



# **Umfahrung Branzoll**

## **Tunnelbau im Ortsgebiet mit vielfältigen Herausforderungen**

# **Circonvallazione di Bronzolo**

## **Galleria in area urbana con una varietà di sfide**

14.02.2025 - Ing. D. Maniezzo, Ing. G. Fischnaller, Geol. A. Stofner

# RELATORI

Ing. Davide Maniezzo, RUP – Introduzione ..... pag. 3

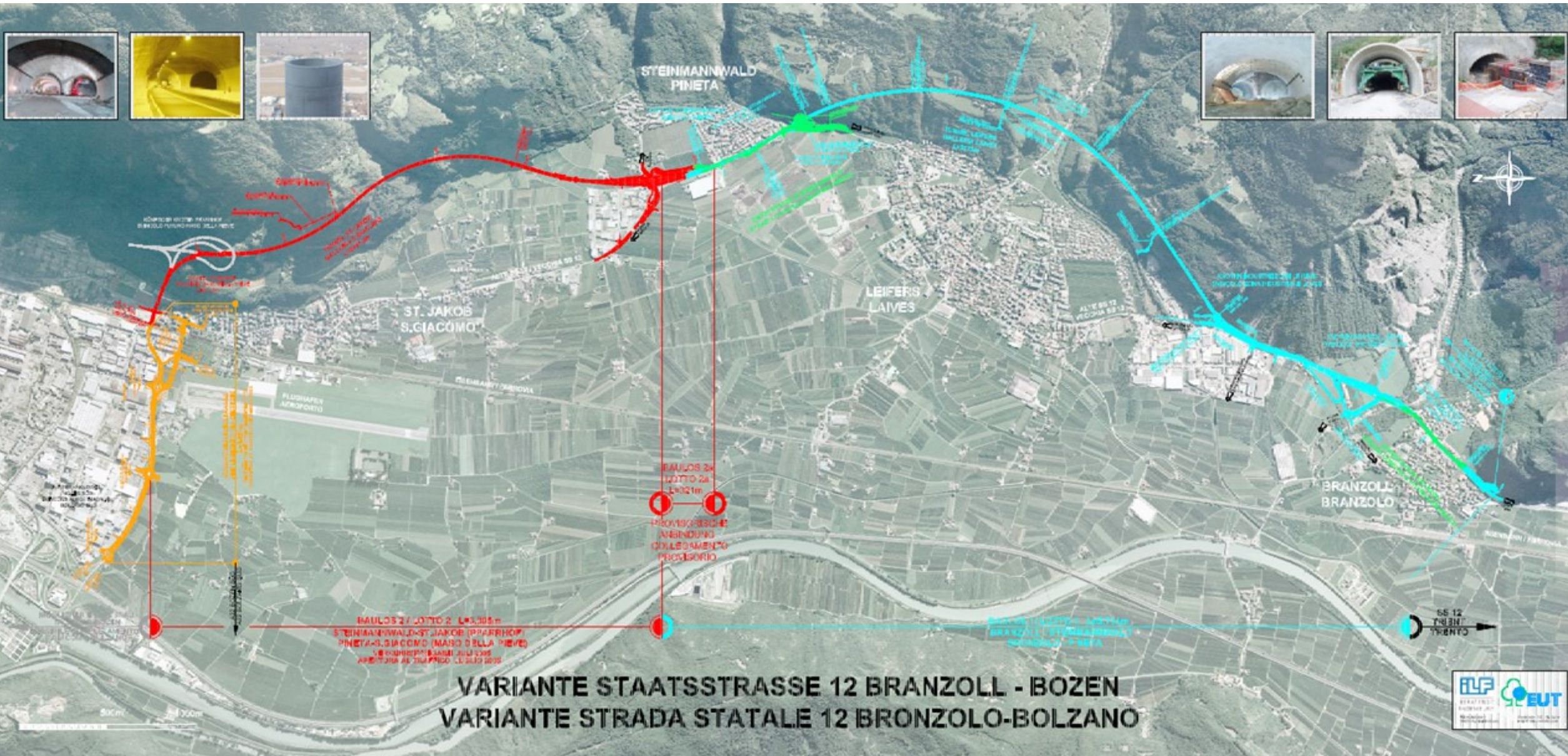
Ing. Georg Fischnaller, EUT – Presentazione dell'opera ..... pag. 9

Dott. Geol. Alex Stofner, EUT – Inquadramento geologico ..... pag. 21

ING. DAVIDE MANIEZZO - RUP

## INTRODUZIONE





**VARIANTE STAATSSSTRASSE 12 BRANZOLL - BOZEN**  
**VARIANTE STRADA STATALE 12 BRONZOLO-BOLZANO**





STEINMANNWALD  
PINETA



Baulos Steinmannwald  
Lotto Pineta

Verkehrsfreigabe – Apertura al traffico:

02/2009

Gesamtkosten – Costo complessivo:

19 MLN €

LEIFERS  
LAIVES

BRANZOLL  
BRONZOLO





STEINMANNWALD  
PINETA



LEIFERS  
LAIVES

Baulos Tunnel Leifers  
Lotto Galleria Laives

Verkehrsfreigabe – Apertura al traffico:  
Gesamtkosten – Costo complessivo:

12/2013  
88 MLN €



BRANZOLL  
BRONZOLO





STEINMANNWALD  
PINETA

LEIFERS  
LAIVES

Baulos Branzoll  
Lotto Bronzolo

Gesamtkosten – Costo complessivo:

57 MLN €

BRANZOLL  
BRONZOLO



|                                                |                                        |                                                     |
|------------------------------------------------|----------------------------------------|-----------------------------------------------------|
| <b>1. Genehmigung<br/>Techn. Eigenschaften</b> | <b>20.03.1995</b>                      | <b>1° Approvazione<br/>Caratteristiche tecniche</b> |
| <b>Genehmigung<br/>Ausführungsprojekt</b>      | <b>16.12.2019</b>                      | <b>Approvazione PE</b>                              |
| <b>Veröffentlichung Ausschreibung</b>          | <b>02.08.2021</b>                      | <b>Pubblicazione appalto</b>                        |
| <b>Auftragnehmer</b>                           | <b>BG./A.T.I.<br/>STRABAG - ERDBAU</b> | <b>Appaltatore</b>                                  |
| <b>Übergabe der Arbeiten</b>                   | <b>26.04.2023</b>                      | <b>Consegna lavori</b>                              |
| <b>Dauer der Arbeiten</b>                      | <b>36 Mo. / Mesi</b>                   | <b>Durata dei lavori</b>                            |



