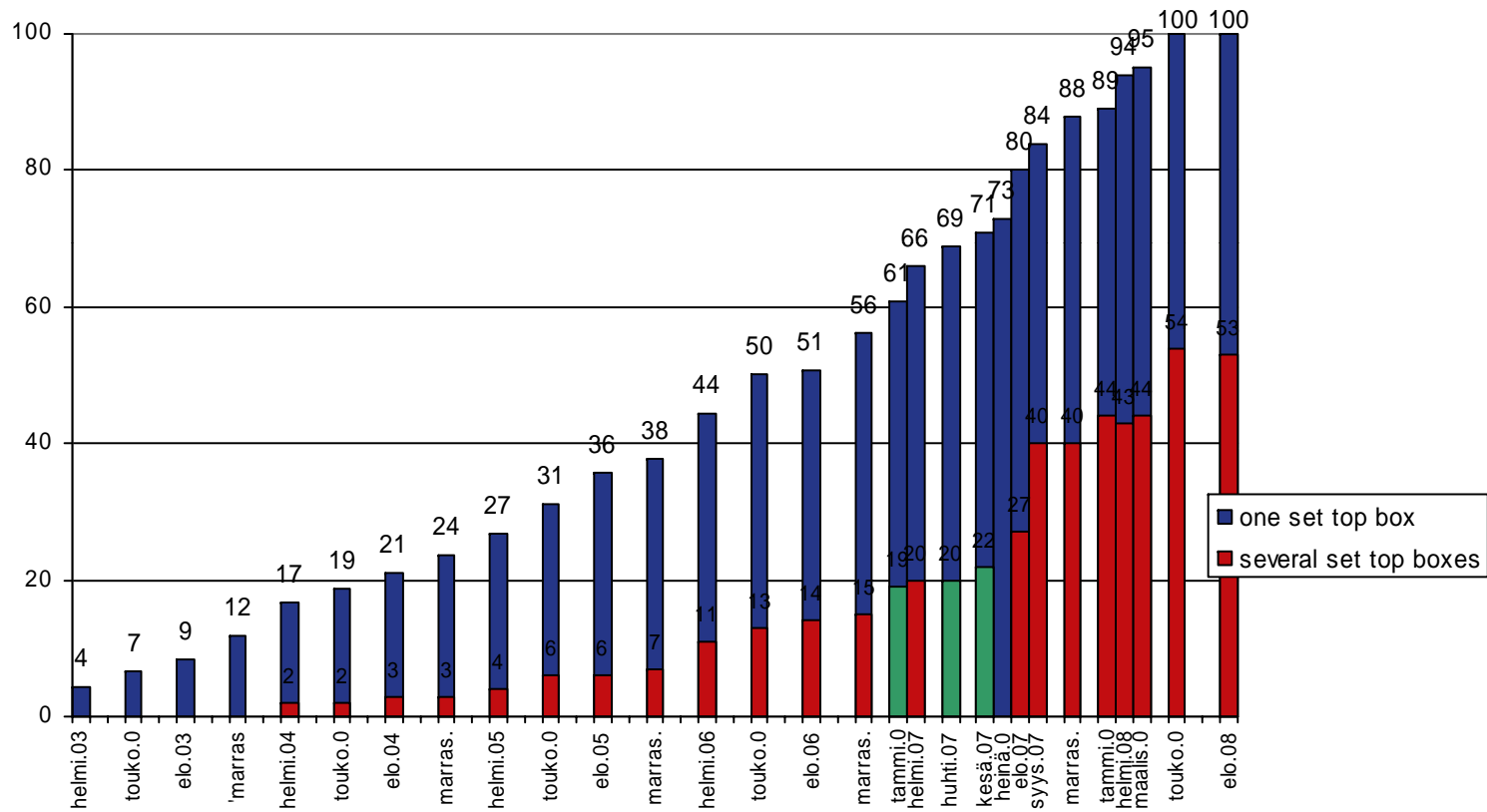


THE ONE YEAR AFTER

- Shadow areas, radiowaves cannot be reached with adequate power due to obstacles in the environment ->
- Only 1300 households in the terrestrial shadow.
- Problem solved by satellite antenna, subsidized by tv-companies, the cost per household only 50 euros + installation cost.
- Quality criteria in preparation in The Ministry of Transport and Communications i.e. reliability of the delivery system (99.9-98.8 %), standard of coverage, the quality of tv-programs (ITU-R BT.500 Standard) etc.

