

Fortezza da Basso • FLORENCE (Italy)

30th September • 2nd October 2019

TILISATION OF MICROTUNNELING TECHNOLOGY FOR CONSTRUCTION OF THE NEW PIPELINE BETWEEN AZERBAIJAN AND EUROPE

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BESSAC Company profile:

- 🗸 🙀 group
- Tunneling and Microtunneling contractor
- Industry division
- Large fleet of equipment : ~ 40 TBMs and MTBMs
- 150 km excavated in the last 10 years
- References in 30 countries on 5 continents





- New 48" gas pipeline between Azerbaijan and Europe to secure delivery
- 3 sections:
 - SCPx (Azerbaijan and Georgia)
 - TANAP (Turkey)
 - TAP (Greece, Albania and Italy)



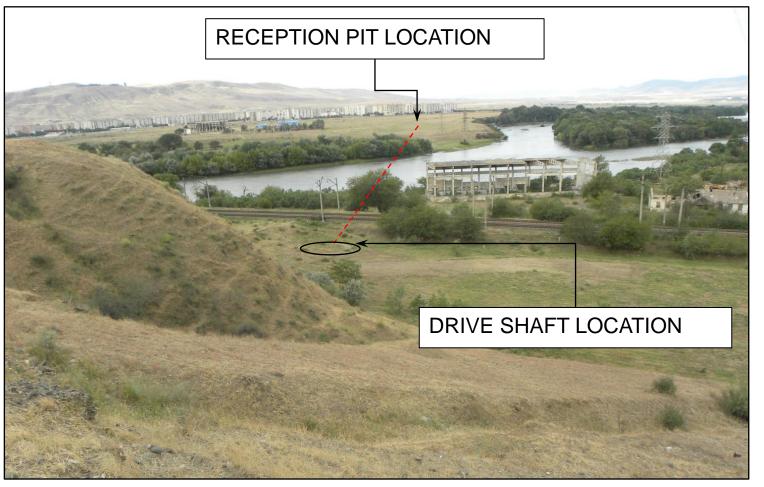
SCPX Project



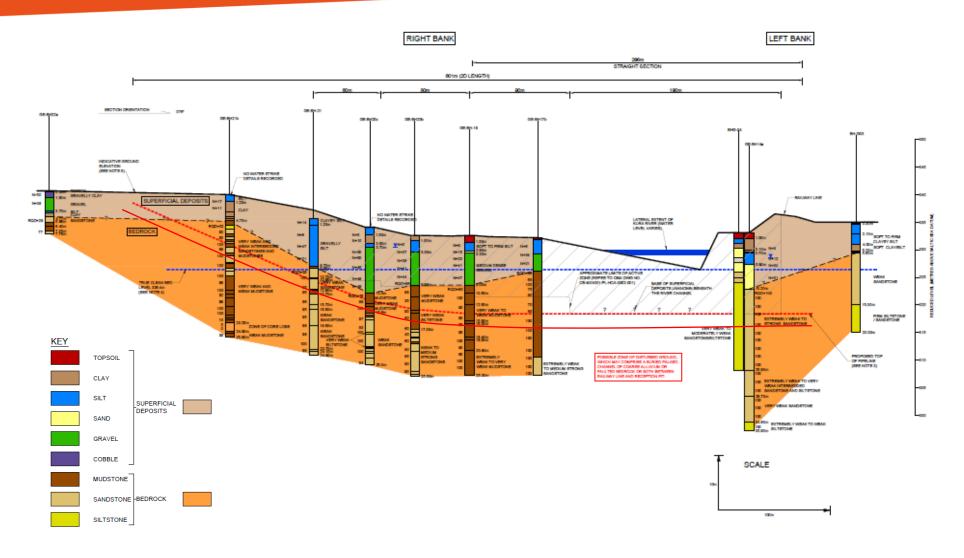


Georgia - Kura East River Crossing

- 605 m long
- 1800 mm ID



