

OUR SERVICES AND SOLUTIONS  
FOR TELECOMMUNICATIONS





Comprehensive services in the field of electrotechnical installations

## ABOUT KUMMLER+MATTER

We have specialised in energy supply systems for over a century. Thanks to our dedicated team of highly motivated professionals, we develop solutions and provide services in a variety of sectors: railways, roads, energy, telecom, and special installations. Our services range from planning and engineering through to system installation.

We can also draw on the vast resources of the Alpiq InTec Group (to which we belong) to offer our customers services that span multiple fields of engineering.

We are always close at hand to serve you, throughout Switzerland. As a customer of Kummler+Matter, you're in good hands as you can depend on our teams of engineers, technicians and installers in the field, 24 hours a day.

### A COMPREHENSIVE RANGE OF TELECOM SERVICES FROM KUMMLER+MATTER

Everywhere in the world, users are demanding more devices to be connected together in higher-bandwidth networks.

These growing requirements are driving demand for new technologies and increasingly advanced network infrastructures. In our field, long-term success depends not only on knowing, but also on meeting requirements for quality and investment security.

There is no sign that this trend is coming to an end as information transfer standards are constantly increasing and technological advances are set to continue.

So – make the best out of your network!

Kummler+Matter offers a complete range of services, products and solutions for your networks: from planning through to execution, including underground construction work. From cable pulling services through to network operation at the end user's premises, our professionalism has been proven time and time again.

# TO PLAN THE BEST PROJECT TODAY YOU NEED TOMORROW'S VISION

Communication networks need to be thought out carefully – this is a key factor in the later success of any project. So put your trust in the experienced, professional specialists at Kummler+Matter – they will make sure that your project runs smoothly from start to finish.

For general contracting and sole contracting projects, we offer a complete service that is professional as well as efficient, from one single source: starting with the planning and project development phases through to turnkey completion and ongoing management. Thanks to our production and installation facilities, we can offer the flexibility you need to realise your project.

#### OUR SERVICES AT A GLANCE:

- ✓ Overall project management/realisation
- ✓ Planning of FTTx networks, including clarification of issues with properties
- ✓ Drafting implementation documents
- ✓ Fibre management

**IN THE PLANNING PHASE, YOU'LL BENEFIT  
FROM OUR COMPREHENSIVE RANGE OF  
PROJECT MANAGEMENT AND ENGINEERING  
DRAWING SERVICES**



# COMMUNICATION NETWORKS – TELECOM SYSTEMS

Demand for faster transmission speeds is constantly increasing in both mobile and fixed networks, so bandwidth is always under pressure. That's why telecom networks must always be state of the art and ensure high availability. This breathtaking increase in the volume of transmitted data is met by the astounding performance and capacity of fibre-optic technology, coupled with cutting-edge system technology.

With its highly qualified team of experts, Kummler+Matter is ideally placed to keep pace with the latest technologies – for passive and active network components alike.

We install and commission infrastructures for broadband Internet access and television, and the latency-sensitive telephone networks. We offer you complete, highly innovative turnkey solutions for your networks – ranging from feasibility studies and planning through to execution, provision and operation. Our expertise covers many specialist areas: examples include underground cable installation, copper and fibre-optic cable installation and splicing, as well as backbone and Customer Premise Equipment installation, configuration, integration, operation and maintenance. No matter whether you're a telecom provider, system supplier, TV network operator, power supply utility or public-sector organisation: when you come to us, you're in good hands.

## ACTIVE NETWORK COMPONENTS – OUR SERVICES AT A GLANCE:

- ✓ Procurement and supply of installation materials
- ✓ On-site installation
- ✓ Integration into existing networks and the customer's NMS
- ✓ Installation, configuration and integration of directional radio technology
- ✓ Acceptance tests to customer's specifications
- ✓ Preventive and remote maintenance
- ✓ Software upgrades
- ✓ 24/7 standby service; 2-hour or 4-hour SLAs
- ✓ Network operation
- ✓ Body-leasing solutions for project managers, systems specialists and technicians
- ✓ Fibre-optic inspections using OTDR and connector endface inspections by video microscope

## PASSIVE NETWORK COMPONENTS – OUR SERVICES AT A GLANCE:

- ✓ Planning and installation of cable systems
- ✓ Splicing, cabling and installation work for wireless and wired transmission networks with fibre-optic, coaxial and copper technology
- ✓ Earthing concepts
- ✓ Planning and installation of fibre-optic and copper lines, cables and patch cables, as well as other passive components

