

Finland is among the first countries to go beyond trials to the implementation of mobile television in the market. The Finnish experiences are valuable to other countries. The paper discusses important issues in the implementation of mobile television, among them spectrum license policy and copyright policy.



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FINLAND COUNTING ON DVB-H

Finland was one of the first markets to launch new mobile services such as GSM voice calls, SMS, GPRS, MMS and visual radio. At the same time, however, Finland has lagged behind in areas such as prepaid subscriptions, handset bundling and WCDMA. After several years of tough price competition on basic services, a new spirit of innovation among mobile stakeholders has recently emerged. An example of this is the positive atmosphere around mobile TV, which is about to transform Finland into a leading market for DVB-H experimentation. What is the national strategy for this?

SPECTRUM LICENCE POLICY

The Ministry of Transport and Communications (MINTC) awarded Europe's first nationwide commercial DVB-H spectrum licence in March 2006 to Digita, a Finnish broadcast network operator (BNO) owned by the French media group TDF. The 20-year

licence limits Digita to acting as BNO and channel manager providing radio capacity to content broadcasters. Digita will operate Finland's fourth digital terrestrial multiplex, specially set aside for mobile television services.

The other applicants for the licence were mobile network operators (MNOs) TeliaSonera and Elisa, and Telemast Nordic, another BNO. MINTC's process for selecting the winner comprised two phases. First it considered the market positions of MNOs and BNOs and concluded that a BNO would provide more openness to service providers and equal opportunity to all MNOs. It then compared Digita and Telemast Nordic and concluded that Digita had stronger DVB-H technology competence and a commitment to faster roll-out schedules, which tipped the scales in favour of Digita.

MINTC decided to follow the same policy as with DVB-T in only award-

ing a DVB-H licence to a single BNO, Digita. The basis of this policy originated when the government strategically split the Finnish Broadcasting Company into two separate companies: a public content broadcaster, currently YLE, and a private BNO, currently Digita. In this instance, Finland is clearly fully implementing the EU regulatory principle of separating the provision of networks and services.



MINTC has thus far awarded five digital terrestrial multiplex licences, all of them to Digita. This policy has stabilised the market structure and hope-

fully will promote service innovation. However, the spectrum for new DVB-H multiplexes still exists and MINTC maintains the option to change its policy if necessary.

MINTC was fast in promoting DVB-H services with a new licence, but the Italian regulator was even faster. It decided that existing DVB-T licences also include the right to transmit DVB-H signals, which triggered an early roll-out of commercial services in Italy during 2006. Digita launched commercial DVB-H services in Finland in December 2006.

The licence conditions oblige Digita to build-out DVB-H coverage for the largest Finnish cities and towns so as to reach 29% of the population by the end of 2006 and at least 40% by the end of 2007. According to the licence, Digita should move from Quadrature Phase Shift Keying (QPSK) to 16-Quadrature Amplitude Modulation (16-QAM) when demand exceeds 6 Mbit/s. In addition, Digita's network should initially comply with the Nokia Open Air Interface (OA)I terminal standard and then move to IP Data Cast (IPDC) as the market matures.

PROGRAMMING LICENCE POLICY

Digita's DVB-H network is open to all content providers, including TV and radio broadcasters, MNOs, pay-TV operators and public institutions. Each content provider is required to obtain a DVB-H programming licence for its traditional TV and radio broadcasts, but not for future multimedia services. Thus far, only YLE, the public national broadcaster, has automatically received



a licence. MINTC has tabled a draft law proposal stating that the Finnish Communications Regulatory Agency (FICORA) would be entitled to automatically award DVB-H programming licences to all applicants demonstrat-

ing ability to pay the required DVB-H rental capacity. Such a liberal approach is possible because a single DVB-H signal takes up only a small fraction of the capacity of the full multiplex. Clearly, MINTC wants to keep entry barriers low for all potential broadcasters. At the same time, MINTC has set an upper limit of one third of total capacity for a single content provider, in order to ensure competition and diversity.

COPYRIGHT POLICY

The availability of 'free' content for early adopters of DVB-H handsets and services is considered important for the success of mobile TV. One efficient mechanism for implementing this objective is to extend the household-specific viewing fee for public TV channels to cover public DVB-H channels as well. At the moment, the fee in Finland is roughly EUR 200 per year per household. It should be noted that all users of DVB-H mobile handsets are required to register themselves as TV broadcasting users (and pay the standard viewing fee to YLE) if they are not already registered as members of a household with traditional terrestrial TV receivers.

