

Ostrobothnia is leading Finland's rural Fibre

Regional Council drives the roll out of FTTH

The region of Ostrobothnia is situated on the West Coast of Finland, with the bilingual city of Vaasa as its centre. It consists of 15 municipalities and is widely known for its natural beauty.

In December of 2005, the Regional Council of Ostrobothnia adopted a broadband strategy that aimed to enable symmetric 100 Mb/s - 1 Gb/s connections for households within five years. The network was to be open, allowing every service provider access on equal terms, and giving each consumer the option to select his or her own preferred services. The network was realized through a significant partnership where the inhabitants and the municipality were equally involved.

Availability of High-Speed Broadband in Finland*

"The availability of fixed broadband lines was the densest in the provinces of Kymenlaakso and Pohjanmaa (Ostrobothnia) where about 72% of permanent residences were within the availability area of the high-speed broadband network. The best availability of optical fibre lines was in Pohjanmaa (Ostrobothnia) (55%) and Uusimaa (45%)."

Municipalities ranked according to the availability of optical fibre network. Among the 10 highest-ranking, six are located in Ostrobothnia:

1. Utsjoki
2. Pietarsaari – Jakobstad (Ostrobothnia)
3. Pedersören kunta - Pedersöre (Ostrobothnia)
4. Uusikaarlepyy - Nykarleby (Ostrobothnia)
5. Luoto – Larsmo (Ostrobothnia)
6. Loviisa - Lovisa
7. Kristiinankaupunki - Kristinestad (Ostrobothnia)
8. Kumlinge
9. Lapinjärvi - Lapträsk
10. Vaasa - Vasa (Ostrobothnia)

**Finnish Communications Regulatory Authority (July 2013)*

Looking forward

"Although we had no problem with ADSL first-generation broadband in 2000, we could see that there would be need for a next-generation network in the future," explains Ulf Grindgärds, who has been working on the region's IT-infrastructure since 1999. As Special Planner, he is responsible for implementing the Regional Broadband Strategy.

In 2003-2004, getting an ADSL connection in Ostrobothnia was easy, thanks to very good telco networks. For this reason, it was very challenging to get all the parties to understand why we should start planning for FTTH. The common view was: "Why invest in FTTH when we already have all the necessary services available?"

But precisely because households in Ostrobothnia were early adopters of first-generation broadband, Ulf thought it might actually be easier for them to understand the need for more bandwidth in the future. The Ostrobothnia Regional Council adopted a common umbrella-concept for constructing the next-generation network. First, FTTH projects were founded at municipality level, in several municipalities across the region. The first step at that level was to form a working group, which started up a six-month mobilization and planning project financed by the Regional Council.

Involving the community

"Everyone in each village or town was involved, creating the most accurate picture of local circumstances and requirements possible," says Ulf Grindgärds. "After the information phase, in which people are also told what the cost will be, pre-connection agreements are drawn up, to see whether the required penetration and investment level can be reached. After recalculating to establish a price based on these pre-connection agreements, binding agreements are drawn up and the decision to build the network is made. If necessary, a community-based company - cooperative - is founded."

A community-based local FTTH-project in the municipality of Kristinestad provides a perfect example. In December 2006, the Cooperative KrsNET was founded by 30 inhabitants, after following the planning and mobilization process described above. The municipality of Kristinestad played an active role in starting up the process, but is now a 'regular' member of the cooperative. Before the roll out in a village could start, a penetration level of some 40% needed to be



guaranteed in advance, in order to keep the connection fee manageable. Network roll-out started in June 2007, and the initial phase with pioneering households, enterprises and the municipality continued until 2008. The connecting network (backbone) measured 140 km and contained some 15 active nodes. Soon, 450 homes were activated, the first Internet Service Provider was in place and the municipality had connected all its schools and other buildings.

Deployment

FTTH networks in Ostrobothnia:

Open FTTH networks (6):

- Kristinestad (Coop Krs-NET)
- Närpes (Dynamo Net Ltd)
- Malax (Bothnia Broadband Ltd)
- Nykarleby (Coop NuNet)
- Pedersöre (Coop Pedersöre Open Fiber)
- Kronoby (Coop KNT-NET)

Closed FTTH networks (3):

- Anvia Ltd (Vasa region)
- JNT Ltd (Jakobstad region)
- TeliaSonera Ltd (The City of Vasa)

“During the expansion phase, certain European Projects provided subsidies, which were dedicated to facilitating the backbone part of the network to the smallest villages – those without a village school” says Ulf Grindgärds. “The construction cost is also covered by the connection fees, which amounted to EUR 1,700 - 3,000 per connected house during the first phase of construction. This connection fee is paid in three installments and each household is offered the possibility to take a loan in local banks. During the current expansion phase, KrsNET decided to introduce a single EUR 2,500 connection fee everywhere in the municipality.



Widespread backbone

The municipality of Kristinestad is widespread, with many villages and an old, small town (1649) at its centre. Today, just about every household in the whole Kristinestad area can access an FTTH connection - even in the smallest villages. The widespread backbone and connection points made this



possible, from the year of 2009 onwards. Point to point Ethernet was considered the most future-proof option for the network. The backbone is constructed by jetting, with micro cable being blown through the tubes after they have been installed. The houses are connected with blow fibre.

The business model for KrsNET is open access and the network owner offers no services of its own. Today, some five service providers compete on the network and offer Internet, IPTV and VoIP. Companies can have their own VLANs, if required. “Today, we have about 700 activated connections in KrsNET,” states Ulf Grindgärds. “The most important next step is to sell more connections and get more households connected. It is also vital to speed up cooperation with similar neighboring open-access networks. Today, KrsNET is connected to several other networks. For the networks, this is better, as we get more services, more service providers - and more competition!”

Today the availability of FTTH in the municipality of Kristinestad is 80%. About 20% of the homes are connected.

“The big difference in comparison to ADSL is that anyone can buy an 100 Mb/s Internet connection for about EUR 22 a month. IPTV is particularly popular amongst end users, who are delighted with the network.”

Written in April 2011 / Updated in December 2013
Photos provided by Ostrobothnia Regional Council
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