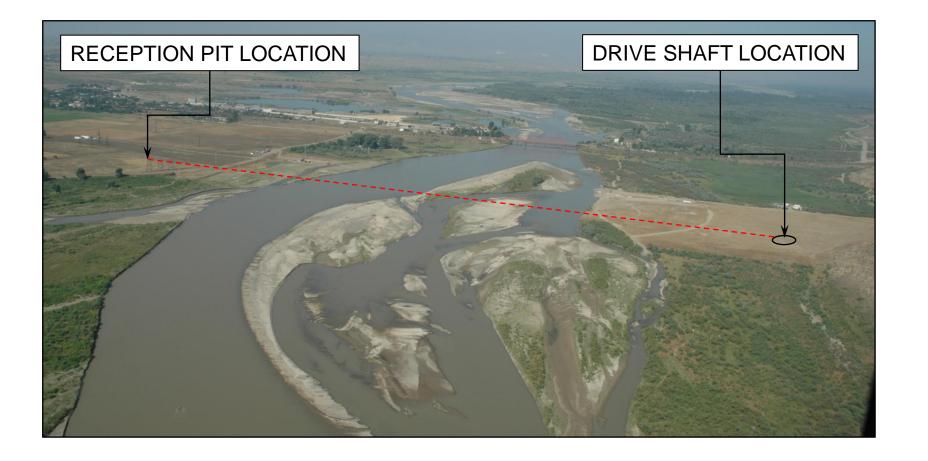




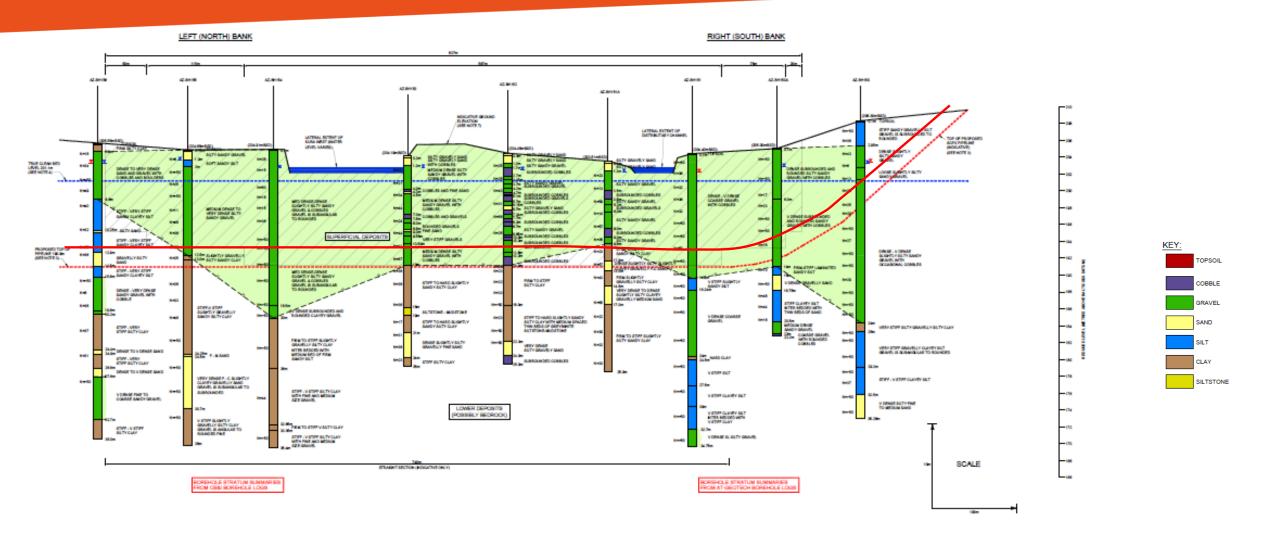


Azerbaijan - Kura West River Crossing

- 1010 m long
- 1800 mm ID

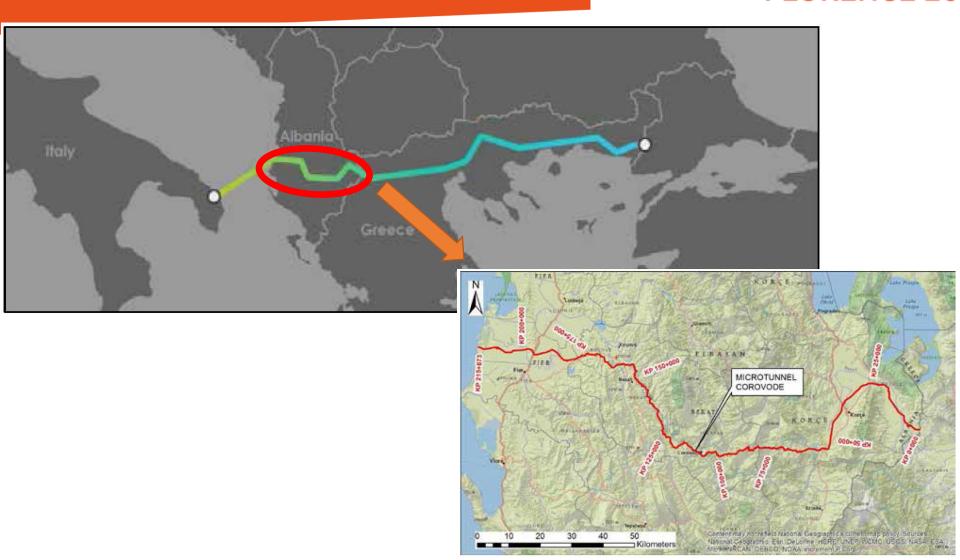














Albania - Corovode East drive

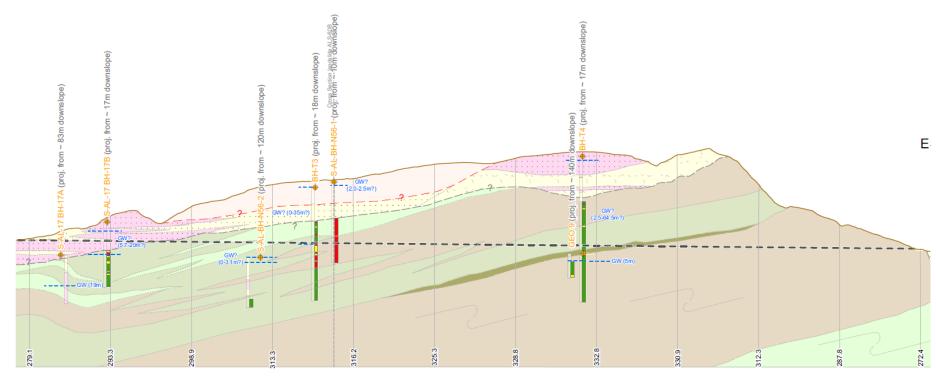




Albania - Corovode West drive







East drive

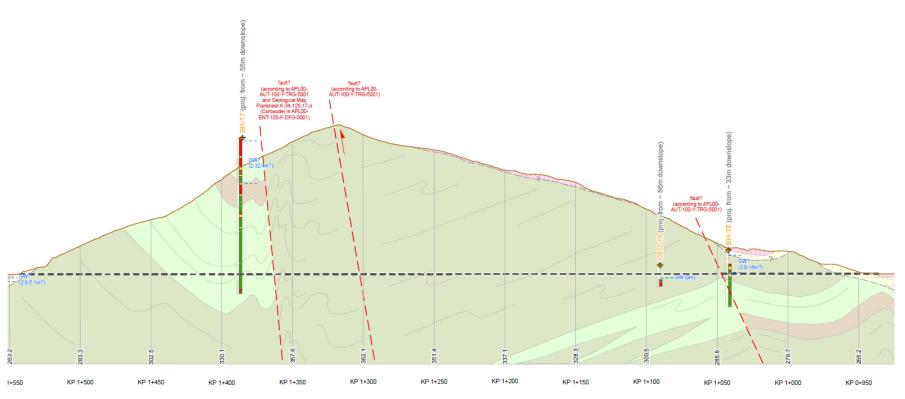
Max depth: 65 m

Rock formations - Flysch:

