



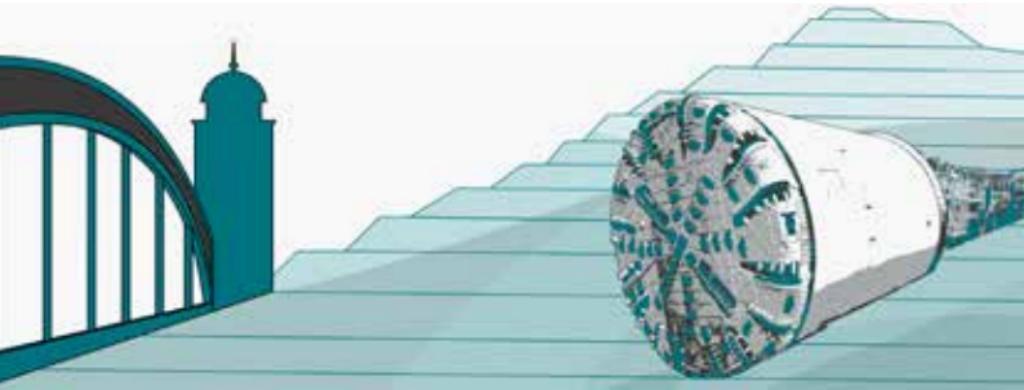
AUSTRIAN
SOCIETY FOR
GEOMECHANICS



TBM DIGS 2022

Tunnel Boring Machines in Difficult Ground

Montanuniversität Leoben - Zentrum am Berg & ÖGG,
23.11. - 25.11.2022
Leoben, Austria





Mixing and Injection Technology
is our competence.

Talk to the experts!

Häny Austria GmbH
Packerstraße 133a
AT-8561 Söding - St. Johann

+43 (0) 3137/46 450
office@haeny.com
www.haeny.at



HÄNY

Mixing and Injection Technology

TBM DIGS 2022

CONFERENCE AGENDA

WEDNESDAY, 11/23/2022

09:00 | WELCOME AND INTRODUCTION

R. Galler

09:15 | KEYNOTE SPEECH

Tunnelling remains vital!

L. Babendererde

09:55 | KEYNOTE SPEECH

TBM challenges in deep and complex tectonic environments – the devil is in the details

M. Diederichs

10:30 | COFFEE BREAK

11:00 | SPOIL CONDITIONING AND CUTTERHEAD REFURBISHMENT

11:00 | Experimental research on the development of a new visualization system on EPB TBM and soil conditioning inside the chamber

W. Liu

11:20 | Some Considerations on the Clogging Behavior of three Natural Clays

D. Sebastiani

11:40 | Soil Conditioning and Material Removal in EPB Tunneling – Case Study of I-75 Tunneling Project in Michigan, USA

I. Abdullayev

12:00 | Forward planning of interventions for small-diameter tunnelling

W. Dolsak

12:20 | CATERED LUNCH

13:20 | TBM PERFORMANCE ANALYSIS

13:20 | Analysis of TBM parameters during tunnelling in adverse conditions: the case study of the Frejus Safety Tunnel, Western Alps

G. W. Bianchi

13:40 | Simulation-based approach using real-time data analysis to improve performance predictions in mechanised tunnelling

A. Jodehl

14:00 | Evaluating Sensitivity of Single Shield TBM Utilization rate to the Segment Installation Time using Discrete Event Simulation Model

T. Tahernia

14:20 | Soft sedimentary rocks and their boreability characteristics in mechanized tunneling projects

J. Hassanpour

14:40 | Small diameter tunneling in difficult ground: Analysis of utility TBM performance in hard rock

G. Lehmann

15:00 | COFFEE BREAK

15:20 | FAULTS AND SHEAR ZONES

15:20 | The Tapovan-Vishnugad Project – an Example for TBM Tunnelling under difficult Conditions

J. Brandl

15:40 | Brenner Base Tunnel, Excavation of the exploratory tunnel between Ahrental and Pfons with TBM: review and key knowledge in terms of planning the main tunnels

