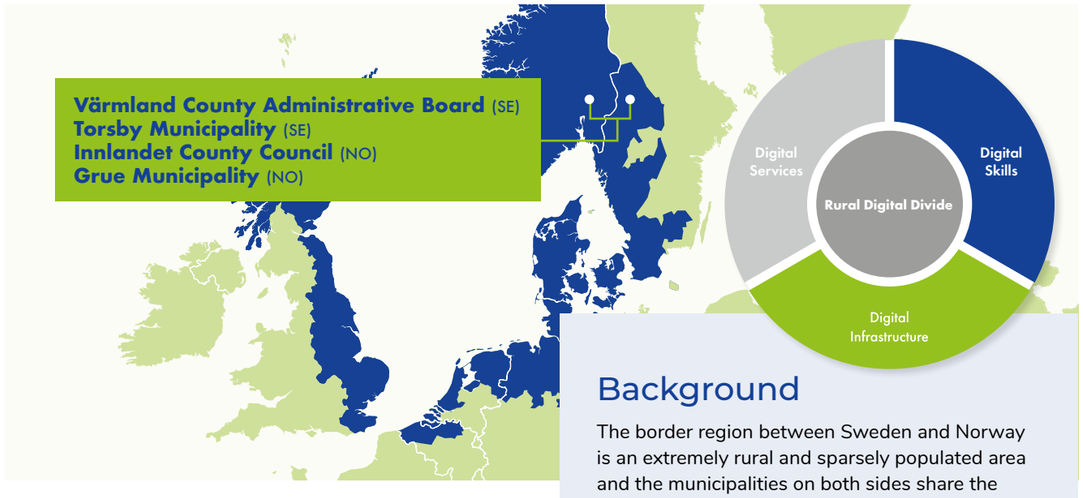
Värmland County Administrative Board (SE),
Torsby Municipality (SE), Innlandet County Council (NO), Grue Municipality (NO)

BROADEN – Broadband across border Sweden-Norway

The aim of the BROADEN – Broadband across border Sweden-Norway pilot was to provide high speed Internet access on both sides of the border between Torsby municipality in Sweden and Grue municipality in Norway. The pilot aimed to trial an infrastructure-sharing model in a transnational context with different legal and administrative frameworks. The findings have the potential to be replicated in other places along the Swedish-Norwegian border, as well as between other neighbouring countries.



Background

The border region between Sweden and Norway is an extremely rural and sparsely populated area and the municipalities on both sides share the same challenges concerning depopulation and a high proportion of elderly residents. Broadband access could help make the region more attractive for businesses and inhabitants, by improving the opportunity to work, learn and access public services, such as e-health, at distance.

Designing and delivering the pilot

How has it been designed?

Prior to this project, there were no plans to offer broadband to the most remote areas on the Norwegian side of the border. However, on the Swedish side, fibre broadband was planned, ending at a few remote villages. In this context and, with a history of collaboration between Värmland (Sweden) and Innlandet (Norway), the cross-border infrastructure sharing model was developed with the aim of providing rural border regions with superfast connections.

Who is it for?

The target groups were identified as all people living and working in the border area between Värmland and Innlandet, including businesses, public organisations, residents and tourists.

How has it been delivered?

The Sweden and Norway partnership developed an operational plan and model for infrastructure sharing. This involved extensive research with the telecommunications industry to determine technical requirements as well as identifying any differences in models for broadband expansion and legal issues. Roll out of fibre was planned from Sweden to Norway in the first instance. The physical building of the cross-border fibre started: a 'test' case, running fibre from a small town in Sweden to a small tourist site and village on the Norwegian side.

Outcomes of the pilot

What outputs have the pilot achieved?

Working with telecommunications operators and the local municipalities the pilot has developed a technical plan for cross-border fibre deployment. This is of potential interest to other cross-border regions in the EU, as well as cross-border regions between EU and non-EU countries. An underwater cable was placed into Lake Röjden/Røgden. The fibre is now extended from Sweden up to the border with Norway. On the Norwegian side, the fibre was taken from the border cabinet and extended (1.2 km, also through the lake Røgden) to a fibre cabinet at the crossing direction Svullrya. Finnskogtoppen Hotel (on the Norwegian side) installed 1.5 km fibre and already connected to this cabinet. The visitors of the Finnskogtoppen Hotel can now enjoy 900 Mbps speed (upgraded from 3 Mbps before). The partners have also held a digital inclusion seminar in Torsby, as part of knowledge sharing activities.

Wider benefits?

The technical plan containing all legal and technical requirements for a cross-border fibre sharing arrangement is potentially replicable to other cross-border areas.

Lessons learned

Opportunities for a Digital Single Market

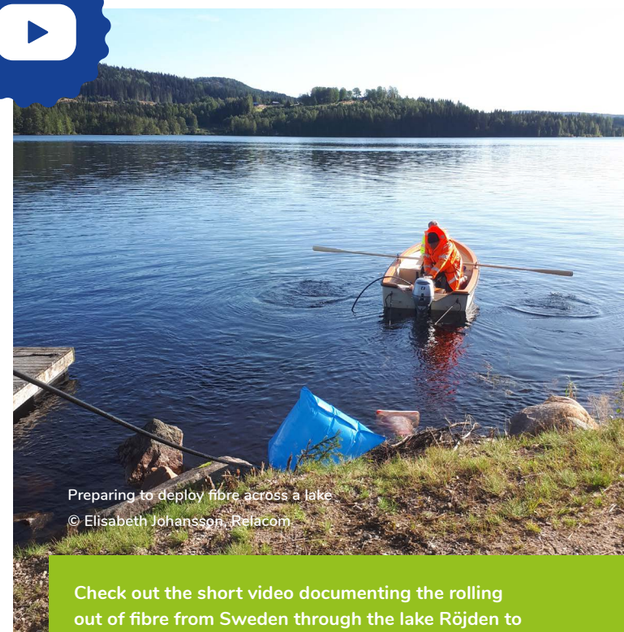
- This project has identified that there are no major legal restrictions to building fibre broadband across administrative, national and EU borders.

Challenges

- Whilst there are no legal restrictions, different business models, national broadband strategies and mechanisms for public funding across borders has been hard to reconcile, slowing project progress. Finding common ground to ensure buy-in at all political levels is important. For example, Swedish regions often use EU funding alongside national and regional funding for broadband expansion in remote areas, whereas Norway does not, and broadband expansion is mainly in areas with higher density of premises (i.e. not rural).
- If a broadband provider is located in a different country to the end-user, the end-user receives an IP address from the originating country. This can affect user experience of TV services, for example.
- The customers on the Norwegian side cannot yet buy services from Sweden. Telia Sweden offered service to Finnskogtoppen Hotel exclusively in this project, as a test case. Telia Sweden and Telia Norway now are in a dialog on how to offer services to customers on both sides.

Remaining pilot activities and future plans

Four other companies and two households that are close to the new fibre cabinet in Norway are also planning to connect to the new fibre from Sweden. The partners also intend to deliver more digital learning seminars for elderly people in Torsby (Sweden), Grue, Eidskog and Kongsvinger municipalities (Norway). Expected benefits include increased digital literacy, better digital conditions for existing and future companies and support for residents.


Preparing to deploy fibre across a lake
© Elisabeth Johansson, Relacom

Check out the short video documenting the rolling out of fibre from Sweden through the lake Röjden to the Norwegian border at https://youtu.be/p36hdkkHAVU