

# Design and Planning of FTTX networks

You will learn to plan your fiber optic network to the end user!

In this unique and practical course you will receive guidance in how to plan and build the network to the end user, the FTTX network. This network is a combination of standard ducts, micro ducts, micro-cable and blown fibers and attached to these are network equipment in the form of equipment for the termination, fiber outlets.

As a starting point Swedish Electrical Commission Manual SEK434 edition 2 will be used.

## Contents:

### Day 1

The course begins with a theoretical part and the presentation of the passive components used in the installation of fiber optic networks.

- In the briefings on day 1 will be presented; micro- and standard ducts, various types of blown fiber, micro cable, blowing equipment, approaches to the design of various networks such as networks in apartment buildings, an area of apartment buildings and a residential area
- Draft documentation of FTTX networks
- The different networks and node type that can potentially come into contact with the FTTX network, name, etc., approved by CENELEC

Following this thorough examination, participants will be divided into different groups. Each group will be using maps and diagrams make planning and costing over three to four different networks.

A short practice task but a simple cost estimate for fiber installation in a multi-family building will end day 1.

### Day 2

#### Exercise 2

Grouping to design, cost estimate and time estimate the construction of a network incorporating 28 apartment buildings in an area. Here, we also discussed what parts of an FTTX network which costs a lot in implementing such as materials cost versus the electronic equipment versus digging cost and man hours.

#### Exercise 3

During the afternoon the group will begin to solve similar tasks but for a dense residential area with a total of 127 row houses.

In this task is discussed such things as rights of way, easements, proper placement of the ducts into any real estate, etc. and the same problems as in task 2

## Day 3

Continuation of task 3

Task 4, will be more like a schematic think through a real area for FTTX networks in which buildings are a mix of single family houses and small apartment buildings. During the work it is interspersed with suggestions for simple link calculation and draft documentation for FTTX networks.

This course is for:

Those who work as network planners or if you transfer from copper to fiber network designer.

Course Objectives:

You will after the course be able to plan an FTTX network based on fiber optic and establish a preliminary economic analysis of the conclusion of passive components and labor costs.

You will be familiar with the latest advances in fiber optic installation techniques.

Requirements:

You should have knowledge of optical fiber, fiber optic cables, and installation of networks (optical or electrical) in general.

Course duration:

3 days