

TRENCHLESS TECHNOLOGY TO INSTALL PE PIPE SYSTEMS

FROM SOIL DISPLACEMENT TO STEERABLE HDD

STEFAN SCHMITZ

TRACTO

TRENCHLESS

MEMBER OF



ABOUT US

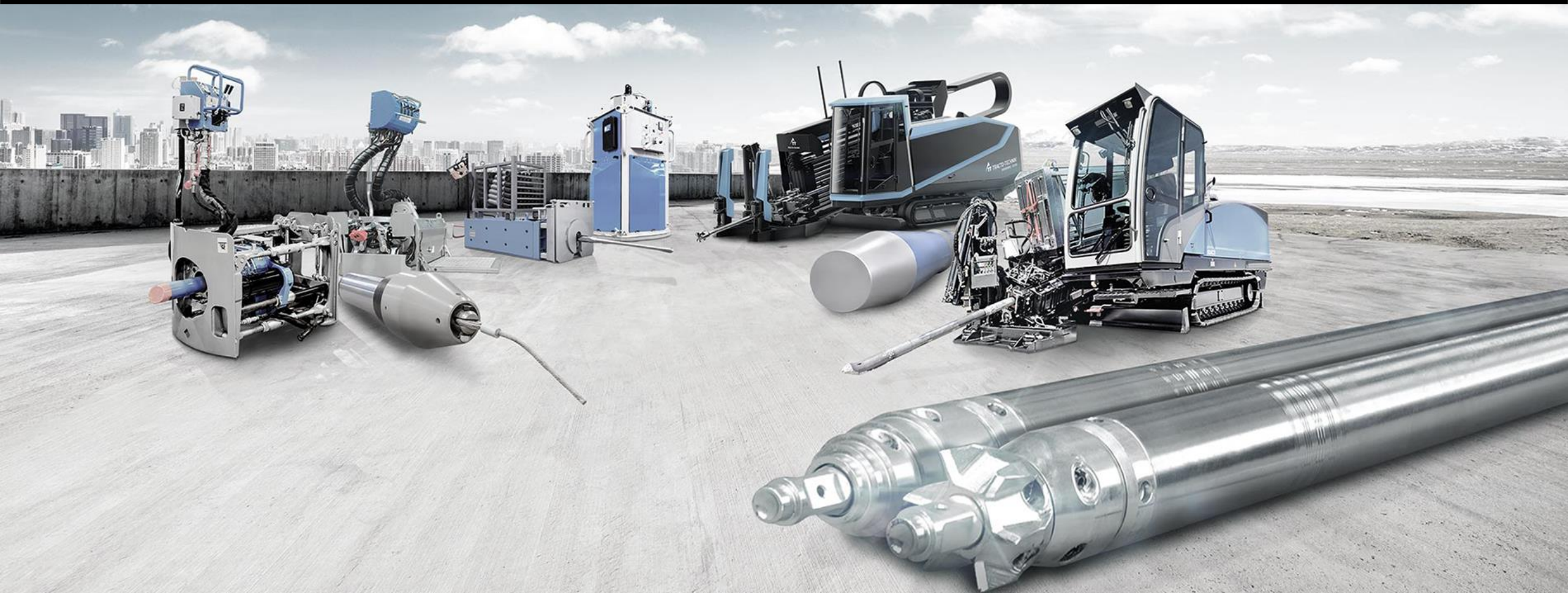
- MEDIUM SIZED COMPANY WITH HQ IN GERMANY (SINCE 1962)
- SISTER COMPANIES IN USA, UK, AUS, FR, CH, MAR
- SALES ACTIVITIES IN MORE THAN 70 COUNTRYS
- > 600 EMLPOYEEES
- 200 MIO EURO TURNOVER



WHAT IS OUR MISSION?

