Installing fiber cable in sewers

100 good examples waiting for the next 1000 projects
Innovative solutions for passive fiber optic networks in sewage systems

FAST Opticom AG (the Company)

- founded as international Joint Venture (2002)
- combination of Telecommunication, robotics –technology as well as sewer renovation
- specialized in environmental friendly solution for fiber in sewer systems
- Portfolio: General Contractor, Planning, Realization and Service of passive fiber optic infrastructures with the main focus on installation in sewer systems
- our Customers are:
  - National and international Telecommunications carrier
  - Public Networks
  - Cities
  - Corporate customers
  - Utilities and Sewer Operators
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The concept of FAST technology

- **system components:** FAST clamps
  
  - **clamps** (above)
    not man accessible
    (DN 200 – DN 700)
  
  - **clamp** (mid)
    man accessible sewer
    >= DN 800
  
  - **conduits** (15,5 mm / 11,5 mm)
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**FAST installation steps**

**Step 1:** inspection of pipe and planning for later installation of clamps

**Step 2:** installation of clip rings in non-accessible sewers dia. 200 – dia. 700

**Step 3** – pulling conduits into sewer (up to 3 conduits at one pass)

**Step 4** – lifting and press-fitting the conduits
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FAST Procedure

Step 5 – manhole installations
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**FAST Procedure**

Step 6 – insertion of cables into conduits
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**FAST in building process:**
Project Burscheid
It works

- more than 200 completed projects in Germany, Austria, Switzerland, Poland, Italy and Denmark since 2002
- 2011 - 2015 over 300 km of fiber optic cables have been installed in sewer tubes
- builds turnkey fiber optic networks
- worldwide over 2000 km build with FAST
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References FAST Opticom (extract)
Countries of realization

- Germany, Italy see separate page
- Denmark (KopenHagen)
- Poland (Warsaw, Glogow)
- Austria (Vienna, Salzburg)
- Switzerland (Bern)
Other countries on request
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FAST in building process
Brixen

- 1. Project in Südtirol (Project Albeins)
- quick and easy implementation
- very good cooperation with City of Brixen
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**FAST in building process**
Bornheim

- Large part of the fiber-optic network is build by FAST
  - Total aprox 45 km
  - Build by FAST 35 km

- 30 % cost savings through the use of FAST
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FAST in building Process: Project Burscheid

- project with NetCologne
- install 6km fiber network in residential area
- close cooperation with NetCologne
- working during the night reduces risk of traffic jam
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Advantages of the FAST Opticom solution

- eco Friendly
- maximum Network Security
- quick Realisation
- cost Efficiency
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Advantage 1: Cost Efficiency
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Advantage 2: Eco friendly

- little obstruction of traffic
- no noise disturbance for neighbourhood
- reduced CO² emission
- no subsequent damage to road surface
  (frost heave, settling, etc.)
- no damage to roots of trees
Advantage 3: maximum network security

Fourfold Protection

1.) FAST is not layed underneath pavements or on the usual cable trays

2.) FAST is installed in sewer pipes several meters below surface

3.) FAST is protected by sewer pipes with thick heavy-duty walls

4.) in addition. FAST fibre optic cables are protected by a stainless steel conduit

The FAST technology is now field proven for more than 10 years
Advantage 4: time saving

- Average construction performance: approx. 100-200m per team and day!

- in winter time, even during frost periods, fibre optic cable can be continuously installed by means of FAST technology
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FAST Application „Point-to-Point“

- connection of base stations
- Backbone Extension
- corporate connections
- communication networks for sewer operators
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Application FTTC

1: Fiber To The Curb (FTTC)

Fiber will be placed close to the street cabinet via the sewer

- Economic and environment friendly connection of street cabinets
- Complete Concept for municipalities of all size
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special Applications

FAST is well suited for special applications e.g:

- Crossing of railway tracks
- Environmental protectet zones
- Geological comlicatet areas
- Crossing of highways and other very busy streets / traffic areas
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Summary FAST Technology I

- is a certified technology which from the start has been developed to meet the requirements of telecommunication as well as sewer system operators
- Maximum environmental protection
- Installation capacity of up to 6 x 288 fibres in non-accessible sewers
- Various methods of access from sewers to buildings
- For more than 10 years FAST has been used by many big telecommunication carriers, municipalities, sewer operators, utility providers and enterprises.
- A total length of approx. 2.000 km has been installed by FAST already
- FAST is recommended by the Association of Cities and Municipalities of the federal states of Hessen, Baden-Wuerttemberg, Bavaria and others.
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Summary II
Your contact to FAST Opticom

FAST Opticom AG
Germany (EU Projects)
Fischeraeckerstraße 10
D – 75417 Muehlacker

Tel.: +49 (7041) 9492497
Fax: +49 (7041) 861505
Mail: info@fastopticom.com
www.fastopticom.com
Thanks, Vielen Dank, Merci,