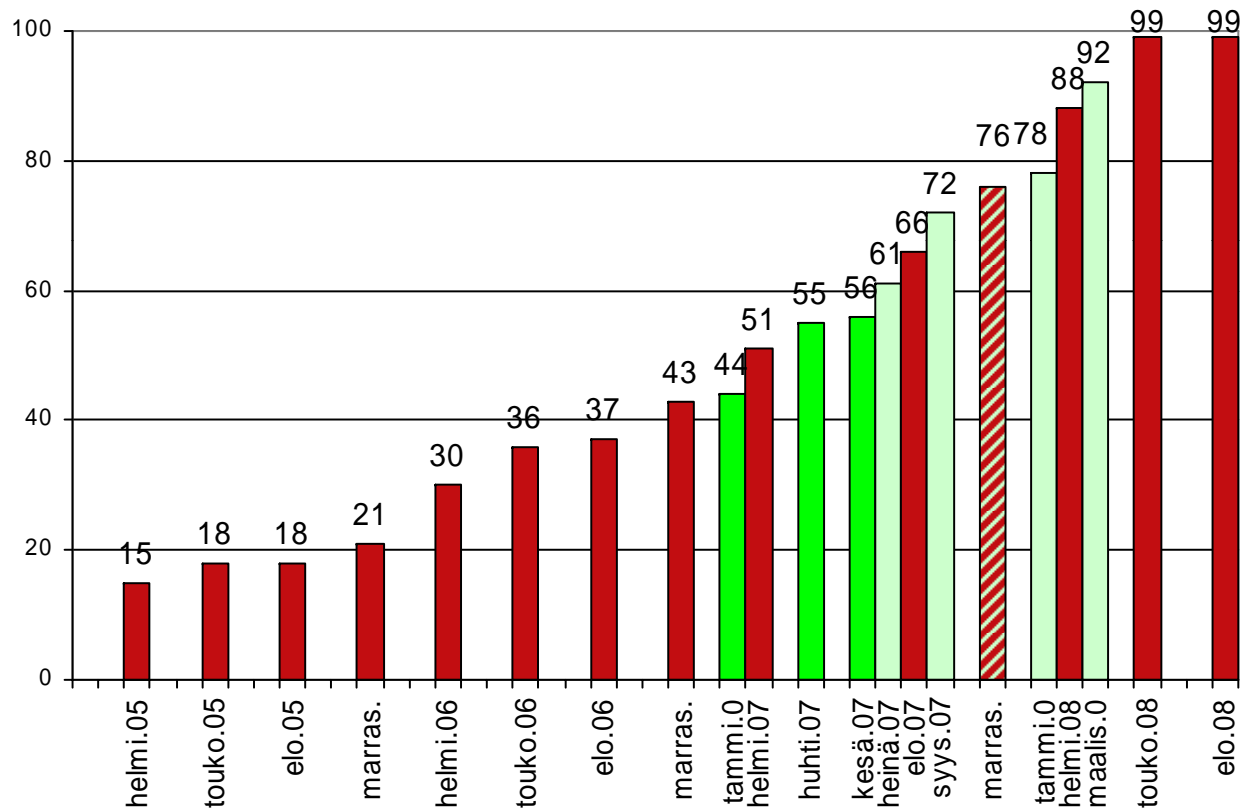


DIGITAL PENETRATION IN TV-HOUSEHOLDS AUGUST 2008



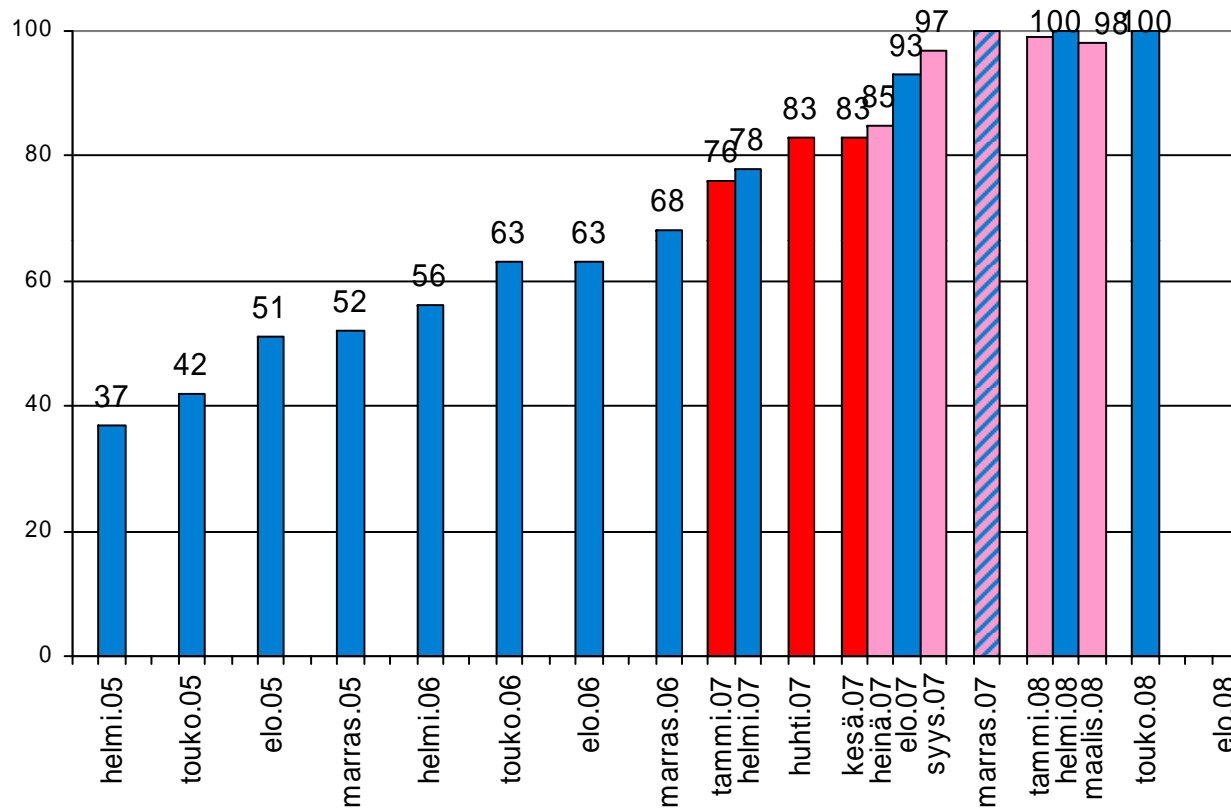
Source: Finnpanel 08/2008

DIGITAL PENETRATION IN CABLE-TV HOUSEHOLDS AUGUST 2008



Source: Finnpanel 08/2008

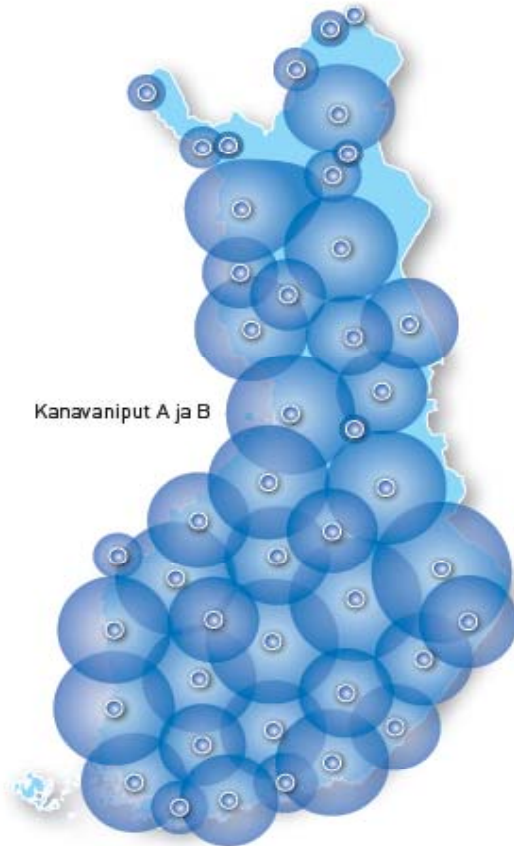
PENETRATION IN TERRESTRIAL HOUSEHOLDS, AUGUST 2008



Source: Finnpanel 08/2008