ING. GEORG FISCHNALLER - EUT

PRESENTAZIONE DELL'OPERA



BAUGRUBE „LUNZ“  
CAVA „LUNZ“

Gesamtlänge  
Lunghezza complessiva  
 $L = 1.475,00 \text{ m}$

TUNNEL BRANZOLL  
GALLERIA BRONZOLO  
 $L = 702 \text{ m}$

HANDWERKZONE BRANZOLL  
ZONA ART. BRONZOLO

KNOTEN BRANZOLL NORD  
SVINCOLO BRONZOLO NORD

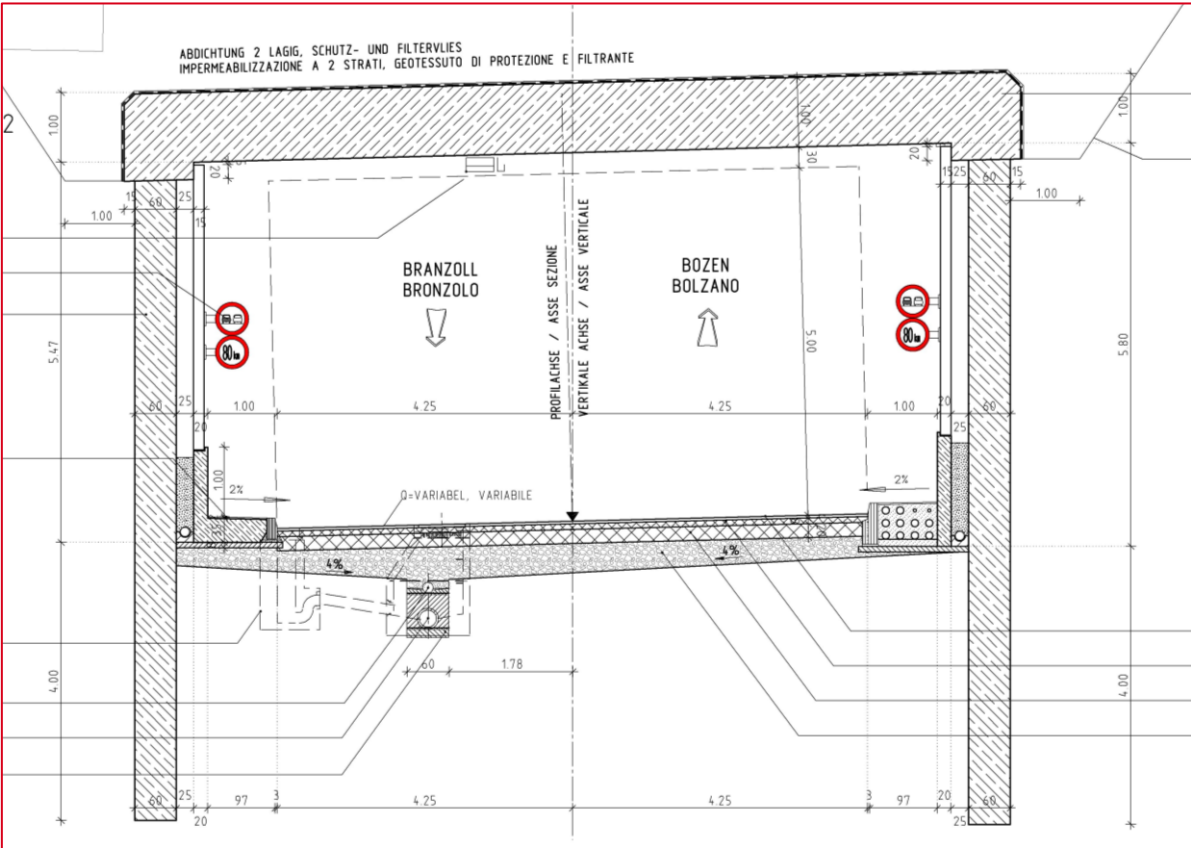
KNOTEN BRANZOLL SÜD  
SVINCOLO BRONZOLO SUD