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MINTC has suggested that simultaneous DVB-T and DVB-H content could be broadcast based on the existing DVB-T content agreements. This means that additional compensation for simultaneous DVB-H content would not be necessary. At the same time, however, the Ministry of Education (MINEDU) has taken the opposite view and teamed up with copyright holders' organisations by stating that separate compensation should be imposed for DVB-H. This issue is being resolved in commercial negotiations between the parties. The copyright holders recently suggested a compromise whereby the same ramp-up process should be followed as with DVB-T, which implies copyright compensation becoming gradually effective as the

number of DVB-H capable handsets increases. This DVB-T/DVB-H synergy is particularly important in Finland, because a small market with a peculiar local language can hardly generate DVB-H specific content rapidly. It is tempting to predict that DVB-H adoption in Finland will be significantly speeded up if consumers can receive public TV channels immediately without additional charges.

EARLY PILOTS

A series of pre-commercial market and technology pilots was completed on a test platform in the Helsinki area during 2004-2005. These pilots provided

necessary insight for a consortium consisting of MNOs Elisa and TeliaSonera Finland, handset provider Nokia, BNO Digita, and broadcasters YLE, MTV and Channel Four Finland (Nelonen).

The largest DVB-H pilot in March-June 2005 involved 500 participants who received DVB-H enabled Nokia 7710 smartphones for the trial period. In a questionnaire, 41% of participants stated their willingness to purchase mobile TV services. In addition, 50% of participants considered that EUR 10 a month is a reasonable price to pay. Members of the consortium considered these results promising.

Another pilot took place in August 2005 during the World Championships in Athletics, held in Helsinki. The 200 spectators participating in the pilot had access to five real-time competition feeds in addition to public TV programming. At one point the stadium was hit by a power blackout caused by heavy rain, which turned off all the TV monitors except the DVB-H handsets. Some participants at the stadium also appreciated the several seconds of delay in the DVB-H signal, which allowed them to rapidly review events they had missed while viewing another event.

Piloting has continued since November 2005 as part of the Finnish Mobile TV project driven by Forum Virium, a consortium of companies active in the Helsinki area. Forum Virium promotes pre-commercial DVB-H experimentation by providing a test platform, rental terminals and an application developer community.

FROM TECHNICAL TO BUSINESS ARCHITECTURES

DVB-H is a strongly standardised broadcasting architecture. Several large companies including Nokia, Sony Ericsson and Motorola are publicly committed to interoperability testing. Although this commitment helps to secure interoperability and availability of DVB-H handsets, it is vital for the national market – and especially a multiparty market like the one adopted in Finland – to rapidly achieve a common technical end-to-end system architecture. Due to Digita and Nokia's central roles this seems to be happening in Finland.

Digita and Nokia have signed a contract regarding the deployment of Nokia's Mobile Broadcast Solution (MBS) for the management of DVB-H content broadcasting. MBS includes support for open air interface (OAI), digital rights management (OMA DRM

2.0), electronic service guide (ESG) and consumer pricing. The key elements of the MBS architecture are Broadcast Account Manager (BAM), Broadcast Service Manager (BSM), and DVB-H IP Broadcast Encapsulator (IPE). It is likely that Digita will take responsibility for BSM and IPE whereas the MNOs will manage BAMs, one per each MNO, which means that MNOs will handle consumers and customers and manage charging and billing. Consequently, the technical structure will be mapped according to a business structure where players know their roles. Such a strict game plan does not allow much innovation with basic value networks, but may well trigger application and content innovation on top of the common service platform.

DISCUSSION

Finland has orchestrated DVB-H rollout successfully thus far, but major challenges still exist. The copyright issue of

simultaneous DVB-T/H broadcasting needs to be rapidly resolved in favour of early adopters. DVB-H enabled handsets of good cost-quality ratio must appear in shops and MNOs must be committed to marketing and selling them. Even the 'free' channels are not usable in the first generation DVB-H handsets without a SIM card in place. MNOs were left without DVB-H spectrum licences, but they have a central role as owners of the consumer interface. MNOs also have the option of taking a broadcaster's role, but so far there is little indication of that happening. Furthermore, as the bundling of mobile handsets and subscriptions became legal in Finland as of April 2006, MNOs now have more control and investment pressures over mobile handsets. It remains to be seen how willing the MNOs are to offer appealing bundles of DVB-H handsets and to negotiate revenue sharing contracts. And one final question remains: how highly do consumers value mobile broadcast services? ●

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