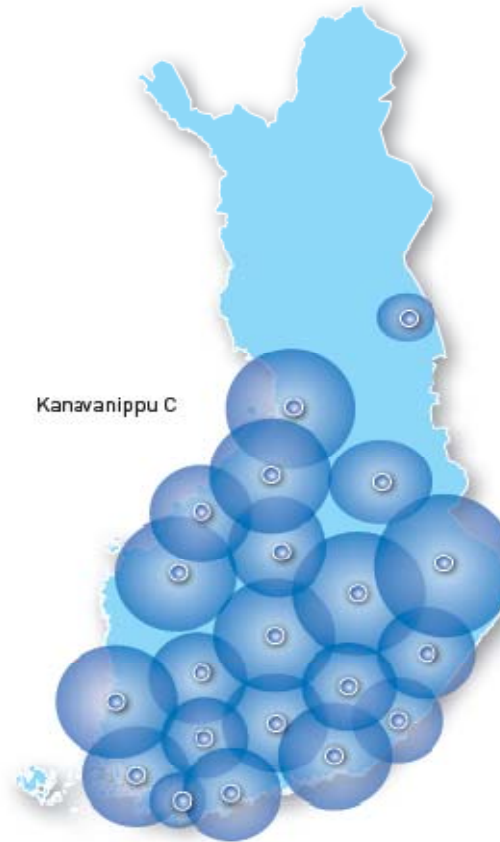


Digital Television Network Coverage

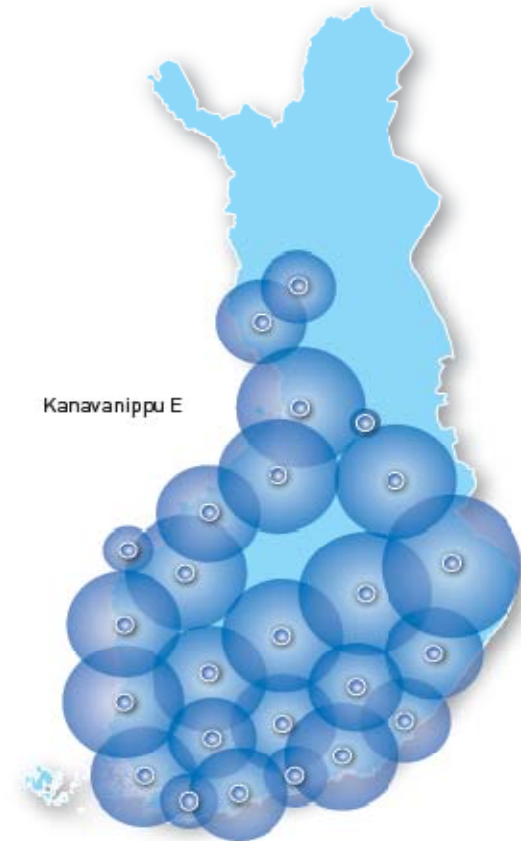


Multiplexes A and B
population coverage
99.9%

WWW.MINTC.FI



Multiplex C
population coverage
85%



Multiplex E
population coverage
95 % 5/08



DIGITAL CHANNELS AND MULTIPLEXES

Mux A
Public

YLE | TV1
YLE | TV2
YLE | Teema
FST
 svt europa *)

+ Radio channels
WWW.MINTC.FI

Mux B
Commercial

MAX *)
MTV3
SUB
 JUNIORI *)
4
JIM
 LEFFA *)

*) Pay TV

Mux C
Commercial

CANAL+ *)
CANAL+ FIRST *)
CANAL+ HITS *)
CANAL+ SPORT *)
 THE VOICE
 URHEILU+KANAVA *)
TURKU TV
 Disney Channel (12 h) *)

+ Radio channels

Mux E

Discovery Channel *)
Nickelodeon / VH1 *)
Eurosport *)
MTV3 *)
Document
Movie Channel *)
(SWelcom)



Mobile television (multiplex D)