- Mudstone, Sandstone, Conglomerate
- UCS 10 to 120 MPa
- RQD 50% à 100%







West drive

Max depth: 110 m

Rock formations - Flysch:

- Mudstone, Sandstone, Conglomerate
- UCS 10 to 120 MPa
- **RQD 50% à 100%**



Albania - KP 114

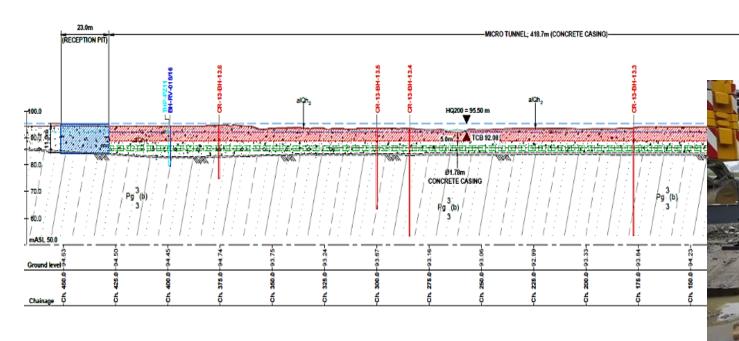


- 435 m long
- 1600 mm ID

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- Flysh
- Alluvial deposits (with boulders)