FROM CONSTRUCTING DIRECTIONAL RADIO SYSTEMS AND INSTALLING CABLES THROUGH TO SYSTEM TECHNOLOGY INSTALLATION, CONFIGURATION AND MAINTENANCE







WE OFFER A VARIETY OF METHODS FOR OUR CABLING AND INSTALLATION WORK AND ARE HAPPY TO TAKE ON ALL PLANNING WORK

# UNDERGROUND CABLE INSTALLATION – WE START WHERE OTHERS LEAVE OFF

## CABLING AND INSTALLATION WORK

Kummler+Matter will be pleased to undertake all your construction work whenever you need to install new or replace telecom and conventional cables.

Thanks to our experienced installers and our extensive fleet of vehicles and machinery, our construction and cabling teams are fully equipped to carry out cabling work of any sort. Calibration, blow-in and splicing of fibre-optic and copper cables are part of our everyday routine. Our own staff carry out the underground construction work involved (including concrete construction) in compliance with applicable safety regulations and with excellent quality.

## UNDERGROUND CABLE INSTALLATION/ CONSTRUCTION

Kummler+Matter has specialised in underground cable installation and construction: we have accumulated extensive know-how in this field and have invested in appropriate cutting-edge technology. Preparation of construction sites, installation of new lines, line renewal work and house connections – when it comes to underground cable installation and construction, we can meet all your requirements.

### UNDERGROUND CABLE INSTALLATION – OUR SERVICES AT A GLANCE:

- ✓ Calibration of tubing, blow-in and splicing of fibre-optic and copper cables
- ✓ All FTTx technology bandwidths from FTTH, FTTC and FTTB to FTTS
- ✓ Conventional electrical installation work
- ✓ Tubing installation: new construction, repair and maintenance
- ✓ Preparation of construction sites, installation of new lines, line renewal, house connections
- ✓ Master builder's work in underground construction, from electroblocks to sewer systems
- ✓ Underground construction work, including concrete construction and surfacing work with our own machinery and staff

# OUR SPECIALTY IN UNDERGROUND INSTALLATION – TRENCHLESS TECHNOLOGY

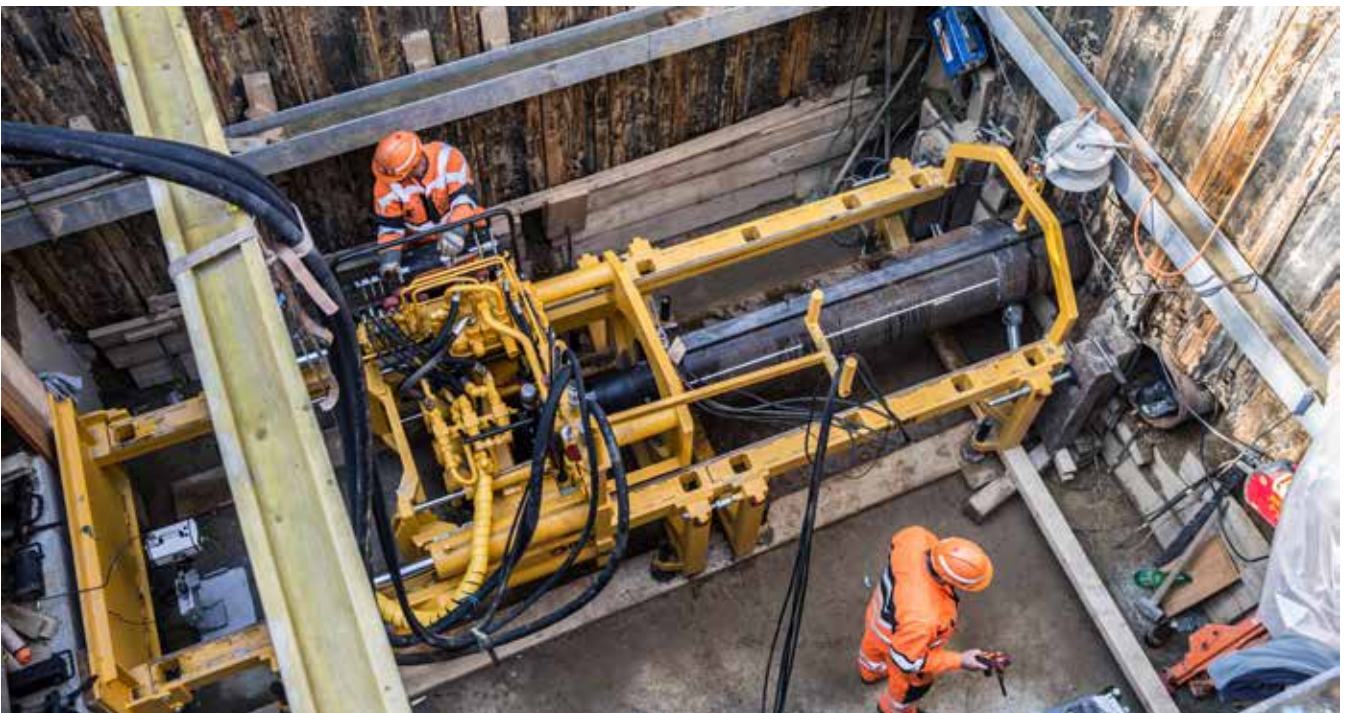
Trenchless cable and pipe installation requires ingenious technology and high-performance equipment, backed up by extensive expertise and experience. Sustainability and resource conservation are also critical factors. Nowadays, cutting-edge technological methods make it possible to install data transmission, transportation and house connection lines quickly and at low cost – with no need to close roads. Whether your installation is in loose soil or solid rock: Kummler+Matter has the ideal solution for you.