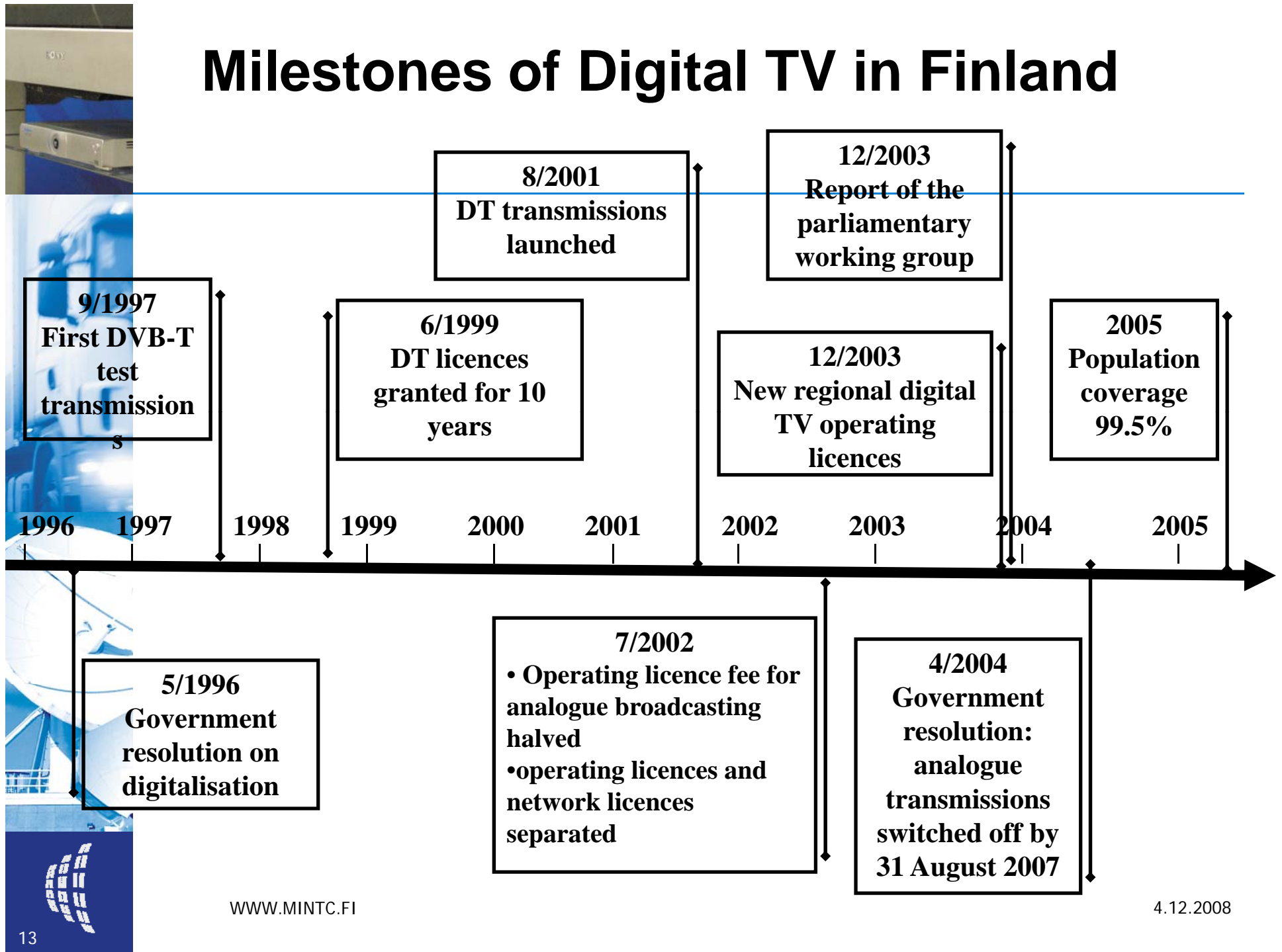
- *Network* licence issued by the Government in March 2006 (DVB-H technology)
- *Programme* licence required for television and radio broadcasting – other services need no licence
- Granted by the Finnish Communications Regulatory Authority, FICORA
- Launched 1 December 2006
- MTV3 on the air
- Mobile pay-tv is next step in near future