A. Lussu

16:00 | Tunneling under squeezing conditions in Zagros water conveyance tunnel

M. Abbasi

16:20 | Reviewing Performance of an EPB-TBM in a Complex Geology with Frequent Shear Zones

N. Bilgin

16:40 | TIME TO CHANGE

PSGi®-Systeme als vortriebsbegleitende Maßnahme

PSGi® systems
to accompany tunneling

■ Verfüllen
filling

■ Verfestigen
consolidation

■ Abdichten
sealing

 Grundwasser-
hygienisch zugelassen
groundwater friendly

TBM DiGs 2022:
Stand Nr. 1
booth no. 1

Video und mehr:
video and more:



Produktion und Vertrieb
Production and sales
TPH Bausysteme GmbH
Nordportbogen 8
22848 Norderstedt

Niederlassung Österreich
Branch Austria
TPH Bausysteme GmbH
Hamerlingstrasse 2a
3910 Zwettl

Niederlassung Schweiz
Branch Switzerland
TPH Bausysteme CH AG
Talacker 41
8001 Zürich

Tel.: +49 40 52 90 66 78-0

www.tph-bausysteme.com

18:00 | TOUR TO ZAB - ZENTRUM AM BERG INCLUDING DINNER:



23:00 | END OF THE EVENING EVENT

oestu-stettin.at

TUNNEL-/SCHACHTBAU INGENIEURTIEFBAU HOCHBAU
GENERALUNTERNEHMERBAU STAHL-/SCHALUNGSBAU

**buildings
are our
heart, tunnels
our
veins,**

**construction
is our life.**

OESTU STETTIN

part of the family HABAU GROUP

A Breakthrough for Generations



GEOTECHNIK
UND TUNNELBAU

- Project Design
- Supervision
- Feasibility Studies
- Geotechnics
- Project Management

AUSTRIA

IGT Geotechnik und Tunnelbau
Ziviltechniker Gesellschaft m.b.H.
Mauracherstraße 9
5020 Salzburg, Austria

Tel: +43 662 641727-0
E-Mail: salzburg@igt-engineering.com

Branch offices:
AUSTRIA Schruns, Vienna
TURKEY Istanbul

PP-MEGA-Pipe **DN/ID 1600 mm**

**The biggest corrugated
pipe of Europe!**

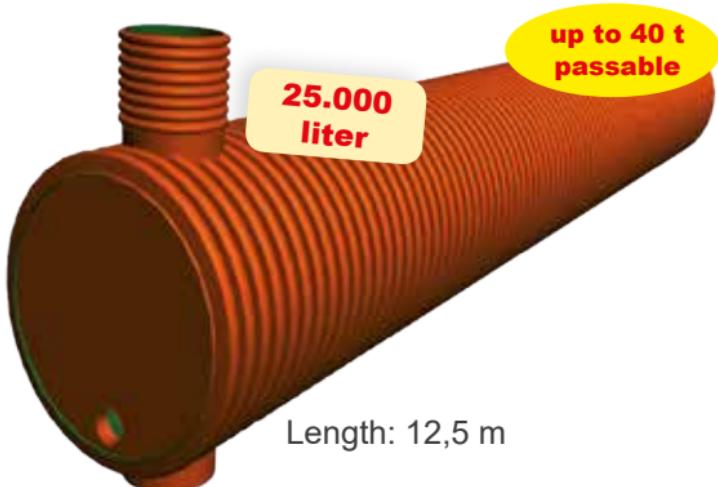


We produce the PP-MEGA-pipe DN/ID 1600 with an outside diameter of approx. 1800 mm.

PP-MEGA-Tank DN/ID 1600 mm **with up to 25.000 l in one piece**

For larger volumes, our tanks can be made to any length by stringing together several tubes.

The tanks have a volume of approx. 2 m³/lfm.