DEVELOPING AND PRODUCING MACHINES/SYSTEMS FOR UNDERGROUND PIPE & CABLE INSTALLATION

PRODUCT OVERVIEW



APPLICATION OVERVIEW



WATER



GAS



ELECTRICITY

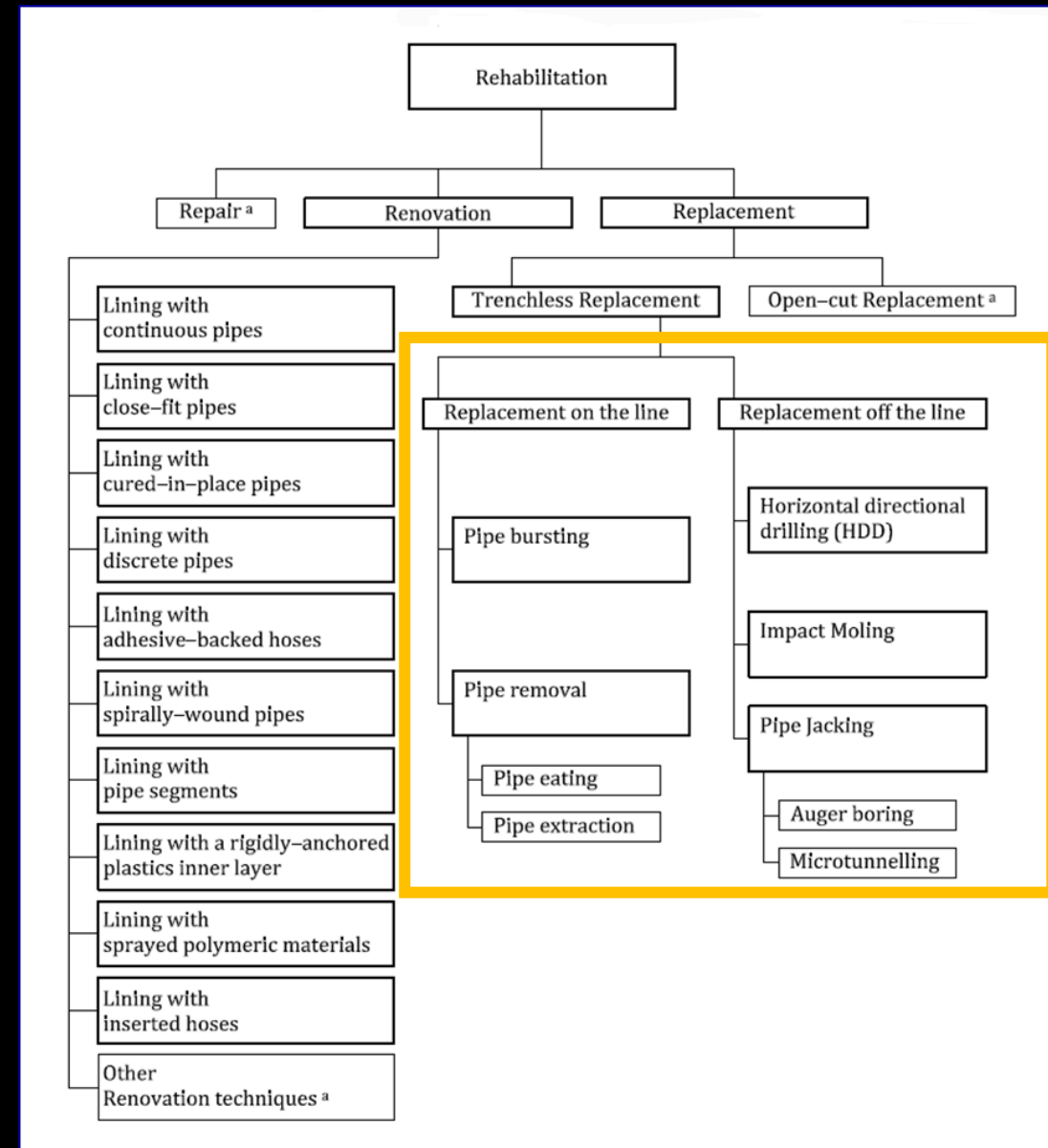


WASTEWATER



FIBRE OPTIC

THE TECHNIQUE FAMILIES COVERED BY EN ISO 11295 AND RELATED TRENCHLESS RENOVATION AND REPLACEMENT STANDARDS



EN ISO 21225 PARTS 1 AND 2 COVERS PIPE BURSTING, HORIZONTAL DIRECTIONAL DRILLING AND IMPACT MOLING

BS EN ISO 21225-1:2018



BSI Standards Publication

Plastics piping systems for the trenchless replacement of underground pipeline networks

Part 1: Replacement on the line by pipe bursting and pipe extraction (ISO 21225-1:2018)

BS EN ISO 21225-2:2018



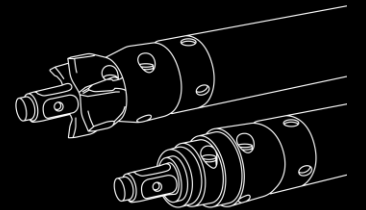
BSI Standards Publication

Plastics piping systems for the trenchless replacement of underground pipeline networks

Part 2: Replacement off the line by horizontal directional drilling and impact moling

TRENCHLESS TECHNOLOGIES FOR SHORT DISTANCES

FOCUS ON HOUSE CONNECTION AND
SHORT CROSSINGS



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GRUNDOMAT SOIL DISPLACEMENT HAMMERS



FACTS

BORE TYPE

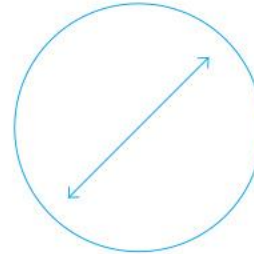


GUIDED



UNGUIDED

BORE DIAMETER



45 - 180 MM Ø

MAIN APPLICATIONS

HOUSE
CONNECTIONS

UNDER-
CROSSINGS

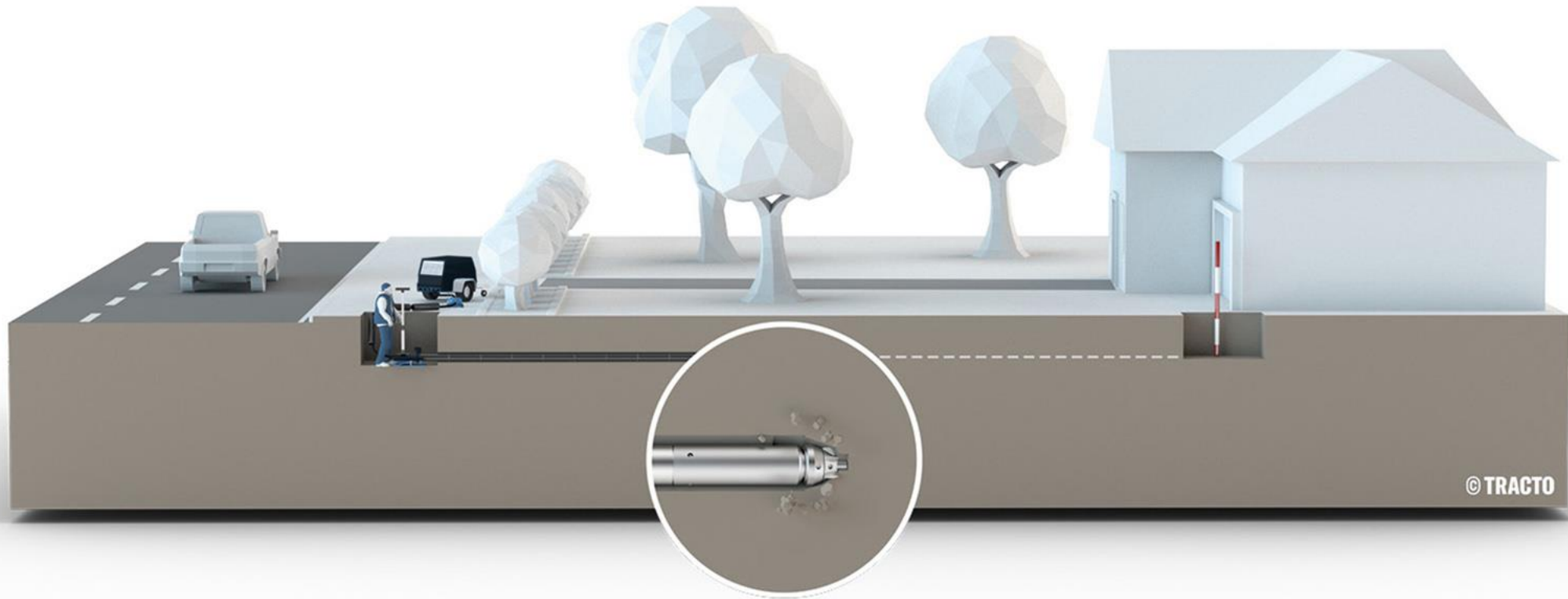
SPECIAL APPLICATIONS

PIPE
RENEWAL
(from type 95)