HANDWERKZONE LEIFERS  
ZONA ART. LAIVES

BRANZOLL  
BRONZOLO

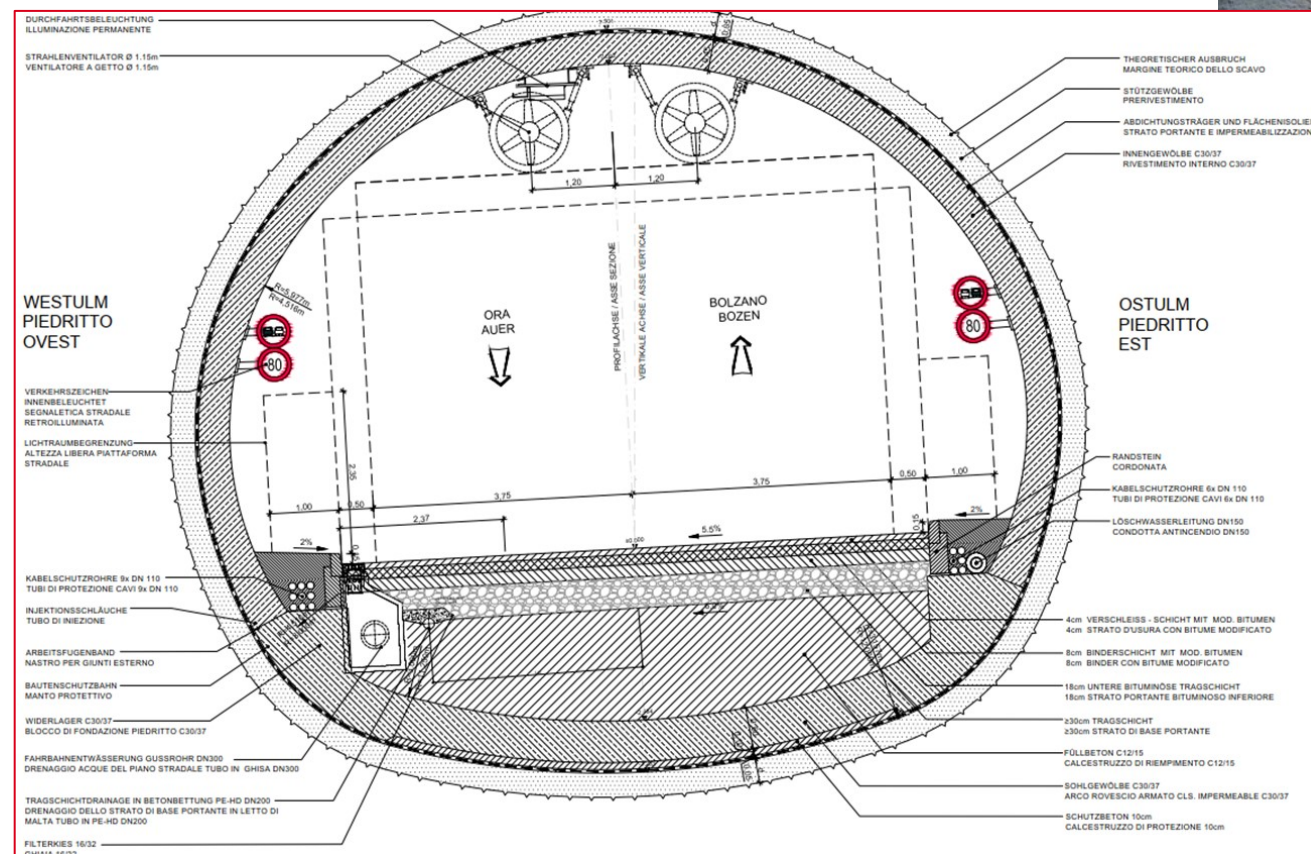


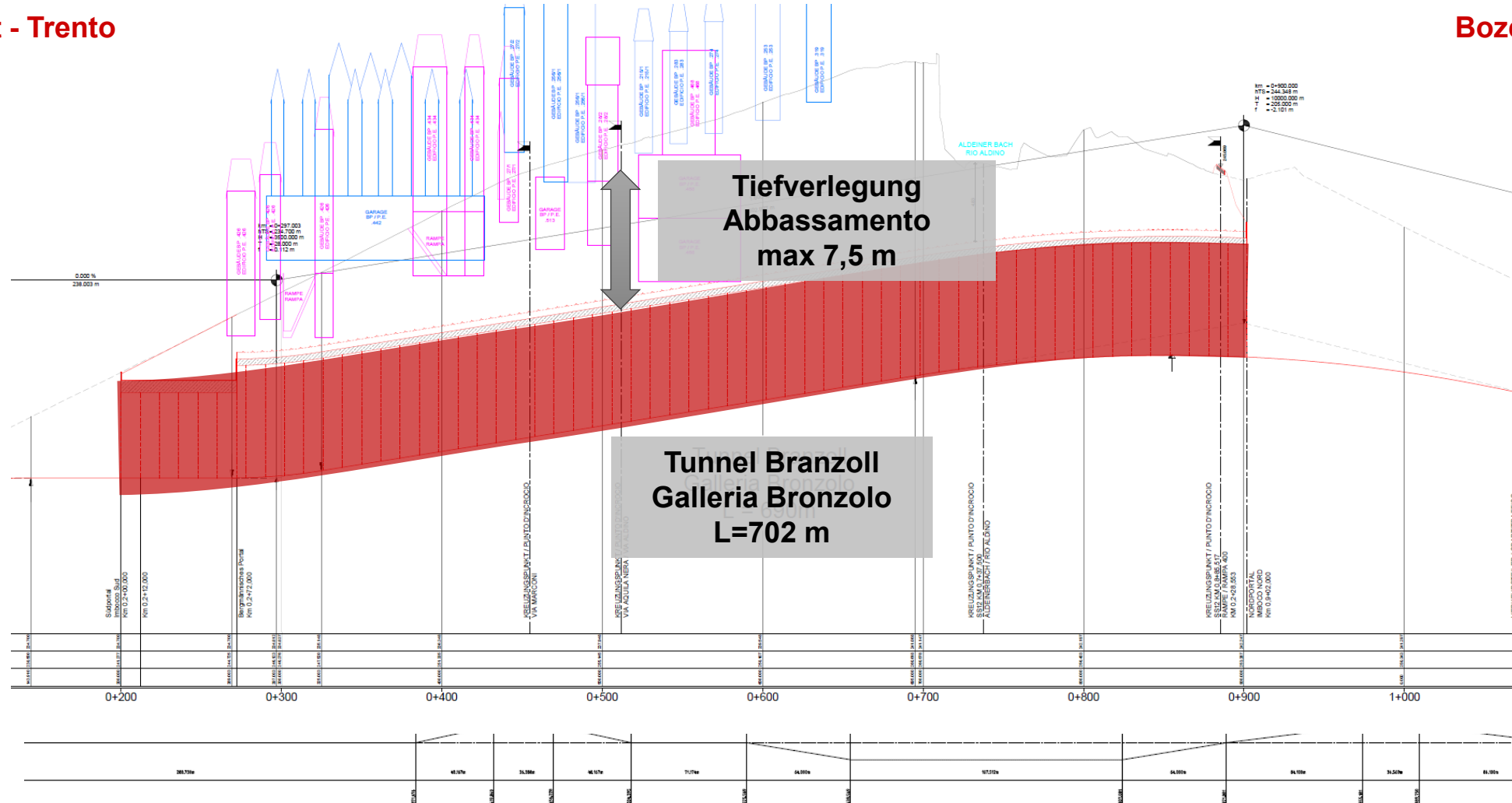
**URSPR. PROJEKT - DECKELBAUWEISE**  
**PROGETTO ORIGINARIO - METODO «MILANO»**





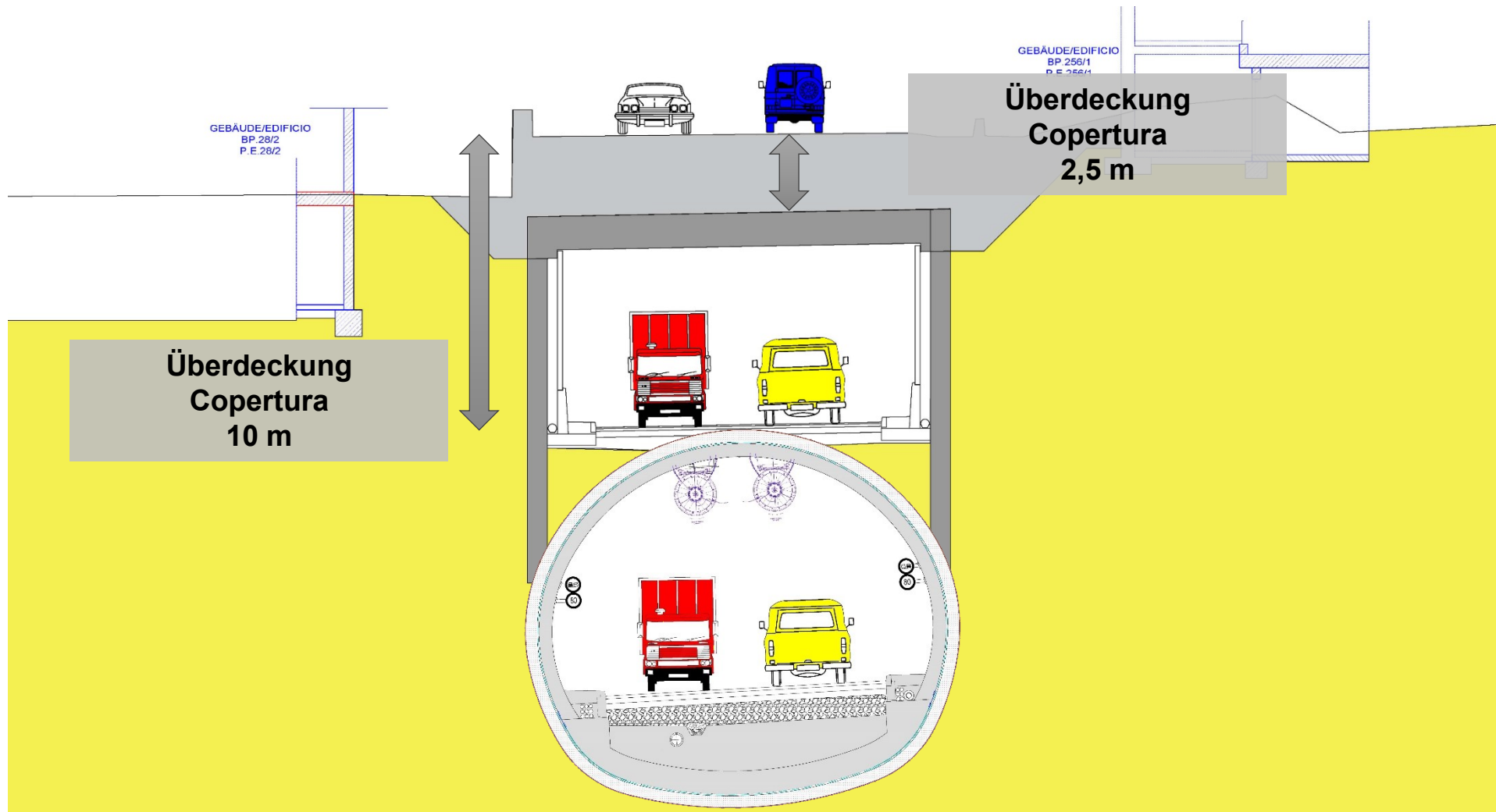
# NEUES PROJEKT - BERGM. TUNNEL PROGETTO NUOVO - GALLERIA NATURALE





## LÄNGSPROFIL TUNNEL