



MINISTRY OF TRANSPORT
AND COMMUNICATIONS FINLAND



Nordic Experiences in Digital Terrestrial Television

Tauno Äijälä, Counselor of Communications
The one year after ASO in Finland!

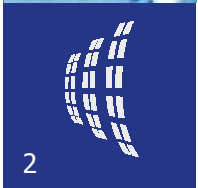


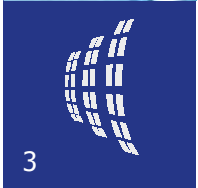
Facts about Finland

Analogue Switch Off (ASO): Terrestrial TV – September 2007 Cable networks – February 2008

- The 4 terrestrial digital television multiplexes cover about 99.9% of the population
- Standard DVB-T, MPEG 2 (launch 2001!)
- By June 2008, more than 98 % of households had a digital receiver
- Cable had a 6 months extension period.

Finland is all digital!





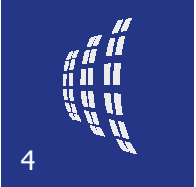
Facts about Finland

- 2.2 million TV households, terrestrial/cable 50:50
- 7% of all households – no television!
- Satellite households 8% of all TV households

After ASO:

- PVR set-top-boxes 37% of all TV households
- PAY TV services, 40% 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



Facts about Finland

LICENSE FOR DISTRIBUTION NETWORK:
DIGITA OY, OWNED BY TDF GROUP

DTT PAY-SERVICES:

Digi TV Plus Oy, 13 channels




Owned by Baker Capital and Provider Venture Partners Ab

C More Entertainment Ab=Canal +, 7 channels

Owned by Bonniers Group (previous owner ProsiebenSat1). In Finland ownership is pending.

DTT MULTIPLEXES & CHANNELS

AFTER ASO

A Public	B Commercial	C Commercial	E Commercial
99,9%	99,9%	85,0%	80,0%
			<p>Discovery Channel Nickelodeon / VH1 Eurosport MTV3 Document Movie Channel (SWelcom)</p>



THE ONE YEAR **AFTER ASO**

- How many channels people do watch?
Average 5 per day, 9 per week.
- Viewing: 13% increase in viewing 2001-2008, specially in age 45-64, decrease in age 15-24.
- Refuseniks? During 2007-2008 altogether 2,4% of all license payers. The core group is students under 35 years old, 22% is not having TV set. They are for PC!



Government: New Digital TV 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 more efficient in use of spectrum
6. Reduction of future transmission costs
7. Electronic Programme Guide (EPG)
+ PVR (Personal Video Recorder)



NEXT STEPS? **HDTV!**

- In Finland The Ministry of Transport and Communications has a plan to launch next year beauty contest for 4 national HDTV channels utilizing VHF frequencies (+MPEG-4) just released from analogue distribution networks.
- Still to come is 1 national 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!



NORWAY IN SHORT

- DISTRIBUTION NETWORK: NTV (NORGES TELEVISJON AS)
- Owners: NRK, TV2, Telenor Broadcast Holding
- 3 MULTIPLEXES + 2 MULTIPLEXES AFTER ASO

- DTT-PAY: RIKS-TV, 21 channels, 7 Free-To-View
- Owners: NRK, The Norwegian Broadcasting Corporation (state owned), TV2, Equally owned by Schibsted, Egmont and A-Pressen, Telenor Broadcast Holding, ASA's holding company, all activities in media value chain



NORWAY IN SHORT

- RIKSTV IN 15 MONTHS 320 000 CLIENTS (POTENTIAL 500 000!)
- RIKSTV TAKE CARE OF VALIDATION PROCESS FOR END-USER EQUIPMENT
- DVB-T, MPEG-4 & HDTV



SWEDEN IN SHORT

- DISTRIBUTION NETWORK: TERACOM AB
- Owner: Wholly owned by the Swedish state
- 5 MULTIPLEXES

- DTT-PAY: BOXER-TV-ACCESS AB
- Owner: Teracom AB, subsidiary

- Teracom's other services:
- Mobile-TV and Broadband Network, HDTV pending



SWEDEN IN SHORT

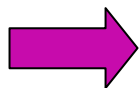
- BOXER-TV-ACCESS AB:
- 60 CHANNELS, 10-11 FREEVIEW
- MORE THAN 700 000 CLIENTS

- BOXER IS RESPONSIBLE FOR VALIDATION OF SET-TOP BOXES



Norwegian **vs.** Swedish experiences

- Swedish DTT available six years before ASO
- One month before ASO 43% of the households still had not converted their main TV-set.
- Norway: six months from opening of DTT to ASO
- Two weeks before ASO 66% have converted, 24% have made plans for what to do.
- In both countries 10 percent of the antenna-households decided to wait until after shut down



The main point is to set a date and keep it!



NOT ONLY NORDIC - IRLEAND

Three multiplexes are reserved for commercial services while a fourth multiplex has been reserved for the public service broadcaster RTE.

- The BCI (media regulator) remains flexible regarding the business model to be adopted although DTT receivers must be able to receive the free-to-air services offered by RTE.
- Boxer DTT Ltd., jointly owned by the Swedish pay-DTT service operator Boxer and the Irish media company Communicorp, has been awarded a 12-year license to operate the pay-DTT platform.
- Licensing requirements:
 - 90% minimum coverage
 - use of the MPEG-4/AVC
 - use of MHEG-5
 - availability of access services



NOT ONLY NORDIC - PORTUGAL

- Portugal Telecom has won two licenses. The first is for the operation of Multiplex A which is to provide national coverage of DTT services. The second is for the operation of 5 multiplexes, 2 which will have a national coverage of 75% of the population and 3 multiplexes with regional remit
- DTT services would be launched in 2009 and analogue services switched off by the end of 2010
- All multiplexes are expected to use the MPEG-4/AVC compression format
- An HDTV service will also be available, offering HD content from all of the broadcasters providing services on Mux A.