PIPE RAMMING
(from type 130)

DRIVING OUT
STEEL PIPES

PILE FOUNDATIONS

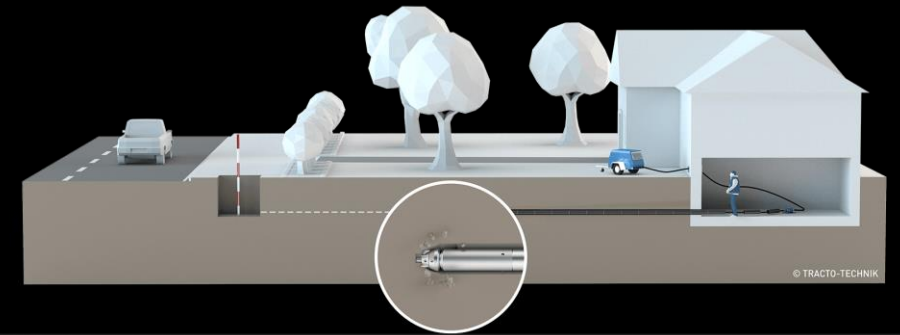


GRUNDOMAT SOIL DISPLACEMENT HAMMERS



GRUNDOMAT SOIL DISPLACEMENT HAMMERS

Directly through the wall - without a pit in front of the house



MASONRY SEALING



GRUNDOMAT SOIL DISPLACEMENT HAMMERS

- Simple and safe procedure for short distances
- Soil displacement, no drilling, no steering
- Displaceable soil must be given
- Covering must be observed (10 times the machine diameter)



HORIZONTAL DIRECTIONAL DRILLING

HDD

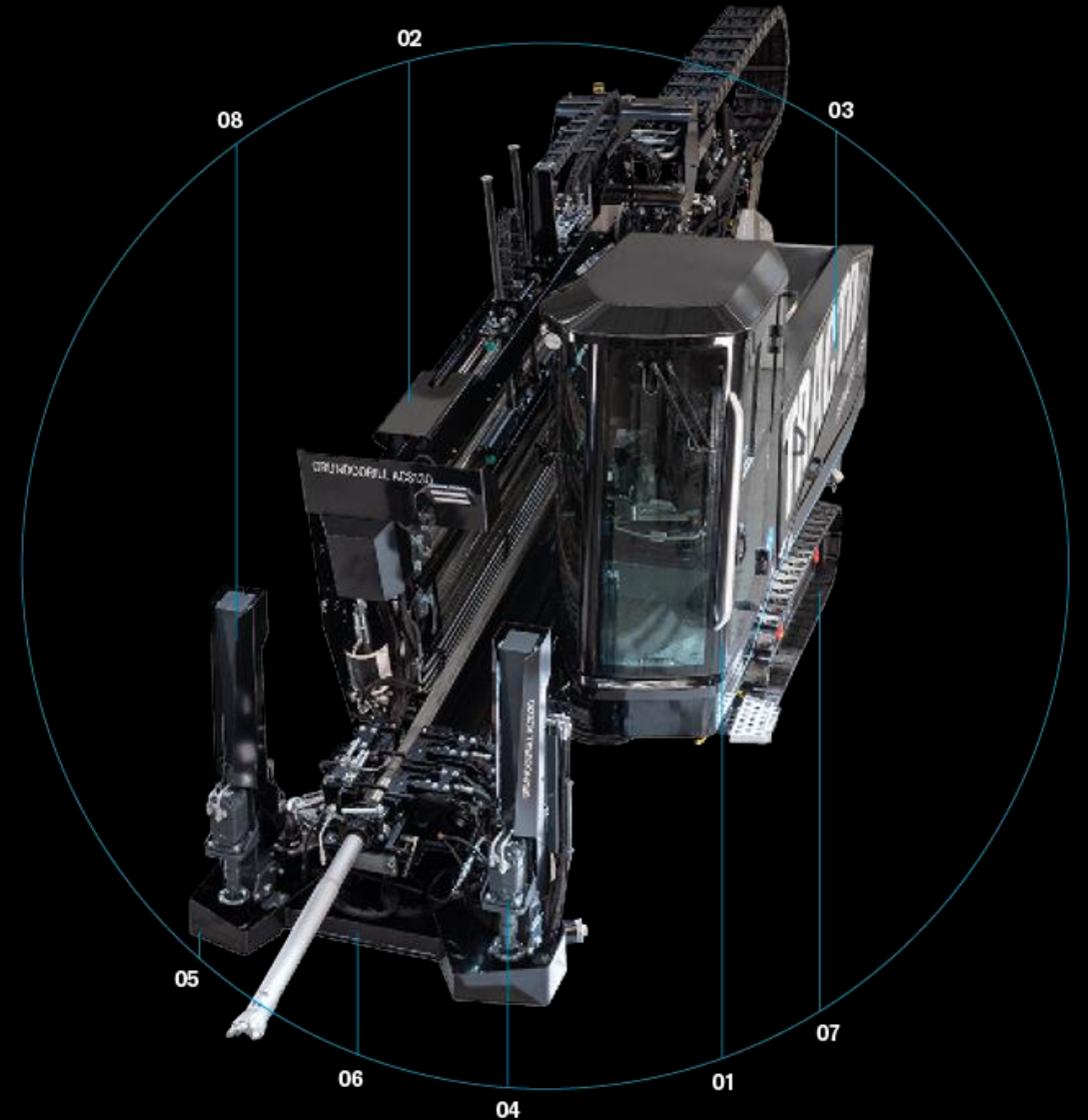


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GRUNDODRILL FLUID-ASSISTED HDD-RIGS & HDD- ROCK DRILLING RIGS ALWAYS ONE TURN AHEAD

Innovative technology and premium quality guarantee the best possible productivity for the steerable pipe installation with GRUNDODRILL. The various models in the power classes from 50 to 300 kN provide the highest performances even in complex conditions. The latest generation allows even remote-controlled drilling thanks to a high degree of automation.