Our lengthy experience of trenchless cable and pipe installation has given us all the skills we need to implement your project successfully. Kummler+Matter is your partner of choice for compression drilling (with or without a pilot bore) or controllable cable/pipe installation.

## TRENCHLESS TECHNOLOGY – OUR SERVICES AT A GLANCE:

- ✓ Directional compaction and pile driving for telecom house connections (generally possible up to  $\varnothing$  150 mm)
- ✓ Routing under roads, tracks and waterways
- ✓ Shaft connections
- ✓ House connections for gas, wastewater and water pipes, electricity lines and television cables
- ✓ Connecting lines for television cables from the building into the next shaft
- ✓ Routing under difficult terrain where trenchwork is not allowed or not possible
- ✓ Refurbishment of pipes in existing pipe networks

**TRENCHLESS PIPE AND CABLE INSTALLATION –  
THE GREEN SOLUTION FOR ROUTING  
UNDERGROUND THAT'S TROUBLEFREE,  
FAST AND ECONOMICAL**



# OUR SERVICES THROUGHOUT SWITZERLAND – IN A NUTSHELL

## PLANNING

Overall project management/realisation  
Statics calculations for masts, foundations and wire rope hoists  
Planning for special underground construction work and trenchless line installations  
Pipeline route planning, including development of special structures for installation  
Installation work, servicing and maintenance

## COMMUNICATION NETWORK CONSTRUCTION – TELECOM SYSTEMS

Project and construction management for networks with passive (FTTx) and active components  
Transmission lines  
Procurement and supply of installation materials  
On-site installation  
Installation, configuration and integration of directional radio technology  
Integration into existing networks and the customer's NMS  
Acceptance tests to customer's specifications  
Extensions to existing network components  
Preventive maintenance  
Software upgrades  
24/7 standby troubleshooting service  
Storage of project materials and spare parts  
Network operation  
Body-leasing solutions for project managers, systems specialists and technicians  
Fibre-optic inspections using OTDR and connector endface inspections by video microscope  
Planning and installation of cable systems  
Splicing, cabling and installation work for transmission networks

## CABLING AND INSTALLATION WORK, UNDERGROUND CABLE CONSTRUCTION

Cable calibration, blow-in and splicing  
Underground construction work including concreting  
Preparation of construction sites, installation of new lines, line renewal, house connections  
Pipe installation for new buildings  
Repairs and maintenance  
Master builder's work in underground construction, from electroblocks to sewer systems

## TRENCHLESS LINE INSTALLATIONS

Routing under roads, tracks and waterways  
Routing under sections of terrain where trenchwork is not allowed or possible  
Shaft connections  
House connections for gas, wastewater and water pipes, electricity lines and television cables  
Refurbishment of pipes in existing pipe networks  
Splicing, cabling and installation work for transmission networks



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