PROFILO LONGITUDINALE GALLERIA

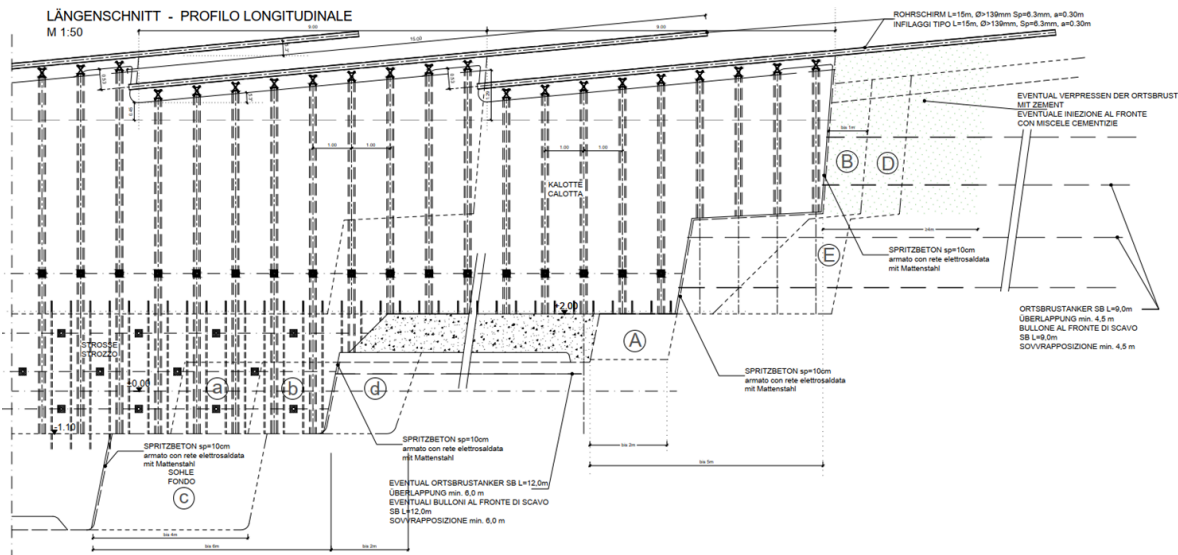
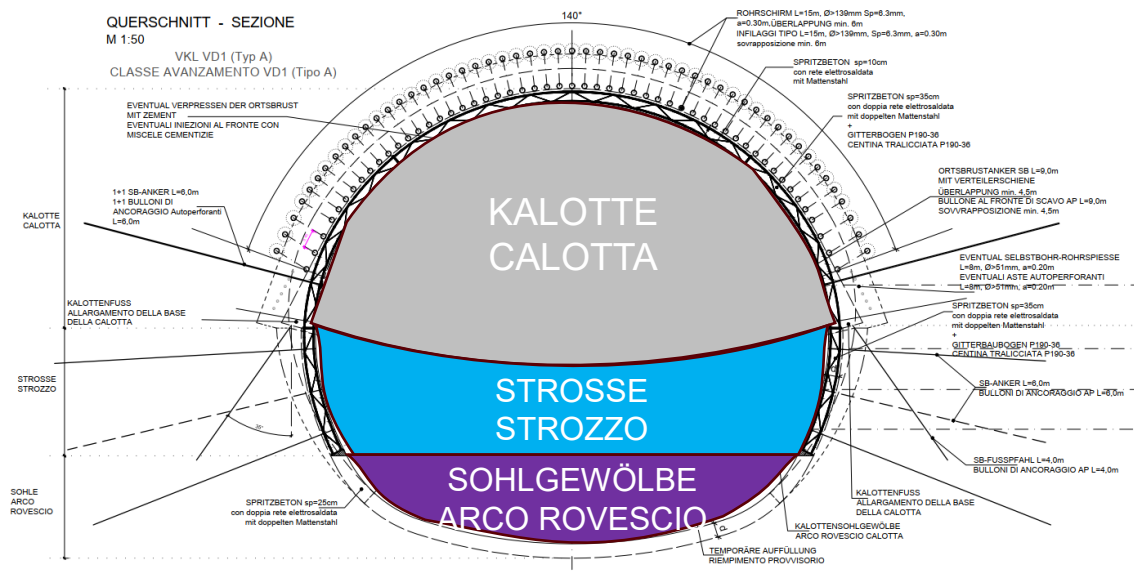




## TUNNELQUERSCHNITT SEZIONE GALLERIA

# NÖT - VORTRIEB

## SCAVO CON METODO «NATM»







D. Maniezzo, G. Fischnaller, A. Stofner

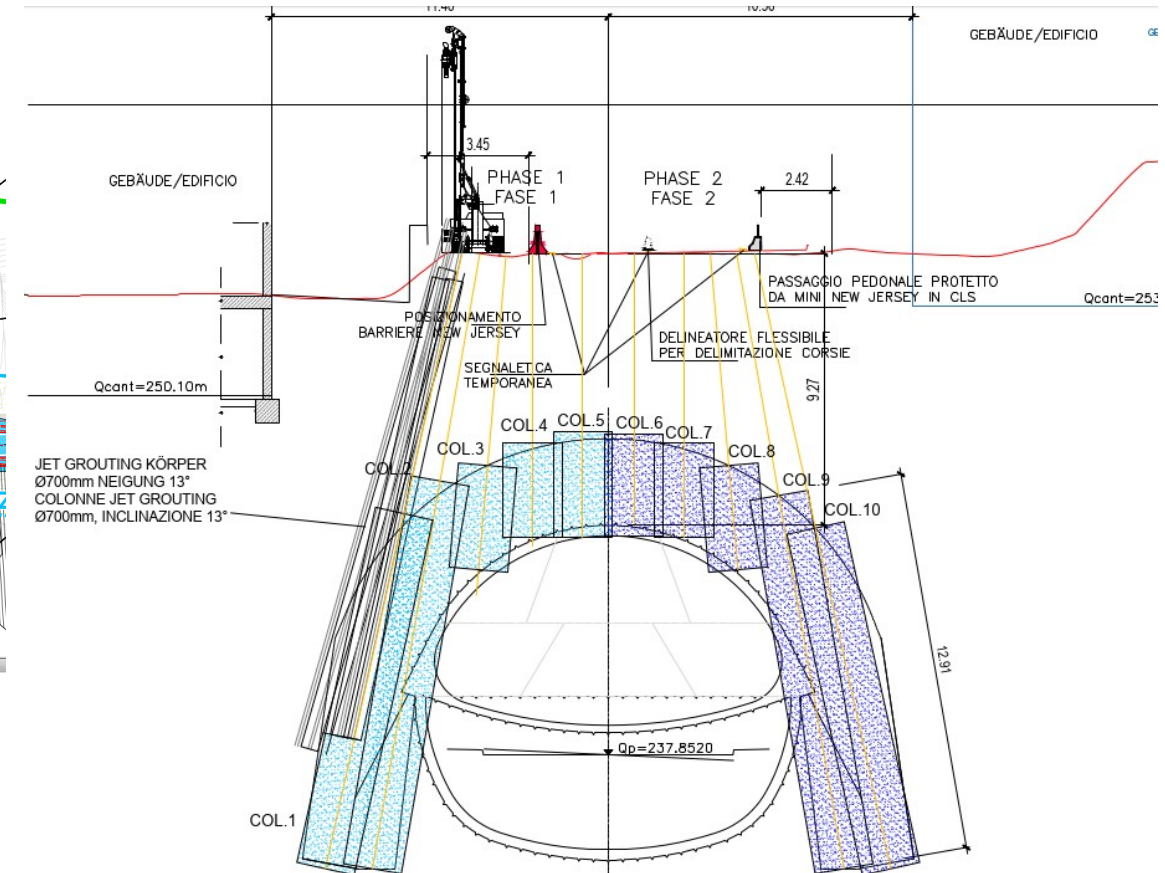
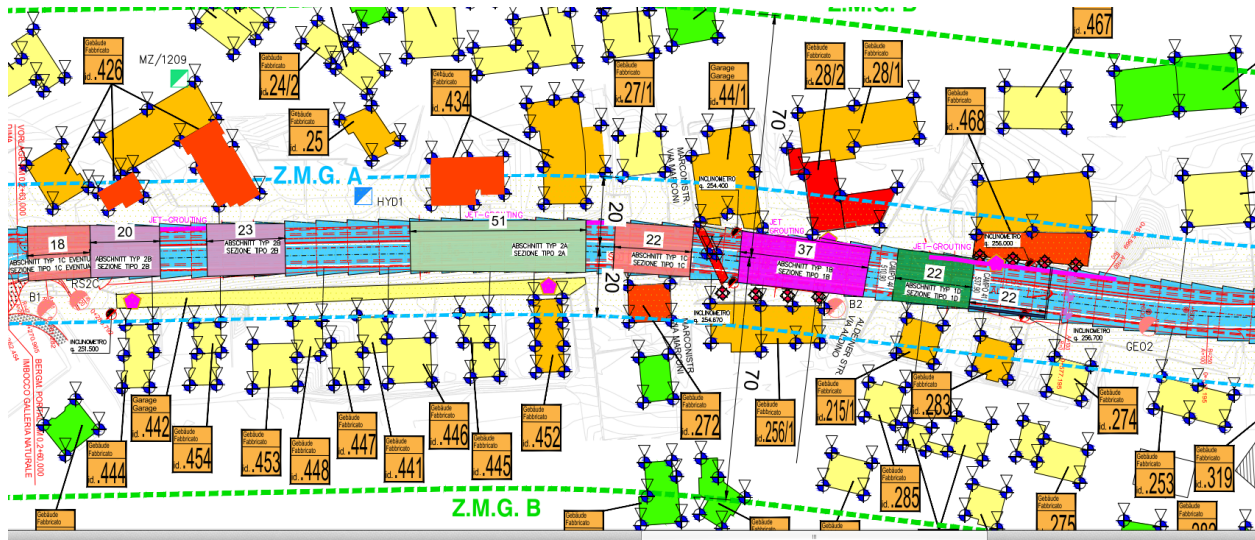
AUTONOME  
PROVINZ  
BOZEN  
SÜDTIROL