- 01** Comfort cabin with various equipment options
- 02** Optimum drill rod handling with fully automatic loading system
- 03** High rotation and rinsing capacities, powerful drive
- 04** Optional anchor drilling system for high stability
- 05** Anchor plate as a catch basin for the drilling fluid
- 06** Support plates for alignment and positioning
- 07** Undercarriage with rubberised steel tracks, with various chain versions
- 08** Hydraulic loading crane for self-sufficient drill rod handling



GRUNDODRILL FLUID-ASSISTED HDD-RIGS & HDD-ROCK DRILLING RIGS

INSTALLATION METHOD



BORE DIAMETER

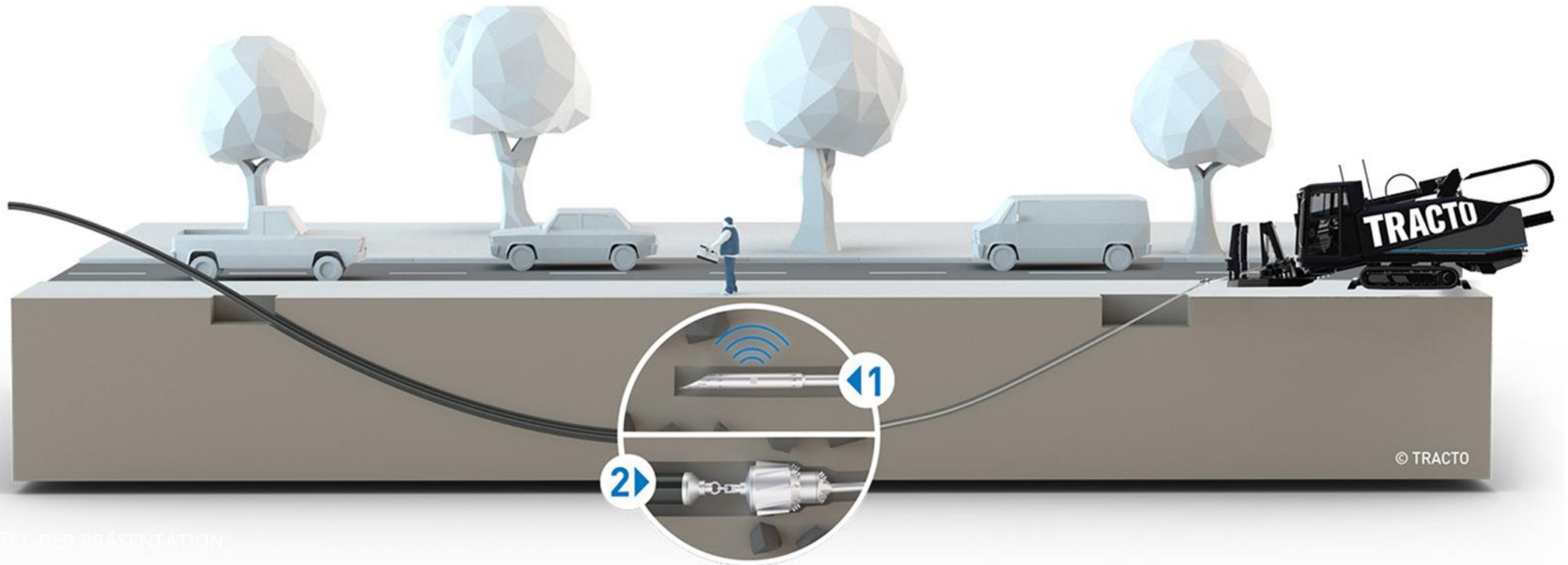


* depending on soil conditions