Albania - KP 139

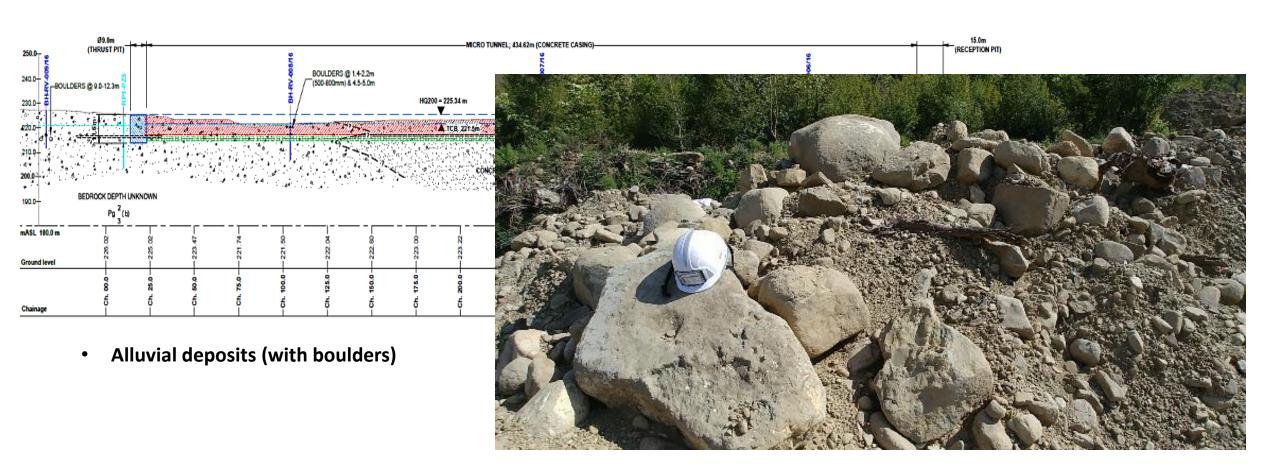


- 420 m long
- 1600 mm ID

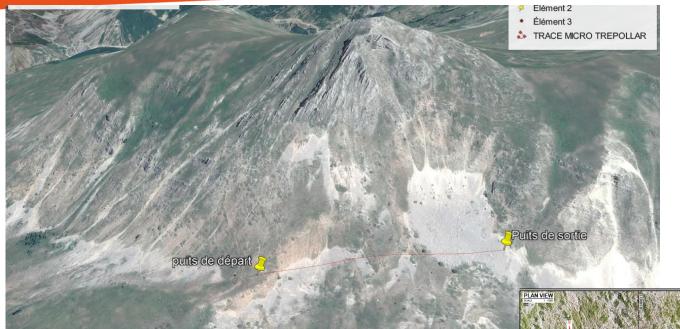
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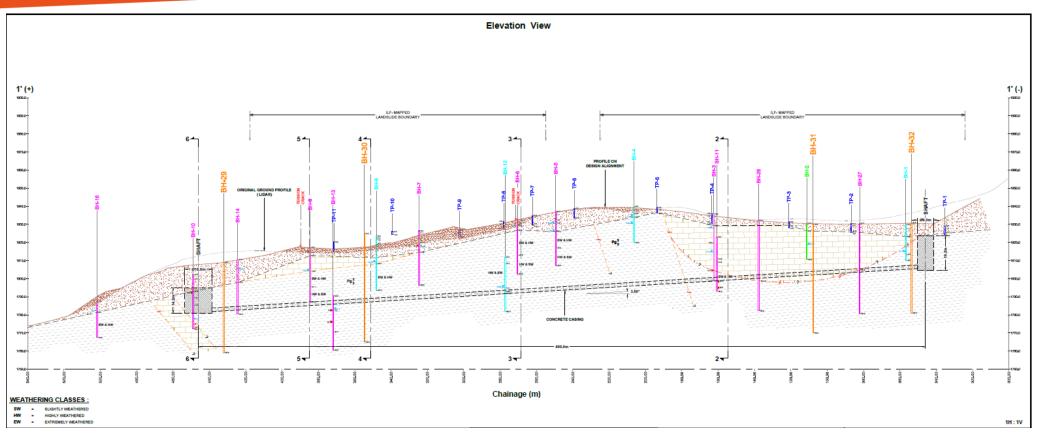
Google Earth

Albania - Trepollar

- 400 m long
- 1600 mm ID
- 2000 m asl !!



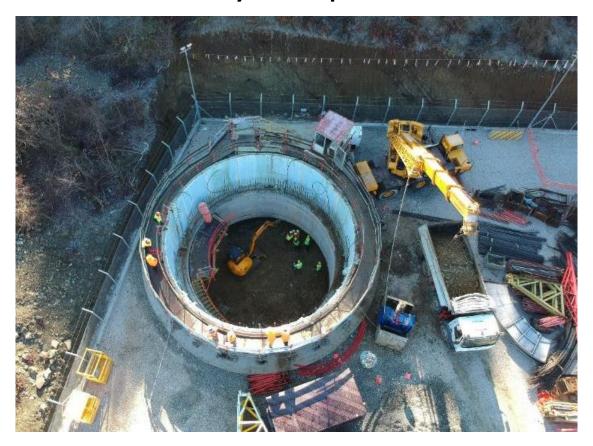




Rock formations:

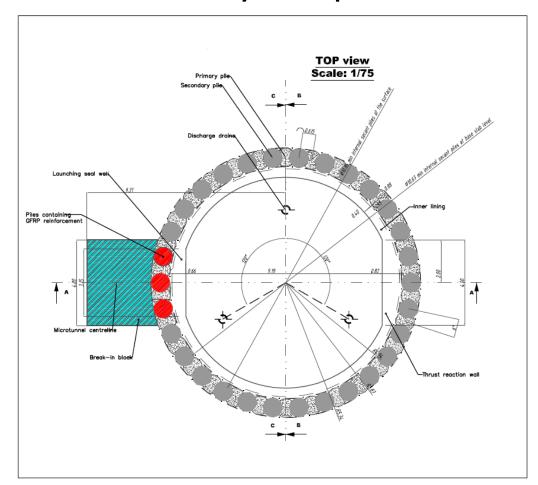
- Mudstone, Sandstone, Limestone
- UCS 10 to 80 MPa
- RQD 0% à 100%