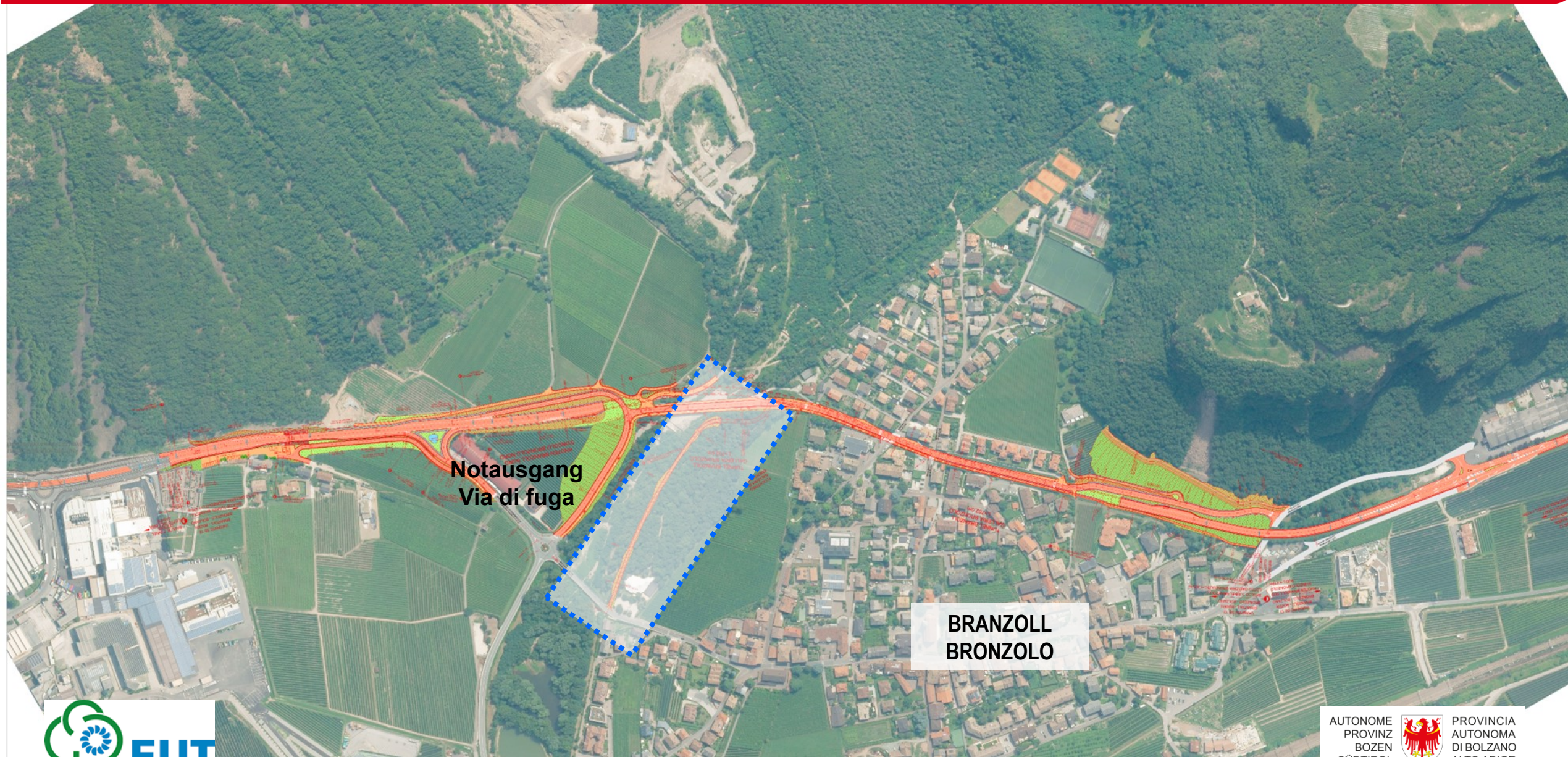
PROVINCIA  
AUTONOMA  
DI BOLZANO  
ALTO ADIGE

---

PROVINZIA AUTONOMA DE BULSAN  
SÜDTIROL



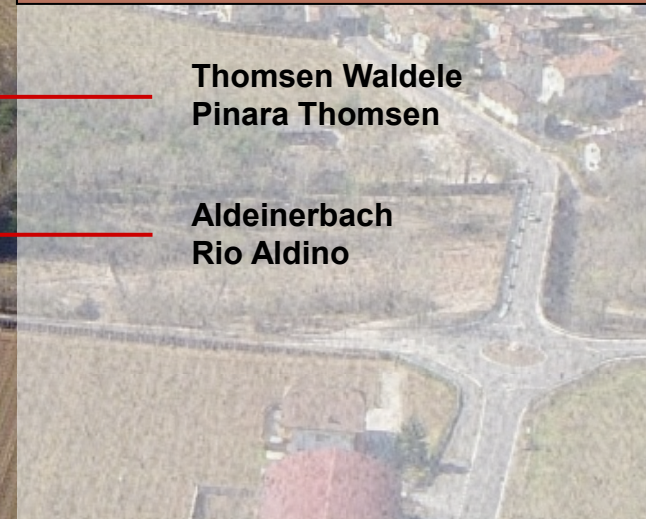
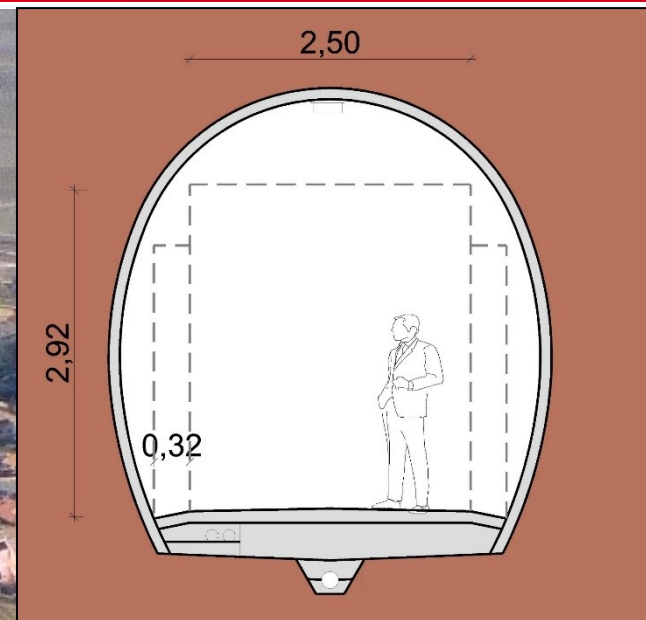