MAIN APPLICATIONS

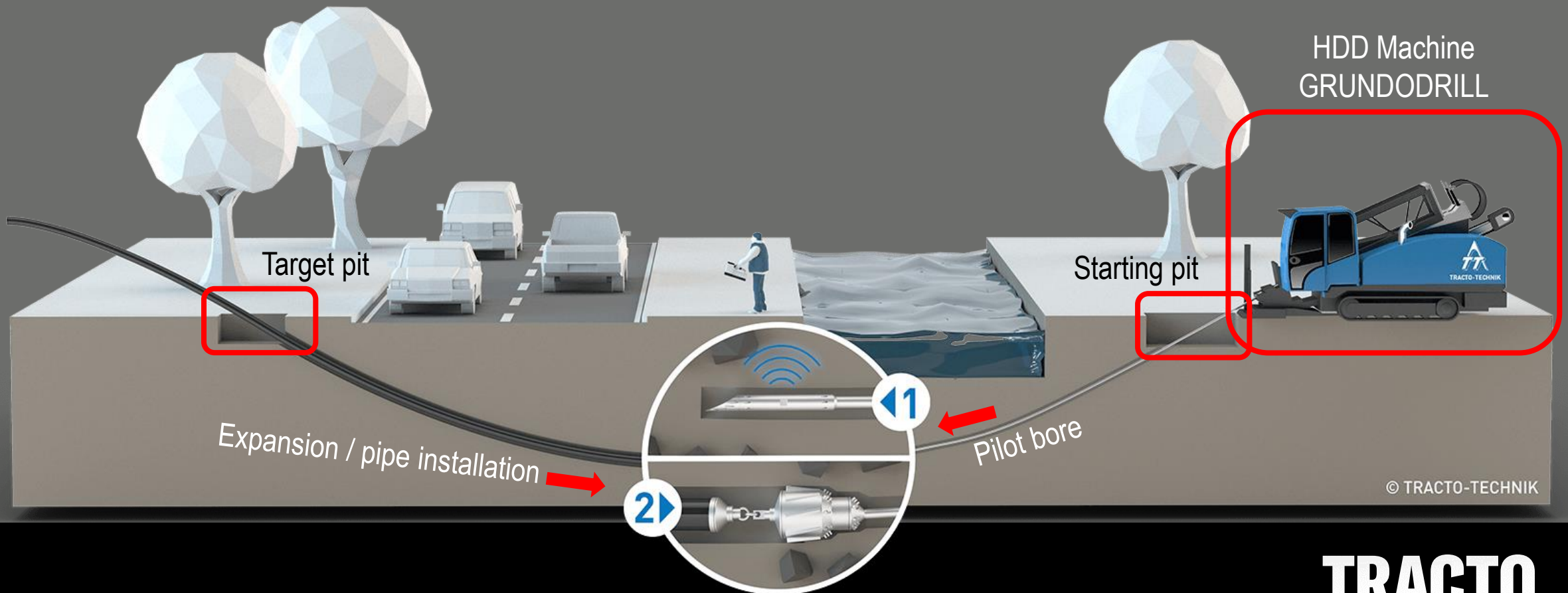


SPECIAL APPLICATIONS



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GRUNDODRILL FLUID-ASSISTED HDD-RIGS & HDD-ROCK DRILLING RIGS



GRUNDODRILL FLUID-ASSISTED HDD-RIGS & HDD-ROCK DRILLING RIGS



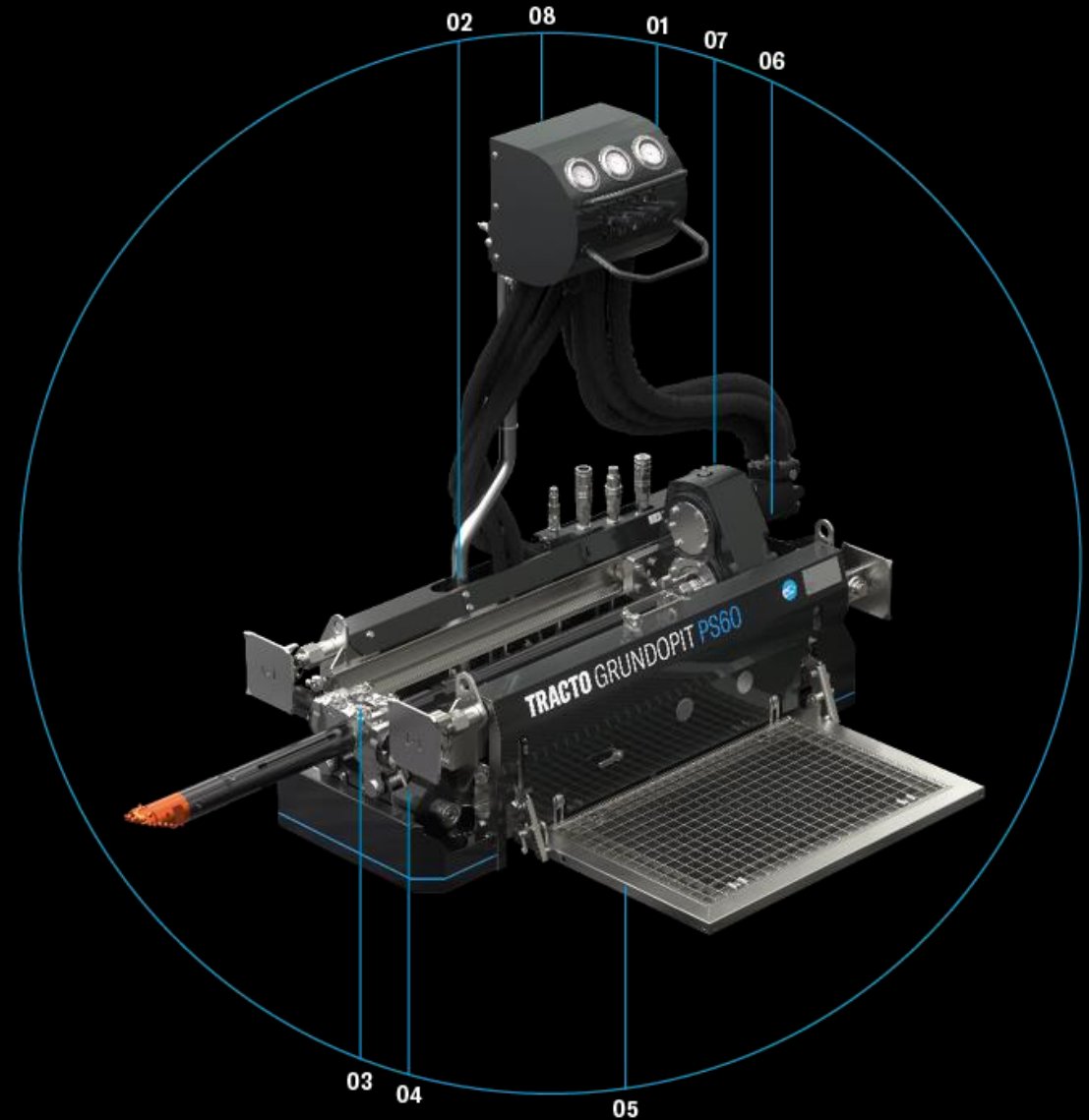
GRUNDODRILL FLUID-ASSISTED HDD-RIGS & HDD-ROCK DRILLING RIGS



GRUNDOPIT MINI FLUID-ASSISTED HDD RIGS SMALL POWERHOUSES

The steerable GRUNDOPIT-Mini-fluid-assisted HDD rigs are ideal for pipe installations up to 100 m and the production of house connections in confined spaces, challenging terrains, such as slopes and/or difficult soils.

