Broadband in Iceland – End 2004

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Abstract

Iceland is seeing reorganization of market players while the industry moves to higher bandwidth and more content services. A phase shift in broadband development occurred in Q3 2004 with ADSL2+ services, FTTH projects and TV over ADSL, thus further consolidating Iceland's position as no. 1 in Europe and at the forefront in broadband deployment in the world.

In this paper the latest development in broadband and ICT in Iceland is outlined and the government view on future broadband trends discussed, thus portraying why Iceland is an interesting case for monitoring the effects of new technologies.

Iceland introduced

Iceland has a population of about 290.000 in a country of 105.000 km^2, giving it a population density of only 2,8 people per square kilometer. However, the nation is highly urbanized with two thirds living in the capital area and 92% of the population living in villages with over 200 inhabitants. Icelanders rank among the top 10 nations of the world with the highest purchasing power per person (30200 USD as compared with Belgium 29200 USD in 2002 [1]).

Iceland is not a member of the EU, but constitutes with Norway, Liechtenstein and the EU countries the European Economic Area (EEA). EEA is based on 4 "freedoms", meaning the free movement of goods, persons, services and capital between the member countries.

Being an island far north in the Atlantic, Iceland is connected with the world through the FarIce cable to Europe, the Cantat III cable to Europe and N-America and satellite links.

Broadband in Iceland

The Icelandic ICT service market is basically a dual-poly with the incumbent operator, Landsími Íslands, (currently being privatized) and the private operator Og Vodafone competing at all level of services. Both operators have newly acquired TV production companies and distribute their and foreign TV programs. In addition to this the state TV broadcasting channel (RÚV) is currently distributed over air in analog form. Northern Lights (NL), part of the Og Vodafone group, has just started digital TV transmission over air (DVB-T) in the capital area.

The broadband infrastructure market has Landsími Íslands as the biggest player, but with the utility company, Orkuveita Reykjavíkur (OR, owned by the municipality of Reykjavík), playing an important role and the National Power Company plus a variety of others operating at different levels in selected areas of the country.

Iceland ranks at the top when it comes to Internet usage (81% of the population as compared with 50% for the EU and 77% for Sweden in 2003 [2]). Over 54% of the internet connections are made using high-speed xDSL (those are currently 1 Mbps or higher). In the capital area this number is over 62%. Over 86% of households have one or more computers.

The use of broadband is mainly driven by appetite for available services on the Internet. A recent survey [3] shows that Icelanders have a high usage level of electronic services in banking (65% of Internet users), information gathering (87% of users use the Internet for general search, while 74% read newspapers and magazines on the Internet), purchasing (25% of users purchased something on the Internet in a 3 months period prior to the survey, while e.g. 64% of them purchased travel tickets or accommodation in last 12 months) and governmental services (68% of Internet users). Use of e-mail still ranks as the most commonly used service on the Internet (89% of users).

Several Icelandic radio programs are available on the Internet, but so far only selected domestic TV programs have been made available in low bandwidth data streams. Broadband TV distribution through a fiber backbone and cable to the home has been slow in the uptake and mainly limited to new residential areas.

Recent developments

In recent months consolidation has characterized the Icelandic telecommunication market as the two big operators have acquired TV stations as well as smaller ISP and ADSL providers.

One competing factor between ADSL providers is the level of free international download as the rule is that each subscriber has to pay for this separatly. This is derived from the price operators have to pay for the international connection over the FarIce cable between Iceland and Scotland.

Current ADSLx offers in Iceland range from 1 Mbps ADSL with 100 MB free download at 45 EURO to about 20 Mbps ADSL2+ and no limit on free download, priced at about 120 EURO.

TV broadcast over ADSL is starting in December in small towns in remote areas where TV reception over air has been problematic and limited to very few programs. Several projects are being undertaken to provide video on demand services over the Internet.

