

Best Practice

GIS based database of broadband needs

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1. Summary

The projects target was to develop an “Atlas of broadband needs” based on GIS data.

2. Background and conditions

Lower Saxony, and thus including the county of Osterholz in the former district of Lüneburg, is an objective 1 area and in relation to other federal states in Germany a large-area state. In Germany it is hard to find detailed and specified information about the possibilities of broadband. A first step to collect data and to identify regions that are not connected was done with the “Breitbandatlas” (broadband atlas) of the German Federal Government. This broadband atlas helped to find out that the topographic conditions that influence the implementation of broadband is not only very heterogeneous. What is even more: a general observance showed that the status quo considering the coverage is even lower than surmised.

The answer for the problem was supposed to be a mix of different technologies and the attempt to strengthen and to boost the economical rivalry. At first this strategy collapsed on regional level because the calculation of profitability for providing broadband networks could not be conducted, mainly because the demand could not exactly be identified. The following points are essential to be able to calculate the profitability, but they are also hard to capture.

- Geographic
- Social



- Political
- Attitude
- Availability of Knowledge

3. Methodology

The county of Osterholz identified the lack of broadband connections very early as a problem. By supporting founders of businesses in the area of wireless networks a few solutions could be reached. Anyhow, just this kind of help often clarified how important it is to make a mixed calculation especially in rural areas to make sure the system runs economically.

In many cases this could only be guaranteed if small and middle sized enterprises, private households and public utilities got together and attached to a network.

It turned out that the following dimensions have to receive attention in equal measure:

- Potential of demand
- Topographical conditions
- Already installed infrastructure

The bottom line is that an exact analysis had to be conducted.

The regional decision makers (mayors and district administrators) decided to use a planning approach where multiple subprojects should solve the problem of missing broadband connections. A major action was to conduct a comprehensive survey resulting in a report where the need of broadband and the possibilities are documented. We will call it "Atlas of broadband needs".

4. Model of financing

The "Atlas of broadband needs" was basically financed by the department of business development. It was very important to accept the circumstance that broadband connections are part of the infrastructure supporting the economic growth. Nevertheless, the funds were quite limited. That was the reason why existing tools are integrated in the analysis.

5. Work process (implementation)

The first step of the implementation was to analyse the needs of the present and the future with the help of a questionnaire. This also helped identifying the level of detail and the possibilities of a broad survey. An online version of

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such a poll is e.g. on www.bcc-ohz.de. An essential aspect and result from this survey is that there is a relation between the need of broadband and the topographic conditions. The idea to show the results of the poll in a topographic map is obvious. At the same time the gathered data provided the opportunity to bring out the demand of broadband graphically. To manage this an efficient tool was necessary.

The Interreg IIIB North Sea Region project LOGIN allocated at that time a web based GIS system. The project was partly financed by the European Union. Because the GIS application was web based there was the possibility to integrate its data at other web sites (www.login-project.net). After it turned out that these tools proved to be very helpful for further planning processes it was tried to enter more data.



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6. Highlights

It was also tried to find more simple forms of planning. It turned out that e.g. with the help of Google Earth it is possible to plan the linear distance and altitude information (these can be gathered with standard GPS devices and route planners) between public buildings, radio antennas and other relevant points in the landscape properly. Example: the planning of the city of Osterholz-Scharmbeck for a school network.

7. Numbers

There are 1,200 communities without adequate broadband connection and 700 communities without opportunities.

8. Recommendations

We recommend the implementation of a regional atlas of broadband needs. It is important to involve the regional actors in an early stage as well as make explanations to the citizens involved. The use of a web-based system and in a simple way of Google also helps to quickly display the results of the survey and to process them easily.

9. Contact

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