- 01 Connecting the hydraulic lines
- 02 Drill rod effective length 750 mm
- 03 Hydraulic clamp for rod change
- 04 Thrust via cylinder drive
- 05 Fold-out work platform
- 06 Twin-step rotation
- 07 Hydraulic tensioning in the working pit
- 08 Fold-out control panel



GRUNDOPIT MINI FLUID-ASSISTED HDD RIGS

INSTALLATION
METHOD

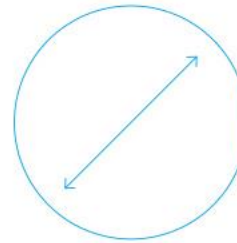


STEERABLE



NON-STEERABLE

PIPE DIAMETER



UPTO 200 MM Ø

MAIN AREAS OF APPLICATION

HOUSE
CONNECTIONS

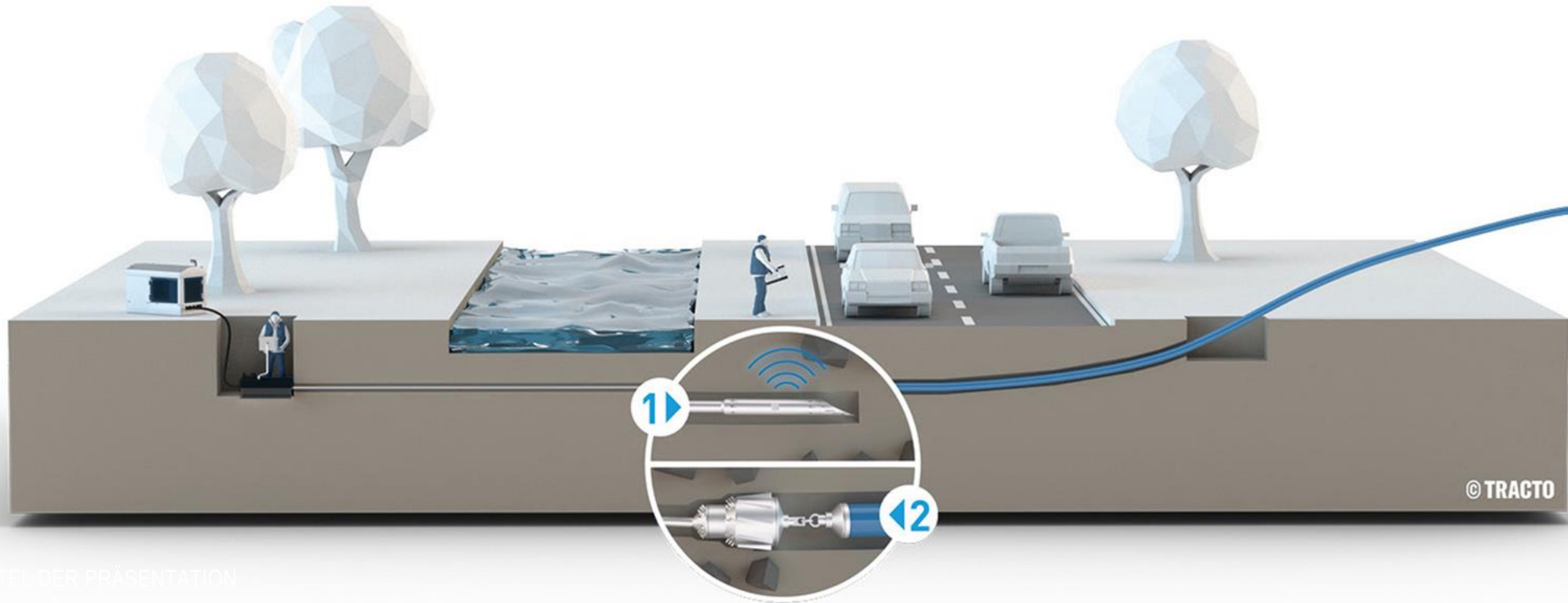
PIT AND
CELLAR START
POSSIBLE

LONGITUDINAL
BORES

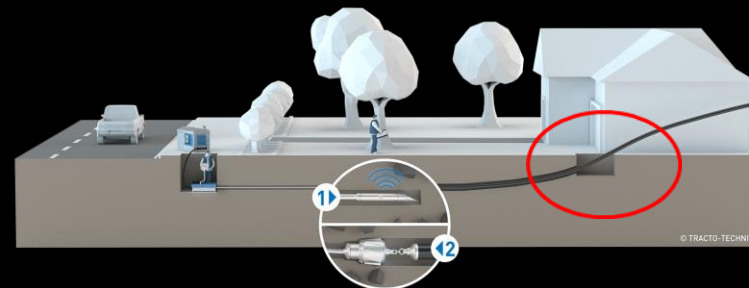
UNDER-
CROSSINGS

SPECIAL APPLICATIONS

DRILLING
IN ROCK



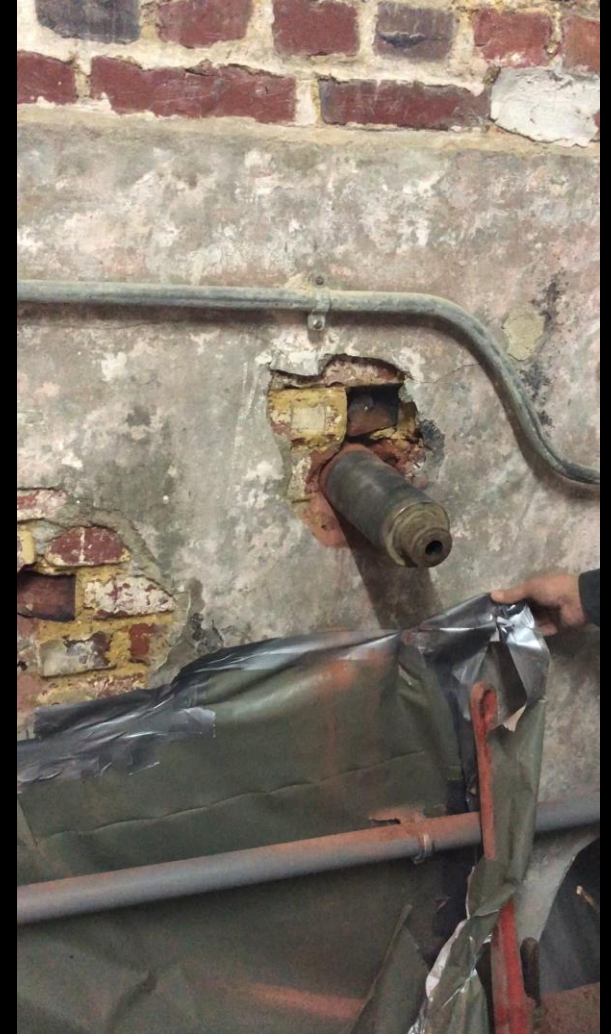
GRUNDOPIT MINI FLUID-ASSISTED HDD RIGS



GRUNDOPIT MINI FLUID-ASSISTED HDD RIGS



Video₄



Video

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GRUNDOPIT MINI FLUID-ASSISTED HDD RIGS