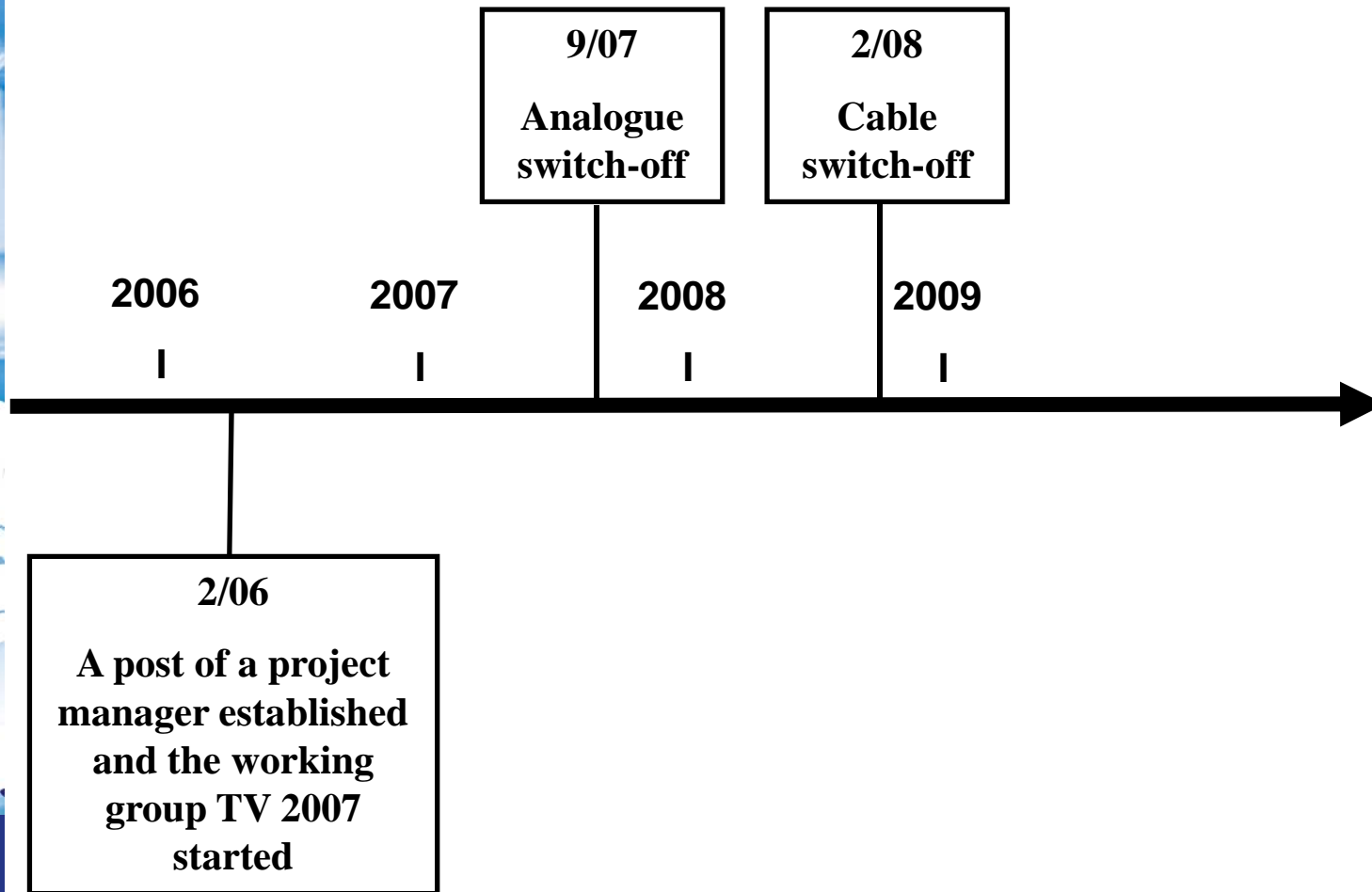
New Digital Television Services

1. Subtitling for the hearing-impaired
2. Voice subtitling
3. Possibility to choose the subtitling language
4. Improved picture quality and better sound
5. DTT is 3 to 6 times more efficient in use of spectrum
6. Reduction of future transmission costs
7. Electronic Programme Guide (EPG)

Milestones of Digital TV in Finland



Milestones of Digital TV in Finland (2/2)



WWW.MINTC.FI

4.12.2008



Digital TV milestones in Finland (1/4)



18 May 1996	Government resolution on digitalisation of television networks
23 June 1999	First digital television programme licences granted for 10 years
27 Aug 2001	First digital television transmissions (3 multiplexes)
1 July 2002	Legislative amendments
14 Nov 2002	Digital television network licence granted to Digita Oy
8 Dec 2003	Special parliamentary committee: all Finns should have the opportunity to make the switch in good time and without difficulty
18 Dec 2003	New regional digital television operating licences
4 March 2004	Government decision to switch off analogue transmissions by 31 August 2007



Digital TV milestones in Finland (2/4)

13 Oct 2004	Final report of the parliamentary working group
4 April 2005	The Ministry appointed a Committee to monitor and advance the digital switchover
2 Feb 2006	The Ministry established a post of a project manager, and the working group TV 2007 started its operations
23 March 2006	The fourth digital transmission network (D), operating licence granted to Digita Oy, Mobile
15 June 2006	The Government granted Digita Oy the operating licence for the fifth multiplex (E) in terrestrial digital television network
31 Aug 2006	Exactly one year to the switchover
14 Dec 2006	Programme licences granted for the fifth multiplex (E)



Digital TV milestones in Finland (3/4)

3 April 2007

Announcement of the Finnish Broadcasting Company YLE:

- YLE will allow housing corporations to convert digital television signal to analogue signal, provided that all households are offered the possibility of receiving digital signal as well.
- Enables the use of centralised digital set-top boxes.
- Reduces the programme supply.
- Ministry of Transport and Communications' aim: Digital set-top boxes in individual households would be the main means to watch digital broadcasts.