CONFERENCE AGENDA

THURSDAY, 11/24/2022

09:00 | DEFORMATION AND SUPPORT

09:00 | Analyses of Pre-Excavation Grouting for TBM Tunnelling

H. Wannenmacher

09:20 | Assessment of the Rockburst Risk Associated with Use of TBMs in Deep Mines

R. Narimani

09:40 | 3D-Nonlinear Finite Element Analysis of Staged Shielddriven Tunnel Excavation with a Focus on Response of Segmental Tunnel Lining

N. Allahverdi

10:00 | Large TBM project in Nepal - The 1st largest 13,3-kmlong headrace tunnel by TBM - Application of single and double shield

C. A. Alvaredo Ancieta

10:20 | COFFEE BREAK

10:40 | INNOVATIVE CONTRACTS, GUIDELINES AND DIGITISATION

10:40 | Innovative Contract and Compensation Model in mechanised Tunnelling – Calculation of the deviating Construction Time based on digital Excavation and Process Data

T. Bisenberger

11:00 | The practical use of the Guideline for the Geotechnical Design of Underground Structures with TBM Excavation in Austria

A. Poisel

11:20 a.m. | Concentric circular photogrammetry of rock faces ahead of TBMs

R. Wenighofer

11:40 | Digitalization and Automation in Surveying and Monitoring of TBM projects

K. Chmelina

12:00 | CATERED LUNCH

ILF TUNNEL ENGINEERING.
50+ YEARS
1.000+ KM



tunnel.ilf.com

13:00 | URBAN AND SHALLOW TUNNELLING

13:00 | Świnoujście Tunnel in Poland: Design and Construction aspects of a big diameter slurry TBM excavation under Świna Strait

A. Luciani

13:20 | Mix-Shield tunnelling in Karlsruhe under extreme boundary conditions

B. Römisch

13:40 | EPB tunneling in long highly sensitive sections – The experience of Grand Paris Line 14 underpassing the Orly Airport

P. Fantini

14:00 | Liquefaction potential and mitigation measures at TBM stretch close to Uskudar station (İstanbul)

H. G. Selman Babur

14:20 | COFFEE BREAK

14:40 | SOFT ROCK & SOIL

14:40 | Lessons from tunnelling through glacial deposits

W. Steiner

15:00 p.m. | Numerical modeling of cutting tool-ground interaction

S. Butt

15:20 | Tunnelling the Future Circular Collider at CERN

R. Cunningham

15:40 | TBM-EPB Operation in extreme ground water conditions and challenging offshore location

G. Peach

16:00 | CLOSING CEREMONY

R. Galler

17:00 | START FIELD TRIP TO INNSBRUCK

FIELD TRIP

THURSDAY, 11/24/2022

You can choose between two site visits:

1. BRENNER BASE TUNNEL



2. KÜHTAI

(limited to 15)



After the construction site visits we will go together to the Salzburg Christmas Market.

Afterwards you can start your journey home directly from Salzburg or return to Leoben together with us.



For more information about the construction sites and the Christkindlmarkt please have a look at our website:

WWW.TBMDIGS.COM



WE UNITE
NATURE AND
TECHNOLOGY

GC Group is an independent and family-owned global business, offering integrated engineering and consulting services for the whole lifecycle of infrastructure projects.

We provide services in the areas:

- Geotechnics
- Planning and Advisory
- Engineering and Design
- Operation and Maintenance
- Rehabilitation
- Research



GEOCONSULT GROUP

Wissenspark Salzburg Urstein ■ Urstein Süd 13 ■ 5412 Puch ■ Austria

+43 662 65965 0 ■ office@geoconsult.com

WWW.GEOCONSULT.COM



GEODATA

The Monitoring & Surveying Experts



www.geodata.com



office@geodata.com



+43 3842 26 555



Hans-Kudlich-Straße 28, 8700 Leoben



WE TURN DATA
INTO INFORMATION

WE THANK OUR SPONSORS

PLATIN:



GOLD:



SILVER:



COFFEE BREAK





www.isrm2023.com

15th int. ISRM Congress & 72. Geomechanics Colloquium 2023

*...see you in
Salzburg!*



INTERNATIONAL SOCIETY
FOR ROCK MECHANICS
AND ROCK ENGINEERING



AUSTRIAN
SOCIETY FOR
GEOMECHANICS

SALZBURG, 09TH TO 14TH OF OCTOBER 2023
15TH ISRM CONGRESS

**System Supplier for
Underground Construction**