

ARGE Glasfaser Waldviertel

Austrian villages build their own FTTH network

FTTH isn't just for big cities. A trio of small market villages in the northeast of Austria have installed a community-owned fibre network that is breathing new life back into the region.

The story begins in 2003 when community leaders recognised that they had a problem of high unemployment and a declining population. Located near the Czech border, near the former Iron Curtain, the region had gone into sharp decline since 1945. In one of the towns, St Martin, the number of inhabitants had fallen from 2,500 to just 1,250. To slow the exodus of young families and businesses from the region, the three mayors decided to modernise the communications infrastructure.

General Information

Country: Austria

Towns: Großschönau – St Martin – Bad Großpertholz

Project name: ARGE Glasfaser Waldviertel

At the time internet access in these towns was only possible via dial-up or ISDN connections. The incumbent operator, Austria Telecom, was not planning to serve small communities with ADSL, and the alternative operators were not interested either. So the mayors decided to take matters into their own hands by laying fibre-optic cable to every property.

Thus ARGE Glasfaser Waldviertel was created, which translates roughly as "Forest Quarter Fibre Co-operative". Each municipality owns its own duct and dark fibre, but by working together the three towns have been able to share knowledge, experiences and gain economies of scale.

The project was able to take advantage of planned work



on the sewage system to install ducts for a fibre network in the same trench as the new sewer pipes. Since civil engineering work is usually the most expensive part of

this type of infrastructure project, this made it possible to reduce costs substantially – the total cost of the network is under €1 million.

Großschönau was the first village to get fibre connections with work starting in 2005, then St Martin, with the timetable determined by the planned sewer work. And in 2009 network construction started at the resort village of Bad Großpertholz.

Today the fibre network passes more than 650 homes and small businesses, of which around 250 are receiving services over the network (June 2010 figures). The aim is to reach all 1,500 homes and 150 small businesses in the three communities by the end of 2011. And that may not be the end – other nearby villages are interested in connecting to the network.

Ironically, the biggest challenges were due to the small size of the network. The first problem was finding an operator to offer services on the network. National internet service providers weren't interested in doing business because of the small number of subscribers. In the end the three municipalities joined forces with a regional ISP called WVNET to form an independent company that now operates the active equipment on the network and offers broadband and VOIP services.

The towns also wanted to offer IPTV services, but standard

Deployment

Size of network:

650 homes passed, 250 subscribers [June 2010]

Technology/architecture:

Active Ethernet with four virtual LANs per customer

Deployment method:

Duct installed during sewer refurbishment

Time to deploy:

Installation started in 2005, due to finish 2011

IPTV solutions were too expensive for such a small number of subscribers. Again, they solved the problem with a bit of lateral thinking. They installed an IPTV system designed for use in large hotels, which was much cheaper. Of course, the solution isn't scalable to many hundreds of thousands of households, but for a small, regional network, it suits their purposes perfectly.

The network is set up as an Ethernet LAN, which allows consumers and local businesses to connect to each other at 100 Mbps for free. The IPTV server also has space for regional programming, where local residents can upload videos of local events and celebrations and then others can

view the videos in the same way as regular TV content. Local farmers helped to lay more fibre between the three towns so that the three communities could network with each other.

Despite having 100 Mbps between locations on the

Business Case

Investment:

Less than €1 million to connect 1,500 households (exact numbers not available).

Business model:

Active sharing (active equipment and services provided by same company)

Network owner:

Each village owns its portion of the network.

Network operator:

ARGE Glasfaser Waldviertel, which is owned by the three villages and local ISP WVNET.

network, it was difficult to get a reasonably priced high-speed connection to the internet exchange. The initial price quoted was more than €4,000 per month for 2 Mbps. Competition has brought prices down, and today it is possible to get 60 Mbps at the same price as 2 Mbps just four years ago – a big improvement, but still not ideal.

And while big service providers didn't want to offer services over the new fibre network, they were only too happy to compete. Suddenly, after the first customers were connected, Telekom Austria decided to bring ADSL to the towns of the region, and a small wireless ISP owned by the power utility company started offering services locally.

"The interesting thing was that a lot of the people in the municipalities said 'It's nice that Telekom Austria and EVN suddenly come and offer us something, but we are no longer interested because we have our own network,'" said Peter Höbarth, Mayor of St. Martin.

Students are returning home to study, thanks to the



From left: Peter Höbarth, Mayor of St. Martin
Manfred Artner, Mayor of Bad Griespertholz
Martin Bruckner, Mayor of Gross Schoenau



availability of fast broadband connections. Local businesses are able to collaborate effectively and share computer servers to keep costs down. The municipal authorities are taking advantage of the fibre network to improve local services, such as control of street lights and flood warning information.

The fibre network is also creating new opportunities.

End-user Services

Service providers:

WVNET is the only service provider on the network at present; it is making technical preparations to offer wholesale bitstream services to other service providers.

What's the cost?

Several different packages are available, ranging from entry level to business user. GDSL Classic is a mid-range package with 8Mbps/8Mbps symmetric broadband for €39.90/month, cheap by Austrian standards. 100 Mbps service between local addresses on the network and IPTV are included for free. There is a one-off installation fee of €199.

Latest tariffs available at: <http://www.arge-glasfaser.at>

In Großschönau, for example, they have built the first "passive house" village in Austria, which is a centre of excellence for low-energy housing. The village contains a training centre, research laboratories, an exhibition and a show home where prospective home owners can "try before they buy". All the houses are connected with fibre, so that energy consumption can be monitored remotely and the researchers can collaborate with their colleagues at the University of Vienna.

"The network has created a special regional feeling, and is helping to boost the local economy. You cannot see it in clear numbers at the moment because the project is too young, but you can see it in how our municipalities present themselves and how they start to prosper," commented Martin Bruckner, Mayor of Großschönau.

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