Digital TV milestones in Finland (4/4)

20 Jun 2007	<ul style="list-style-type: none">● Because fewer than 85 per cent of households with cable television had acquired digital set-top boxes by mid-June, the Ministry encouraged the television broadcasters to consider allowing the cable TV service providers to transmit analogue signal until 29 February 2008 to the extent agreed between the TV broadcasters and the cable TV companies.● A decision was made on 20 June 2007.
1. Sept 2007 4 am	<ul style="list-style-type: none">● Transmitting stations for terrestrial analogue network were closed down in accordance with the Government decision of 4 March 2004.● The decision has been confirmed in the new Government Programme (April 2007).
1. Sept 2007	<ul style="list-style-type: none">● Transmissions in multiplex E started. Coverage 60 % of population, from Oct 1. onwards 80 %



Legal bases: a) Broadcasting regulation

Act on Television and Radio Operations 1998

- Programme licence
- Scope: linear services on all platforms (TV networks, Internet, mobile)
- Applies to both analogue and digital broadcasting
- Notification to FICORA (*Finnish Communications Regulatory Authority*)
- Provisions:
 - Right to broadcast
 - Licensing
 - Advertising
 - Protection of minors
 - Content
 - Based on the Television without Frontiers Directive
 - The Act mainly applies the minimum rules of the Directive




b) Regulation of networks: Communications Market Act 2003

- Network licence: *...required to provide a network service that uses radio frequencies in a digital terrestrial mass communications network*
- Network licence and programme licence separate only in digital broadcasting
- General principles and obligations in the Act
- Specific obligations imposed upon companies by the decision with regard to significant market power - decisions issued by FICORA



A parliamentary working group 2003

- A unanimous interim report on 8 December 2003
- **Switchover to solely digital television on 31 August 2007**
- Comments and statements were requested from over 100 parties
- With one exception all in favour of the proposed switch-off date
- **The Government resolution on the switchover and related measures on 4 March 2004**
- **The Finnish Public Service Company (YLE) made a decision of the switch-off date on 16 March 2004**



Committee on monitoring and advancing the switchover

- Task: to monitor, advance and make suggestions needed to ensure the switchover
- Members represent all the major players, including broadcasters, network operators, authorities and cable television operators
- Appointed in April 2005, until 29. February 2008
- An intermediate report on the progress of the work was submitted in November 2006, final report was published in March 2008
- Meetings once a month



TV2007 GROUP -A COORDINATOR AND ORGANISER

- Coordination between all players in digital TV (broadcasters, operators, importers, retailers, ...)
- Coordination between public bodies (authorities, regulators, charities, councils...)
- Informing and assisting the public sector (schools, hospitals, prisons...)
- Organising national help desk- and installation services
- Organising national campaigns, informational materials and answering to public queries
- Reporting on national digital TV development
- Reporting on international digital TV development



TV2007 INFORMATION HUB

- Presentations in seminars, fairs, communities and associations
- Every public query will get a personal reply
- Informing collaborators with a monthly newsletter
- Take part in work groups that concern digital TV issues
- Solving and informing on problems and policies regarding
 - Broadcast disruptions
 - Problems with reception
 - Areas that have no digital TV coverage (shadow areas)
 - Problems with set-top boxes
 - Problems with digital TV services, such as subtitling



TV2007, WORK HYPOTHESIS

Special aid is needed by

- Over 65 –year-olds
- Single person households
- Low income households
- Inhabitants of urban areas, especially Helsinki Metropolitan area
- Also in cooperation with cable companies to encourage flats in the cable network to switch to digital



TV2007, COLLABORATORS

- All tv- and radio companies
- Finnish Cable TV Association
- Digita (broadcasting network operator)
- Consumer Agency, Communications Regulatory Authority
- Finnpanel (viewer monitoring service) and YLE viewer monitoring
- Home appliance importers and retailers
- Antenna installation contractors
- Ministry of Social Affairs and Health
- Association of Finnish Local and Regional Authorities
- National charities for the elderly
- Communications Group (Mintc)



TV2007, PROJECTS

- Hundreds of seminars, lectures and presentations around the country
- Digital TV Week
 - February 2007 → 6 months to ASO
 - August 2007 renewed → 2 weeks to ASO
- Eläköön yhteys –project 12.2.-11.3.2007 and 18.2.-7.3.2008
 - A help network for the elderly in collaboration with The Lions Club, Helsinki Mission and Tampere Evangelic Lutheran Church Charity
 - Trained 1617 volunteers to install set-top boxes for the elderly
 - 15 000 completed installations
- Retailer's sales staff training in collaboration with Consumer Agency
- Antenna Info Day 30.5.2007



Information Campaign: Organisation

- The Digital TV Information Team of the Ministry of Transport and Communications (appointed in 2003)

Ministry of Transport and Communications

Finnish Communications Regulatory Authority (FICORA)

YLE (the Finnish Broadcasting Company)