GRUNDOPIT MINI FLUID-ASSISTED HDD RIGS



PIPE REHABILITATION

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REHABILITATION

REPAIR

RENOVATE

RENEWAL

DYNAMIC –
GRUNDOCRACK

STATIC –
GRUNDOBURST

→ Installation of a fully prefabricated new pipe

➤ **MANY POSSIBILITIES WITH ONLY ONE TECHNOLOGY**

INSTALLATION OF PIPES WITH THE SAME DIAMETER

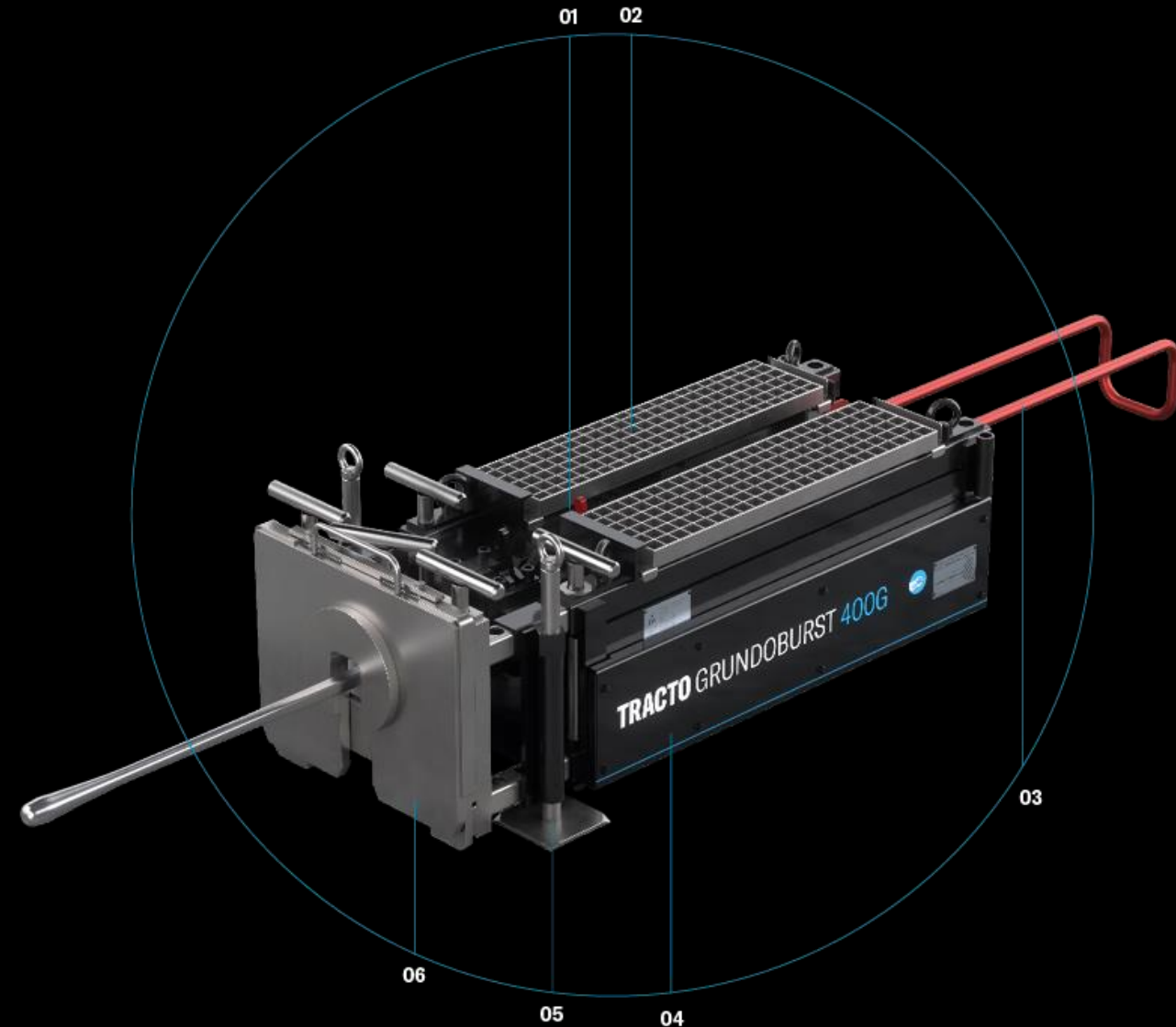
INSTALLATION OF PIPES WITH THE LARGER DIAMETER

INSTALLATION OF PIPES WITH THE SMALLER DIAMETER

GRUNDOBURST STATIC PIPE BURSTING SYSTEMS THE RENEWERS

With the powerful GRUNDOBURST systems damaged old pipes up to ND 1.200 are renewed with static force safely and quickly in the existing bore path. The versatile burst rigs are also applicable for pipe relining.