**Portal Notausgang  
Imbocco Via di fuga**



**Thomsen Waldele  
Pinara Thomsen**

**Aldeinerbach  
Rio Aldino**





**Steinschlagschutzdamm SÜD  
Vallo paramassi SUD**

**BRANZOLL  
BRONZOLO**



# Techn. Daten / Dati tecnici

- ▶ **Straßenbreite – Larghezza della strada** **10,50m**
- ▶ **2 Fahrbahnen zu – 2 corsie da** **3,75m**
- ▶ **2 Bankette zu – 2 banchine da** **1,50m**
- ▶ **Lichte Höhe Tunnel – Altezza galleria** **5,50m**
- ▶ **Max. Längsneigung Tunnel Branzoll** **3.00%**  
**Pendenza long. massima Galleria Bronzolo**
- ▶ **Max. Längsneigung freie Strecke** **3.00%**  
**Pendenza long. massima tratto a cielo aperto**

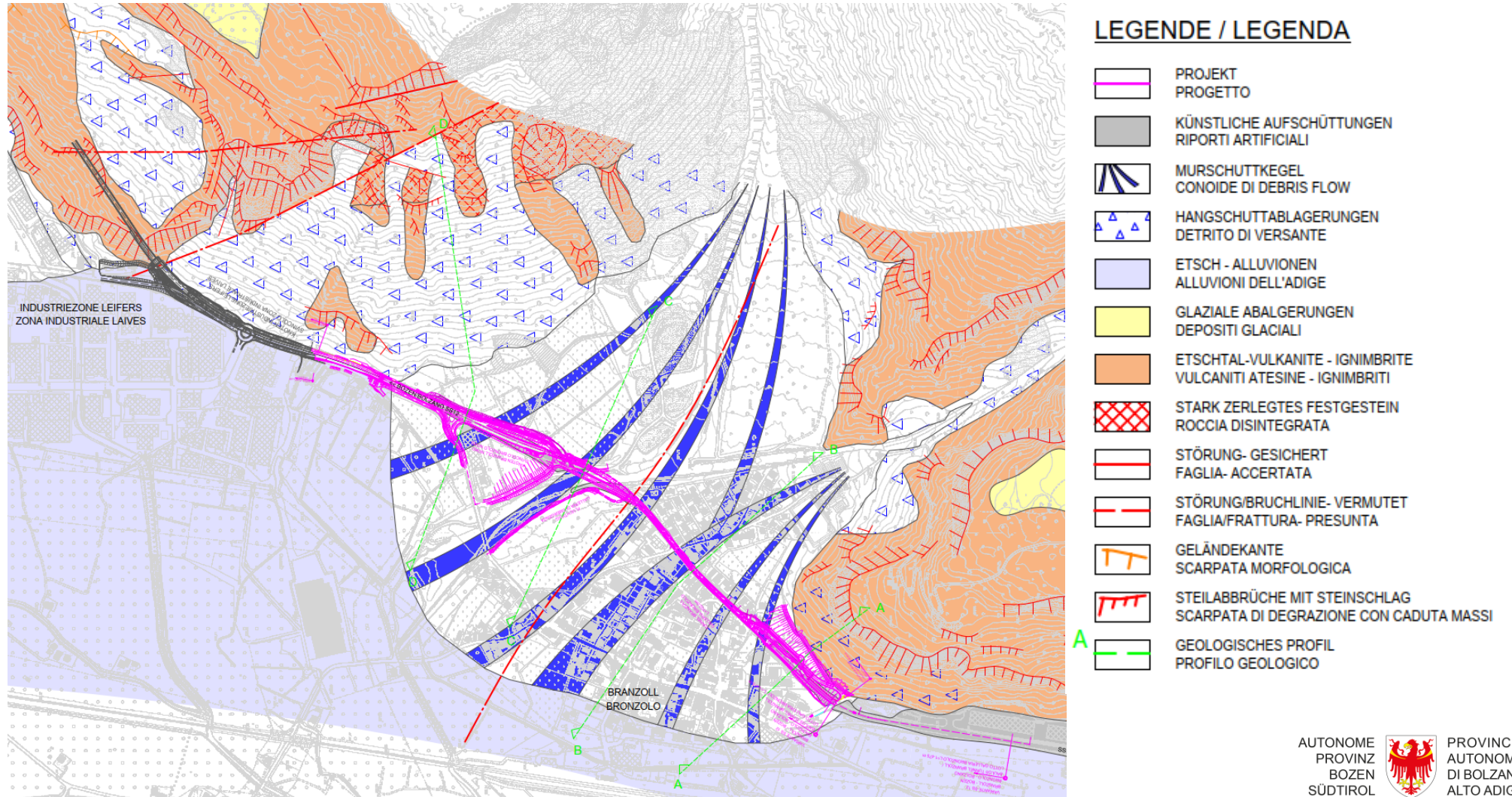


GEOL. ALEXANDER STOFNER - EUT

