

Flawil: Consequent Path to FTTH



The municipality of Flawil in northeastern Switzerland is home to around 10,000 inhabitants and has chosen a resolute path into the gigabit era. The municipality's utility is using an R&M solution to create an autonomous FO network that offers a wide range of options.

The decision was clear. In March 2012 virtually all the residents in Flawil voted in favor of the construction of an autonomous,

full-coverage FTTH network. Flawil did not want to wait for the fiber optic rollout of major network operators but instead decided to take charge of things itself. TBF (Technische Betriebe Flawil) is the municipality's utility and is responsible for the project. By the end of 2018, around 5,000 connections should have been provided.

Compelling ODF capacity

Several factors are contributing to the fact that TBF will be completing its project a few months earlier than planned: professional planning, expertise and experience, smooth project organization and installation-friendly cabling systems. The R&M Optical Distribution Frame (ODF) is being used as the platform for the distributors. The experts from TBF were impressed both by its capacity and modular design.

From the middle of 2018, all buildings in Flawil will have an FTTH connection with four fibers each and a wide range of options for the future. TBF designed the network as an open dark fiber solution. Various communication service providers lease fibers, making their respective offers available to the local network.

The communal utility has been familiar with FO cabling since 1992 when the company set up its first internal FO connection. It was used to quickly exchange data between two sites. Gradually other FO routes were set up for steering the gas, water and electricity supply. Soon there were two backbones available – a northern ring and a southern ring.

Early on TBF opened up the local FO network to external users, including the

communication network of the authorities and municipalities of the canton of St. Gallen (Kom SG). GAS&COM AG, a provider of FO connections with high-security requirements, also leases fibers.

Starting signal and financing

As TBF was celebrating its centenary in 2011, it was also ringing in a new era. Flawil was to be provided with full-coverage FTTH and gigabit-speed Internet – a considerable advantage for the more than 10,000 inhabitants of the municipality.

The company was determined to manage the investment of more than CHF 10 million itself. «That is one of our USPs: We do everything ourselves and the citizens place great confidence in us,» explains TBF project lead Andreas Lämmlin. «We will be reaching the profit zone earlier than planned because we have had paying customers from the beginning,» says Andreas Lämmlin.

«The capacity and modular design of the ODF from R&M convinced us.»

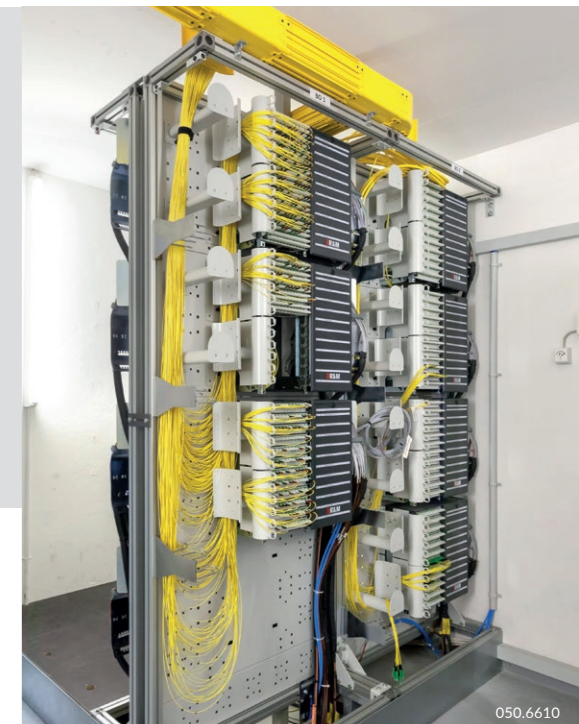
Andreas Lämmlin, project lead TB Flawil

Distribution centers

Compact, modular and above all cost-optimized R&Mfoxs ODF solutions are used in the POP and substation distribution centers. The ODFs were expanded with the backbone and then extended with insertions depending on the expansion area, fully complying with the «pay as you grow» principle.

New high density insertions were mixed with standard insertions to clearly separate the backbone and subscriber, and thus keep costs low.

The flexible R&Mfoxs modules were used to realize optimal wall solutions in the different sized substations, some of which have restricted space.



Distribution center with the R&Mfoxs system: Among other things, 311.5 km of micro cable with 12-72 fibers as well as 35.5 km of feeder cable with 288-576 fibers were used



Technische Betriebe Flawil

Many customers – strong partner

TBF secured its customer base with the acquisition of two local cable TV networks. This gave the utility easy access to a lot of residential properties. The coax infrastructure was replaced by FO cabling.

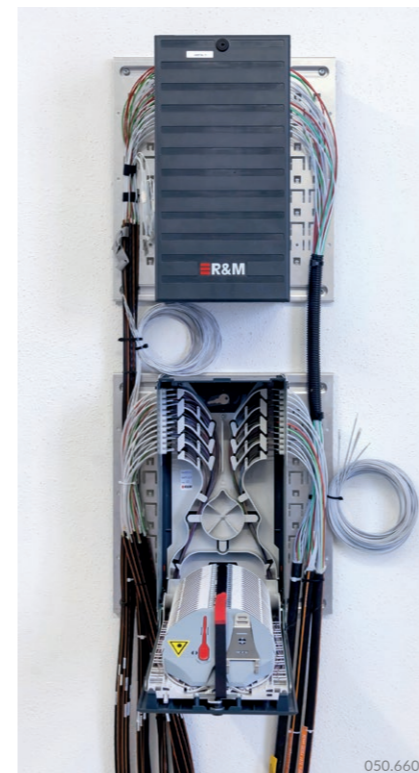
«It is a better idea to replace an old network than construct an additional one. That brings a certain basic load,» sums up Andreas Lämmlin. For subscribers, it is best when they can receive as many services as possible from one standard, new FO network.

Furthermore, Swisscom became a strong cooperation partner of TBF: It uses two of the four fibers for each house and does not have to set up its own FTTH network in Flawil. Instead, Swisscom contributes to the capacity usage and financing of the infrastructure.

OTO as service area interface

The redundant FO network consists of a ring with four POPs and 26 substations. Star cabling radiates out from these stations to residential and corporate buildings. TBF lays a conduit with FO cables into each house or if possible uses existing conduits.

Local electrical installers are commissioned by TBF to assemble the service area interface. This consists of the Optical Termination Outlet (OTO) from R&M. Local partners chose OTO as their favorite because it is easy to install. TBF does not provide any other equipment. This keeps the infrastructure lean, clear-cut and inexpensive. The subscribers or house owners adapt the infrastructure inside the buildings themselves and establish the connection to the OTO.



Service area interface: ODF splice module from R&M



Andreas Lämmlin, project lead TB Flawil (left); Thomas De Steffani, R&M Switzerland (right)



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