- 01 Two latch fingers prevent the burst rods from slipping back
- 02 Steps for safe standing
- 03 Safety bracket in the burst rod exit area
- 04 Very simple, robust frame design
- 05 Height adjustment via threaded rods
- 06 Integrated telescopic extension frame



APPLICATION

INSTALLATION METHOD

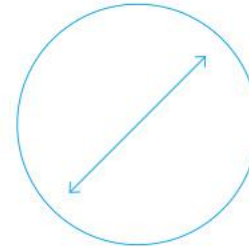


STATIC



DYNAMIC

NEW PIPE DIAMETER



UP TO 1,200 MM Ø

MAIN AREAS OF APPLICATION

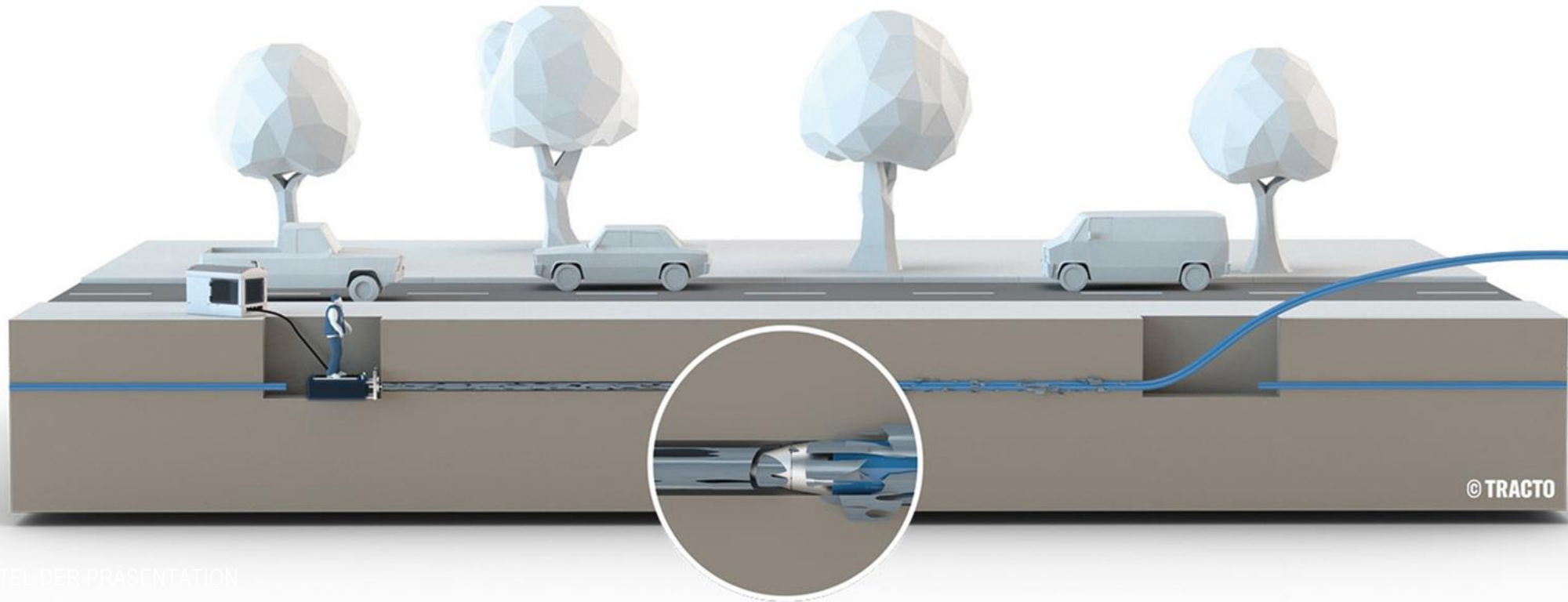
RENEWAL OF PRESSURE LINES

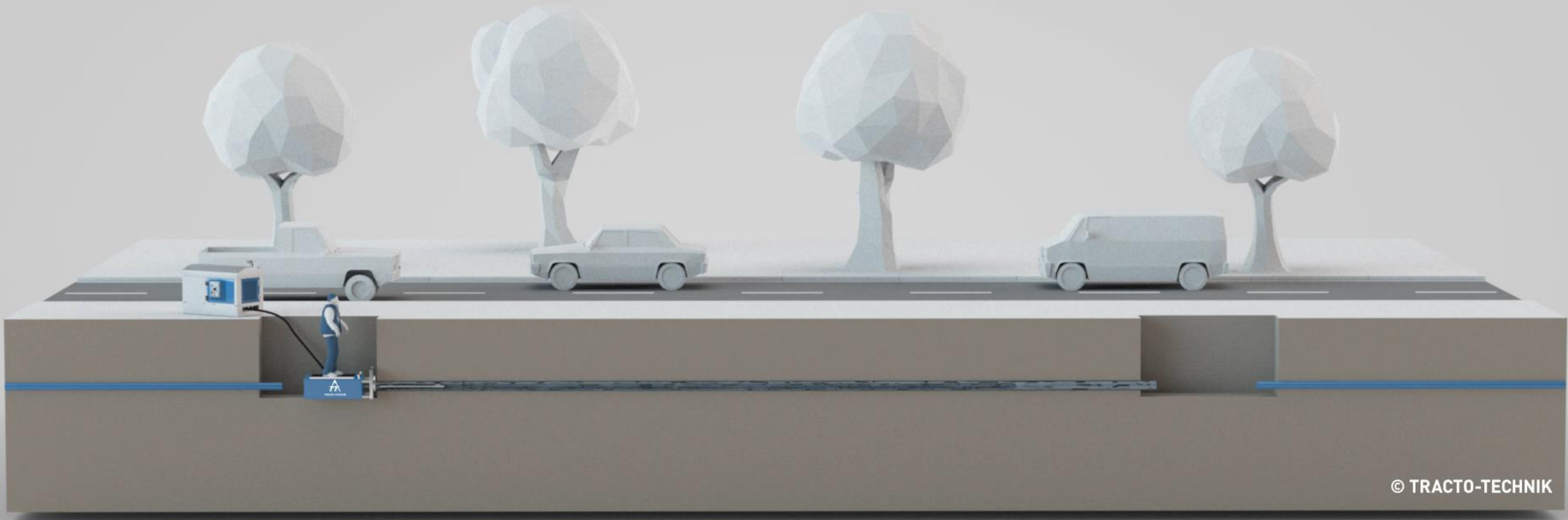
RENEWAL OF GRAVITY LINES

SONDEREINSATZBEREICHE

REHABILITATION

REPAIR





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TYPICAL JOBSITE SETUP



BURSTING HEADS - CUTTING KNIVES





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THANK YOU

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