INQUADRAMENTO GEOLOGICO

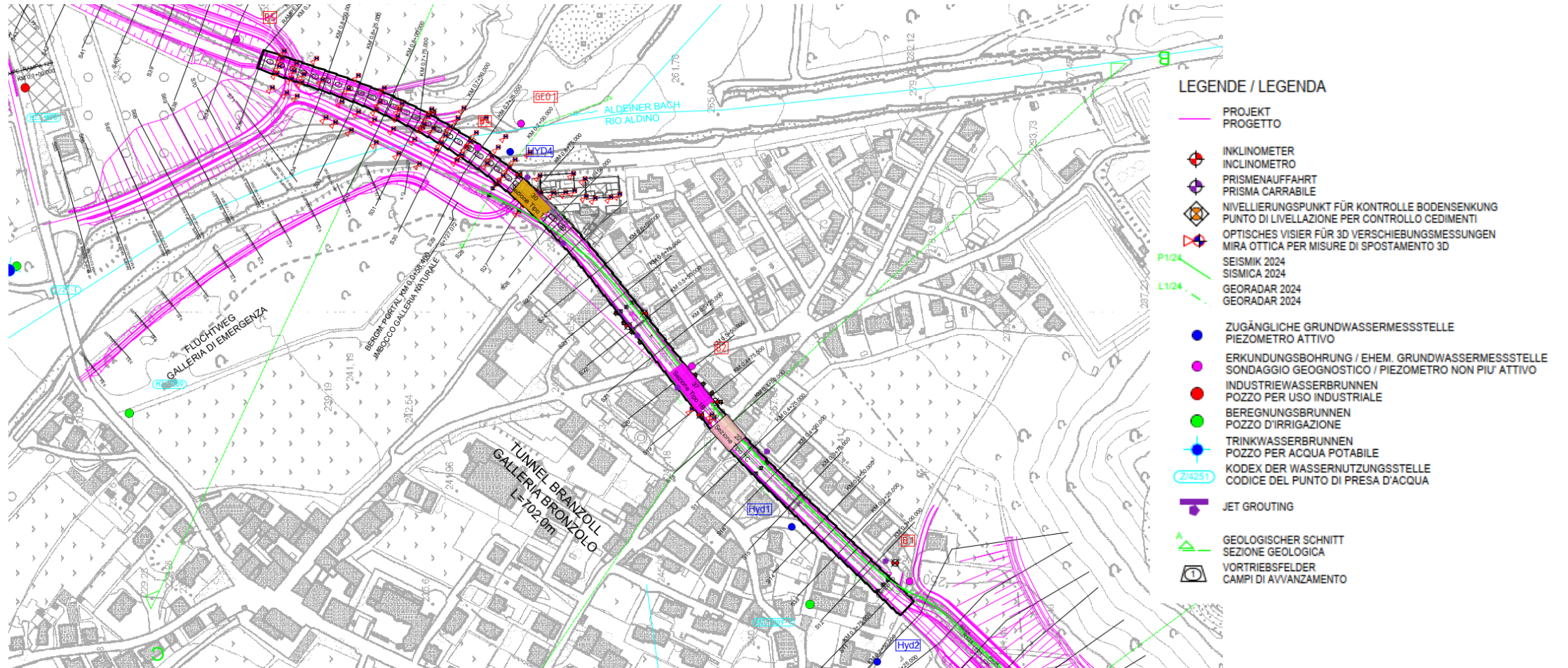


# Geologische Verhältnisse – condizioni geologiche



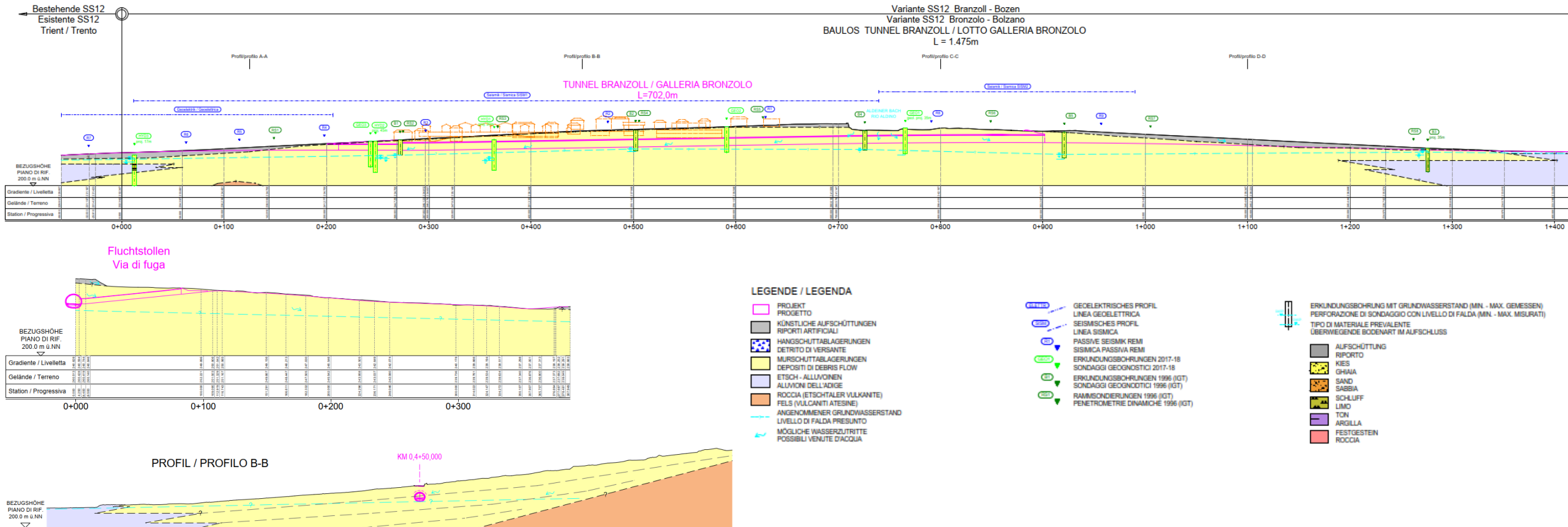


# Geologische Erkundungen – indagini

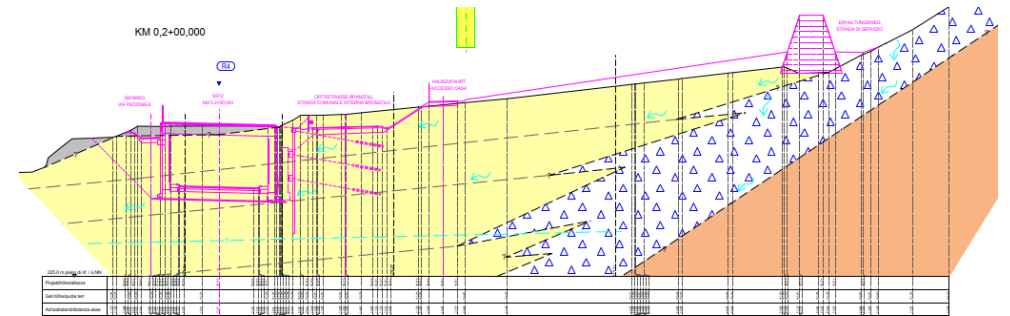
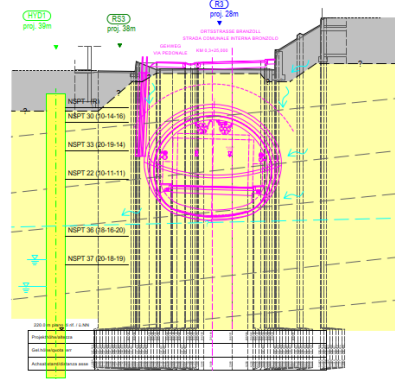
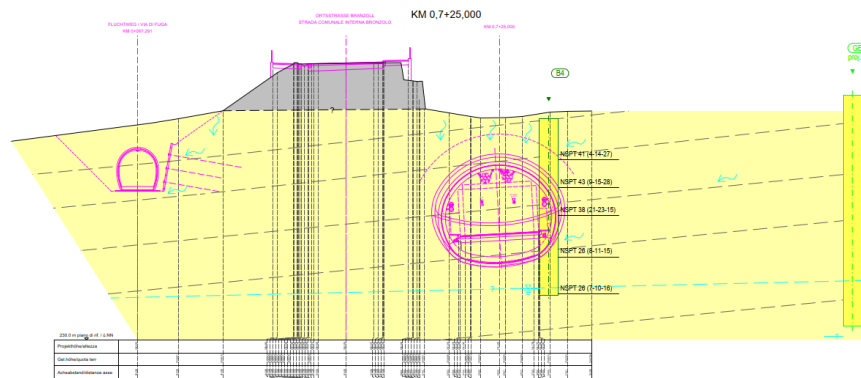
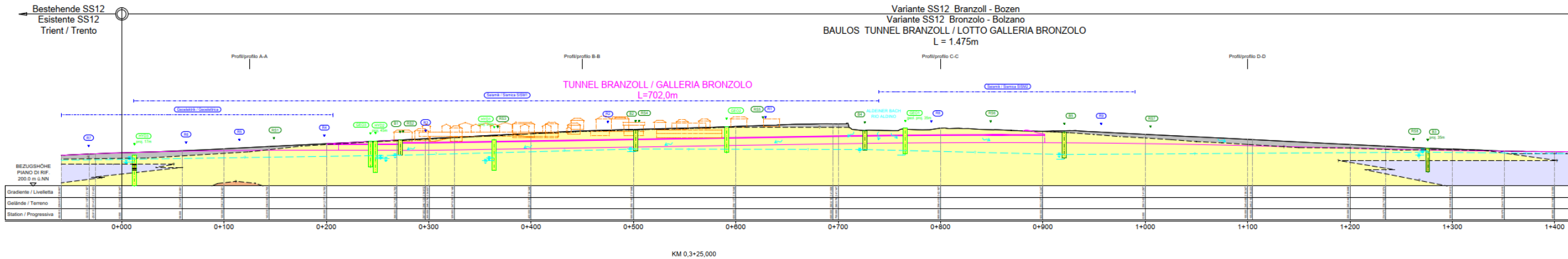




# Geologie Längenschnitte – Sezioni geologiche



# Geologische Schnitte – Sezioni geologiche





# Geologische Verhältnisse beim Vortrieb – condizioni geologiche riscontrate in fase di scavo

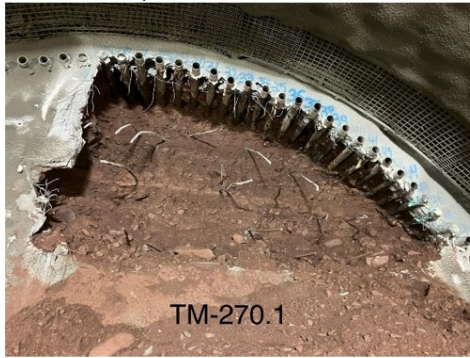
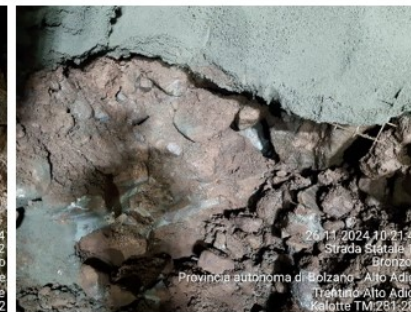
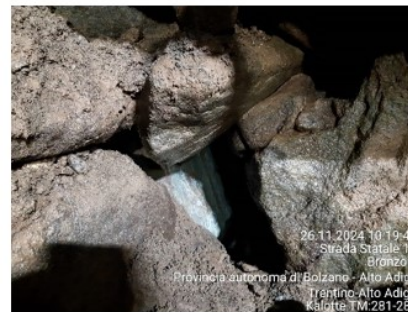


