

FTTX Solution Design

- Increase reliability
- Find the best design strategy
- Increase return on investment
- OSP design
- High Level Design

Architecture Optimization

- Costs projection
- Capacities calculation
- Availabilities integration
- Services eligibility
- Shortest path, Lowest Loss path, Lowest cost path
- Complex optimization algorithms

Losses Simulation

- Losses calculation for all links
- Lowest Loss links calculation
- Ready-to-use OTDR Tables for ground confrontations

Previews

- Multi-Format GIS layers
- Oriented Graphs generation

Reports Generation

- Global technical report
- Specific link report
- Costs, capacities, Losses, equipment, sites, links reports
- Labelling report
- Recommendations report
- On-demand report

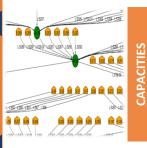
Products

- Parcelling GIS generation
- Auditing existing optical networks
- Multiple levels and networks planning
- Specific guides generation

Engineering Department

VOP solution provides reliable estimates of costs and revenue of your FTTX project. Solutions include smart GIS-based calculations of cost per site passed, customer connection costs and any point to point link in the architecture. For each output we generate a precise Bill of materials and a geographical network preview, giving you a global insight of the cost structure and proposed design, fitted to the specific situation in your area.





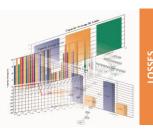
During the process, VOP solution takes into consideration the capacities of all sites and equipment. The simulation result gives an insight of the remaining capacities for future evolution or eventual changes of the project. This approach is ideal for integration of different projects and -force-majeure- cases. Daily reports are edited and shared to alert about critical achieved values.

AVAILABILITIES

COSTS

Available equipment, civil constraints, urbanism limitation and ground features are considered in all our simulations. These availabilities can be used as inputs parameters of the project and can be added during the project process. Different scenarios can be generated for the same case or sub-case.





Our simulation result gives a ready-to-use losses reports for all spans of the architecture, including theoretical losses of passive equipment (splitters, splices, connectors...). Ready tables can be used during the deployment phases for OTDR confrontations by considering tolerance and acceptance values.



Onsite Classes

- Theoretical courses
- **Practical courses**
- Fundamental training sessions
- Advanced courses

Fiber Optics for Utilities

Introductory to intermediate

Fiber Characterization

For engineers, planners, project managers, construction and operations staff

Custom Fiber Optics Training

We create a course catered to specific skill levels and subject matter.

FTTX Training

- FTTH architecture, network design, deployment technology, and operational skills
- FTTH network field configurations, design benchmarks, and installation parameters
- Courses based on real casestudy

Development

- Toolboxes development
- Advanced complex functions

Research

- Quantum Algorithms
- Quantum security: Application to cybersecurity
- Quantum Query Language etc.

◀ Training Department

CONVINIENCE

DEVELOP EXPERTISE

We bring our training classes to your site. Our experts are available to move to your country. Courses are given in English, French or Arabic

COST & TIME SAVINGS

Minimize travel time and expense to and from a public class. Also, your staff's time will be spent focused on issues specific to your company's business.

For practical courses, we use your own equipment. Your team learn and evolve in a familiar context and conditions

A custom course can be any length: one day, one week, or longer. It can take place at a time and place most convenient to your organization. Sessions can be scheduled throughout the year and delivered at different company locations.

CRITICAL EMPHASIS

You pick the objectives, products, and techniques of particular importance to vour operations, and our skilled instructors and technicians will tailor a custom course to meet vour requirements.

Dedicated Software R&D Department

Our researchers and experts work on various problems of optimization, new algorithms : Quantum Information, Cybersecurity, Graphs etc.

Optical networks, DWDM, IOT, Smart cities, Cybersecurity etc. Applications are strongly related to research laboratories in various universities.

Alternative Operations www.alternativop.com service@alternativop.com

Tunisia Branch: +216 50757475 **Qatar Branch:** +974 33069087

5, Moradiths Street, Menzah 5, Ariana Tunisia, 1024.