MTV3 (a commercial TV channel)

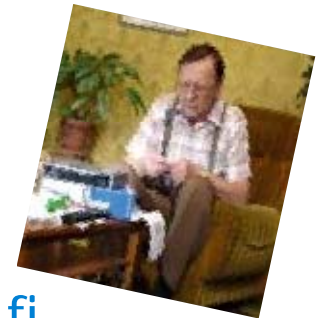
Nelonen (a commercial TV channel)

Digita (a leading distributor of radio and television services)

The Finnish Cable Television Association

Information Campaign: Communication channels

- Information through the media; participation in discussions
- Brochures and other material for target groups
- Internet sites www.digitelkkari.fi and www.digitv.fi
- Special “digi-TV info” help desk number (+358 306 34488)
- Meetings and seminars, press conferences, informal public discussions (“citizens’ evenings”), special events and exhibitions
- Advertising and publicity: TV information spots (starring a well-known Finnish actor), press and other media advertising
- Internal communications within the Ministry and other stakeholders





LEARNING BY DOING (1/5)

- Create a brand image by using a famous actor or an animated figure to promote digitalisation
- Use only a few key points in promotion: new channels, new content, better quality of sound and picture, EPG (electronic program guide)
- The carrot and the stick? Only use carrot, don't threat with the black screen
- Hire an experienced spokesman with a tv-background, strong connections to the media companies are needed



LEARNING BY DOING (2/5)

- Create a panel of experts representing the ministry, tv-channels, the distributors of tv-channels, the regulatory authorities, the consumer agency, the cable-tv-companies, wholesalers and retailers, gather and distribute the information. Use everyone's expertise
- Create a single task force to coordinate all aspects of the switch-off. The group needs to have power to make decisions and its own budget



LEARNING BY DOING (3/5)

- National and local information services are needed, to inform the consumer on proper aerial and where to direct it
- Meet the nation! Organise road shows to visit cities and market places. People have many questions – and opinions
- Set up a Digitv Info, Hotline, 3 years before ASO, financed by all actors in digital tv business, including wholesalers (help desk)
- A neutral organisation is needed to test and approve the set-top boxes



LEARNING BY DOING (4/5)

- Make sure there are enough set-top boxes available; with a variety of features in all price ranges
- Voluntary organisations are willing to help the elderly people to install their boxes
- Continuous research: penetration, attitudes, reliability, price range
- Make the decisions concerning the frequencies on time, antenna installation contractors need time



LEARNING BY DOING (5/5)

- Publish a monthly bulletin by email to all players involved aso, "what´s going on"
- Keep the government and parliament well informed
- Remember disabled, the hearing-impaired and the visually-impaired
- Follow one card principle. One card for all pay-tv services also in terrestrial network (term in license)



NEXT STEPS? HDTV?

- The Ministry of Transport and Communications Finland has a plan to launch next year beauty contest for 4 national HDTV (2 multiplexes) channels utilizing VHF frequencies (+MPEG 4) just released from analogue distribution networks.
- Still to come is 1 national UHF network, to be launched later and 1 local UHF network.
- Existing DVB T channels (MPEG 2) will operate at least until the end of year 2016 or even beyond.
- Next steps are market driven!



NEXT STEPS? BROADBAND

- At the informal session in September 2008 the Government outlined a plan to make high-speed (100 Megabits!) broadband connections available by the end of 2015 to nearly all permanent residences throughout the country, according to demand.
- Intermediate target: basic speed of 1 Mbps
- Government aid would apply to the building of networks.
- The user will still procure and pay the costs of their subscriber connection. Help credit promised.



NEXT STEPS? NEXT GENERATION?

- Plenty of HD services already available in cable and satellite + test transmissions in DTT during Beijing Olympic Games
- Mpeg4 not yet common
- DVB-TV2, next innovation? Needs again new devices
- Useless to have simulcast for empty auditorium
- Vancouver Winter Olympics next challenge!
- Content is king
- Wait and see!



NEXT STEPS. ASO ABROAD.

- Sweden, closed 15.10.2007, region by region
- Holland, closed 11.12.2006, region by...
- USA, 17.2.2009, simultaneously whole USA
- Norway, november 2009 (Mpeg4), region by...
- Denmark, 1.11.2009, region by...
- Great Britain, at the end of 2012, region by...
- Germany, at the end of 2010, region by...
- France, by the end of November 2011, region by...
- France is the first country in Europe to start also HD-transmissions in terrestrial network, DVB, Mpeg4



More Information:

www.digitv.fi

Information about digital TV
network, technological development,
channels, equipment

Thank you!