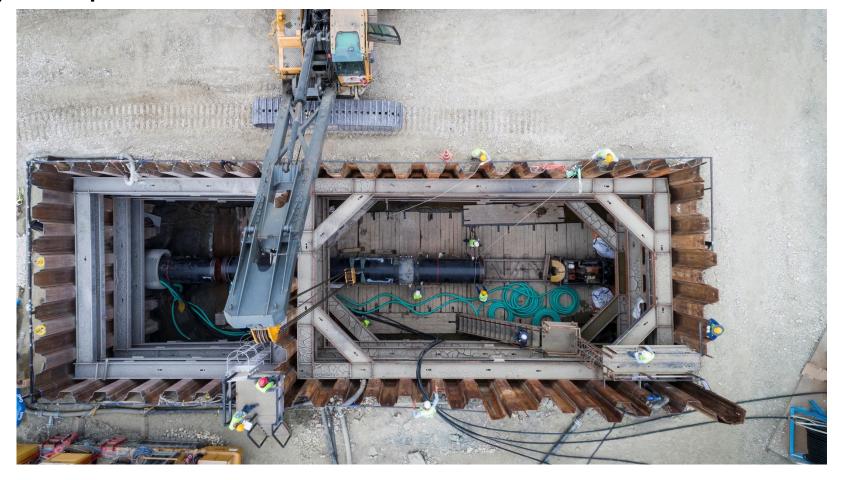


















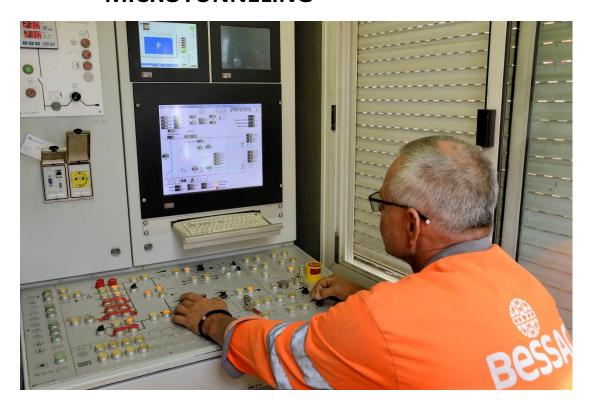


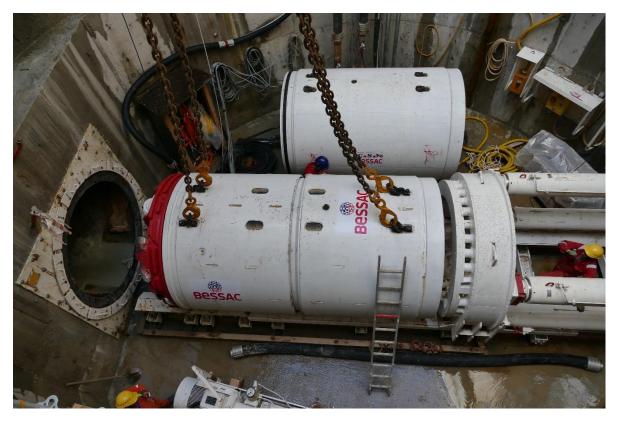


Use of 3 different MTBMs and 4 cutterheads







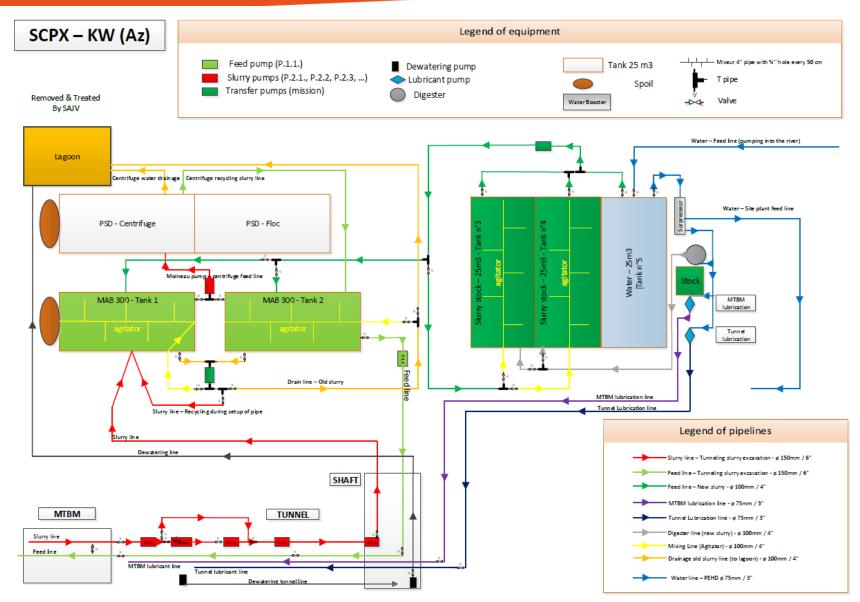














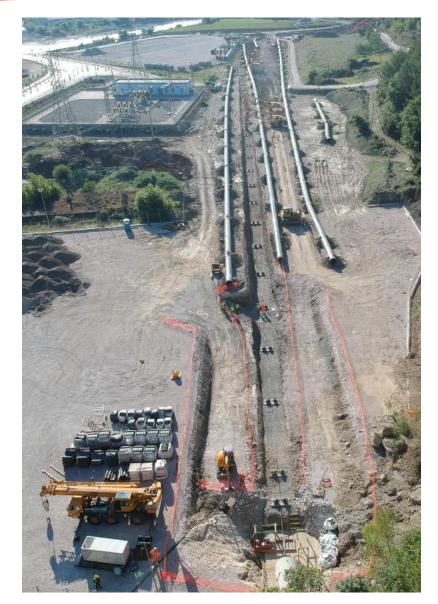


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PIPELINE INSTALLATION







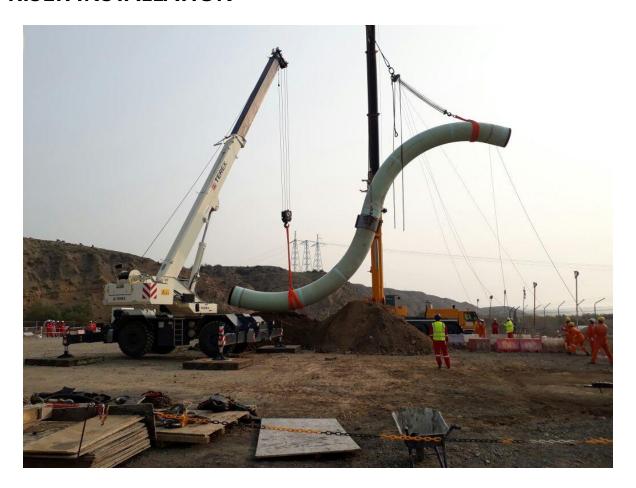
PIPELINE INSTALLATION

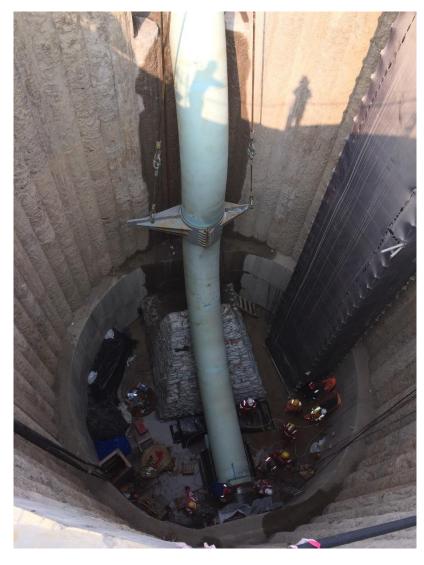






RISER INSTALLATION





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GROUTING







Main challenges of these projects:

- 3 new countries for the company
- EPC contracts
- Remote locations
- Stringent HSE Oil&Gas standards
- Various geotechnical conditions along these 4 km tunnels
- Hyperbaric works for cutterhead maintenance
- Scope including pipeline installation and final grouting



