MICOS TELCOM

A **PREFORMED** LINE PRODUCTS COMPANY

Case Study
Určice in the Olomouc Region

BUILDING A FIBER OPTIC NETWORK with the GPON Technology Using the Micos Telcom Products

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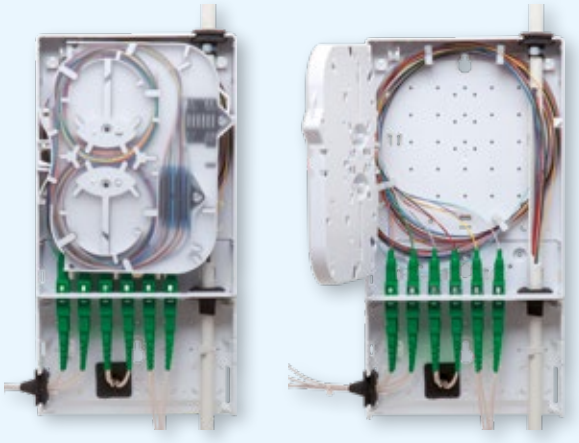
Určice in the Olomouc Region

In this case study, we want to show you a pilot project undertaken by PVfree.net to build a modern fiber optic network in the small Czech village of Určice in the Olomouc Region, using only Micos Telcom products. The project, which was initiated in 2017 with a feasibility study, is divided into several stages, and the first stage is now being completed.

It will be a standard NGA network based on the GPON technology. The entire network will be passive with 2-stage splittering. PVfree.net has combined its construction completely relocating the cable lines into the ground, including public lighting and electricity. It had to negotiate with other parties, such as E.ON, and fit the project into the master land-use plan.

The microducts are thus being extended to the entire municipality via shared routes, with a core route length of more than 10 km and more than 50 km with all connections. The microducts are in a wrapped double protector, which is easier to handle. The microducts are retracted into this sleeve or the route is prepared in advance and laid in full.

The microducts are terminated in each building in the Fiber Optic Box MTeH EASY, which also houses the ONT equipment and finishes the investor's network. This option was chosen, putting the ONT equipment, the gasblock and the splice into one element, which Micos Telcom supplies with all accessories. The only thing coming out of the box is a UTP cable for connection to the home LAN.



MTeH EASY

A simple wall-mounted Fiber Optic Box designed for indoor installation. It can be used especially in FTTH networks. The box is suitable for storing pre-connectorised cable or blown cable reserves and for subsequent splicing only when the customer needs to be connected. It can also be utilised as a distribution box in smaller buildings or as a floor box.

- Easy installation
- Cable reserve storage before customer connection
- Capacity of up to 6× SC duplex or LC quad
- Ability to install a loop-through cable

For the distribution points, PVfree.net chose the Fiber Distribution Hubs ORU 1 SDF SIS (for less dense areas) and ORU 5 SDF SIS.

ORU 1 SDF SIS

Splitter concentrator Fiber Distribution Hub with tiltable frame for mounting up to 5 SE cassette modules, for terminating or connecting Fiber Optic Cables blown in microducts or buffer tube protectors. The box design allows it to be used both indoors and outdoors. The box is installed in an open space in a trench.

- Capacity of up to 144 splices
- Capacity of up to 48× SC simplex or LC duplex Optical Adapter
- Number of SAFeTNET cassette modules max. 5 pcs
- Fiber optic reserve storage up to 4 m

ORU 5 SDF SIS

Splitter concentrator Fiber Distribution Hub with tiltable frame for mounting up to 10 SE cassette modules, for terminating or connecting Fiber Optic Cables blown in microducts or buffer tube protectors. The box design allows it to be used both indoors and outdoors. The box is installed in an open space in a trench.