The plans of OR are interesting in this respect. OR provides utility services to the capital and towns in SW-Iceland. Fiber to the home (FTTH) is one of those utilities and recently they started a project that is expected to provide 100 Mbps connection to every home in their area or

65-70% of the total Icelandic population. The network is an Open Access Network where independent providers can offer their services while OR only provides the fiber network. Trials for this system have been ongoing for more than a year now.

In the first phase 2000 (2%) homes are expect to be connected until March next year when the first services, including TV broadcast, will be launched. Depending on deployment speeds up to 15000 homes may be connected by end of 2006.

The combination of connections up to 100 Mbps and TV and video content on the network is set to change the landscape for broadcasting and Internet usage. The availability of two-way high speed connections also opens for relatively easy and affordable broadcasting to a wide or selected audience from the home or firm e.g. from family events or corporate meetings. The upstart of new creative services is a very possible option and may provide interesting economic evolution as a result.

Telecommunication

The mobile phone usage in Iceland is amongst the highest in the world with 96% of households having one or more mobile phones. The mobile GSM/GPRS network covers over 98% of the countries households, but gaps in exist on the roads outside the urbanized areas.

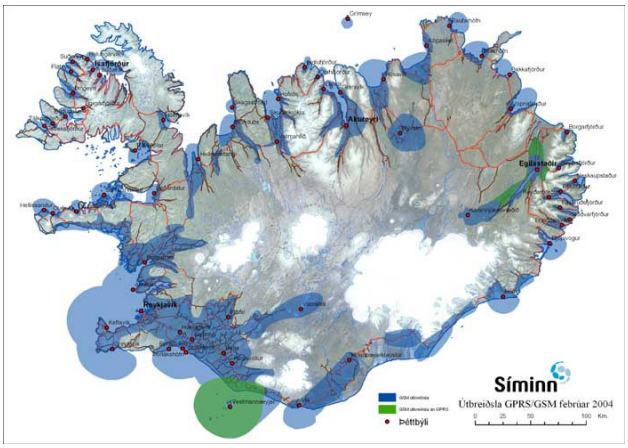

Figure 1 GSM coverage in Iceland. Source: Síminn [4].

Data services over mobile phones have been slow in the uptake although now about every third mobile phone in use has Internet connection capabilities. The two mobile telecom operators provide GPRS services, but so far no operator has expressed his intention to launch 3G services. Among services provided is the delivery of short MMS video clips on soccer goals.

Government strategy

A committee under the Ministry of Communication has formed a strategy for ICT evolution for the years 2005 till 2010. This strategy is formed with a reference to an open market place where the state has a limited act to play and where technology is breaking down the walls between communication, broadcasting and other media. The general view is that this provides new opportunity for economic development and growth. Those nations that will endorse ICT and strive to achieve its full benefit should get competitive advantage over other. For Iceland better communication helps to counter the negative economic effects of its remote location. Hence broadband deployment should be encouraged.

The ubiquitous network still has some way to go in Iceland, but the emergence of hot-spots based on WiMax (802.16) technology are the first steps in that direction. 4G mobile networks with IP traffic for both voice and data might be a natural next step for a country where 3G licenses have not yet been taken. It remains for the market players to decide if 3G systems will be needed before 4G becomes available. The regulatory environment is ready.

Iceland is a sparely populated and mountainous country making mobile coverage a challenge. The now aging NMT network is still being operated in the 450 MHz band and is covering most of the country. The CDMA450 network being deployed in Asia and E-Europe is an attractive replacement technology although no plans have been made for its deployment in Iceland.

It's the government's goal to accelerate the broadband deployment, independent of technology, but with high ambitions for availability and data speed across the country.

The government will also strive to close current gaps in mobile phone coverage on main roads and tourist locations as well as furthering the emergence of the ubiquitous network.

Conclusions

The high standard of living plus the level of education and technology awareness of the population have resulted in fast uptake of new technologies and Iceland's position as no.1 in broadband in Europe. In this dynamic and fast moving society, broadband is entering a second phase in the level of service and bandwidth that will secure its leading position and provide examples of new economic activity and human evolvement. Despite, or maybe because, of its small size and isolation, the development in Iceland will be interesting to experience and monitor in the years to come.

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