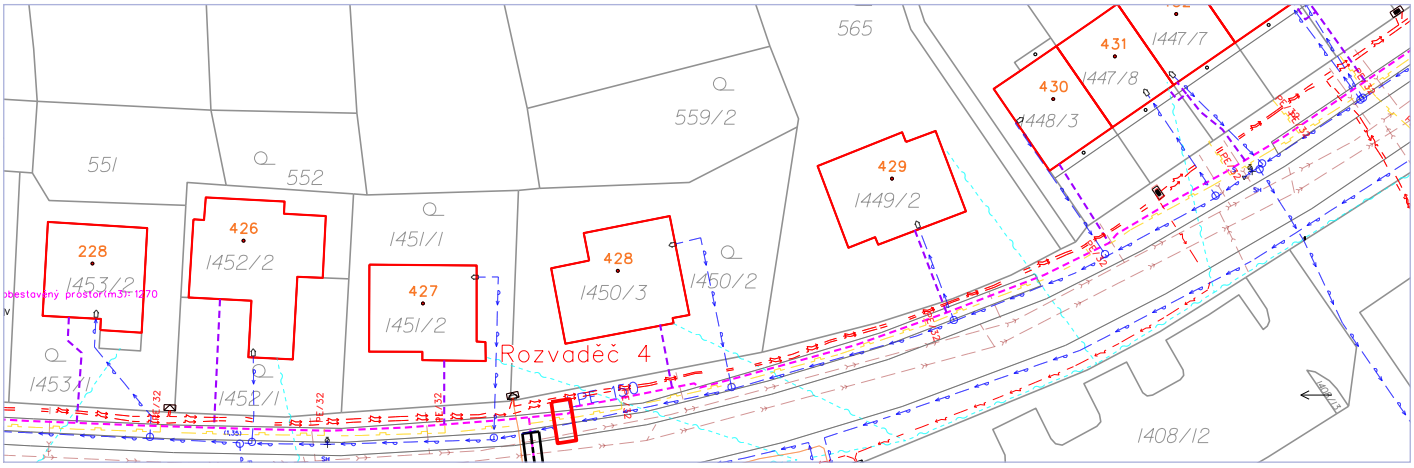
- Capacity of up to 432 splices
- Capacity of up to 288 connected participants
- Number of SAFeTNET cassette modules max. 10 pcs
- Fiber optic reserve storage up to 4 m

Households are connected to the network via connector termination. Connection can thus occur at any time in the future. However, if the household decides now, PVfree.net will cover all costs, including puncture and installation. So far, over 90 households have been connected to the network. In total, up to 300 households are expected to be connected.

As the majority of the costs are related to trenching and cable laying itself, the project will not be able to connect more remote parts of the village with only a few houses. The project assumes an average cost of €800 per connection, whereas connecting each household simply has to be worthwhile.

One issue also had to be addressed in the project documentation. The location of the central active OLT element throughout the network after its final completion does not match the needs of the first phase. Therefore, a temporary location had to be planned, which could be easily changed after the entire network is completed. The topology of the whole network was designed keeping this in mind.

In addition, the entire network was designed for gradual expansion. There will be further stages of the project – other parts of the village, such as Dubského, Trpínky, the former monastery and rectory and Školní. In the future, it will be sufficient to approve the extension and start construction immediately.



About Micos Telcom

The Micos Telcom company has developed, produced and supplied passive components for fiber optic networks since 1990 with a wide range of strong and resistant products with perfect adaptation to customers' needs. It takes extra care and steps to ensure its certified EU products are easy for its customers to use. Since 2019, it has become a part of the Preformed Line Products company. Since 2020, it has developed and implemented a longstanding Centre of Excellence for telecommunications and FTTx optical networks.

And what does Vladimir Palík, Chief Designer, say about Micos Telcom?

"This is our first cooperation with Micos Telcom and its products. We appreciate the carefully prepared catalog, we can immediately see the maximum capacity of each product. I also participated in a training session directly at Micos Telcom, led by Ing. Titz. I also visited their showroom several times before the cooperation started. So, it was more or less a safe bet then. Today we can see how Micos Telcom products are more durable compared to the products we have tried in the past, and spiders, slugs and other vermin cannot get into the parts that should remain clean. One of the things I also like about the products is their aluminium splitter holder, the cassette mandrel and the tilting mechanism."

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