Foto-dallo-scavo-con-sezioni-parziali-con-tipica-composizione-e-struttura¶

sx: strato-di-bocchi-e-ciottoli-a-base-calotta, dx: dettaglio-con-vuoti, iniettati¶

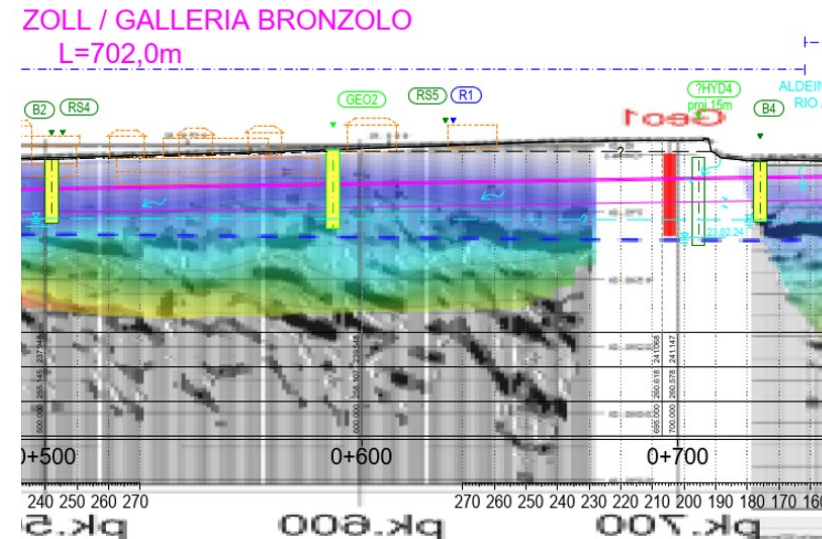
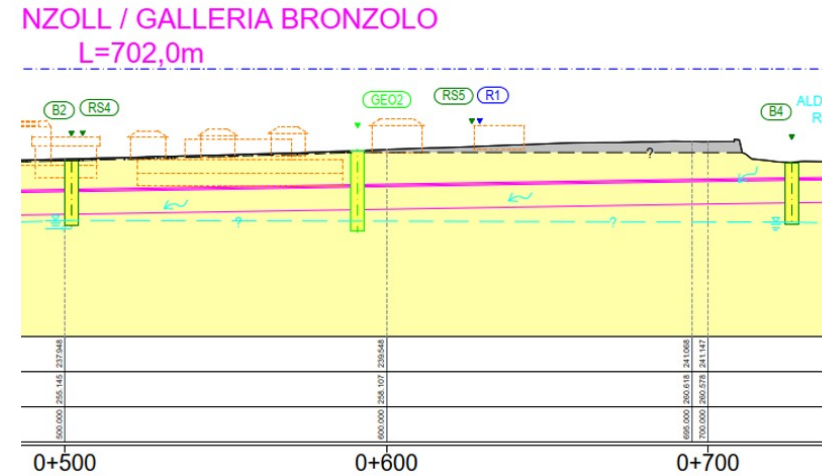
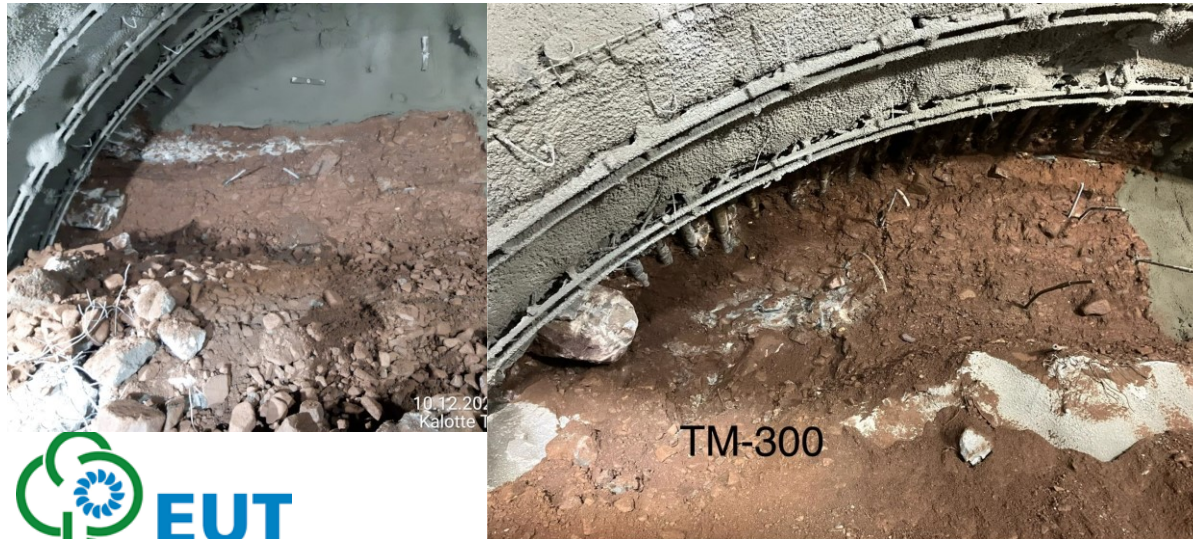


sx: zona con bocchi e ciottoli in alto a sx calotta, dx: dettaglio con vuoti, iniettati

sx: dettaglio con bocchi e ciottoli con vuoti importanti; centro: dettaglio con vuoti, solo parzialmente riempiti; dx: singolo blocco scavato in base calotta, l max. 2,5m

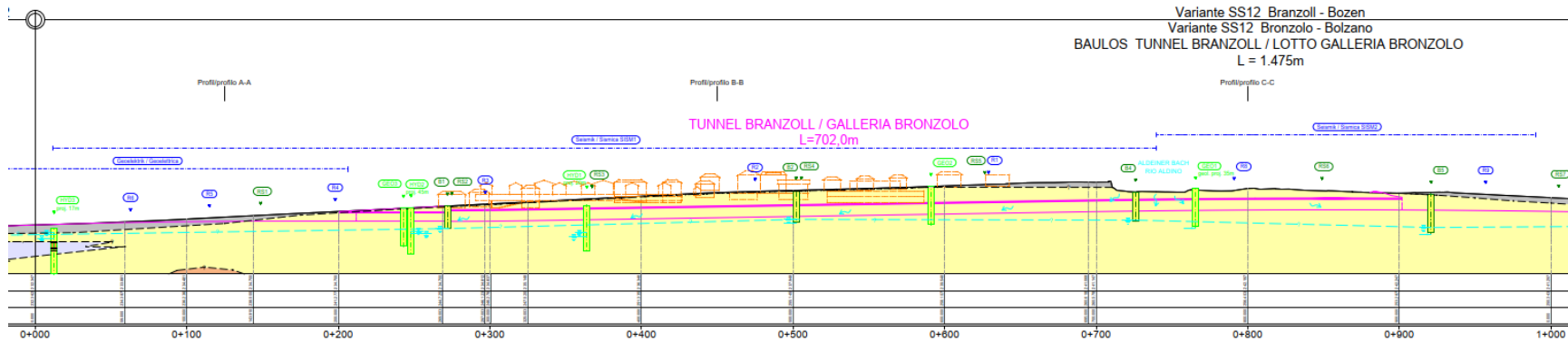


# Vortrieb und Prognose – Scavo e modello geologico

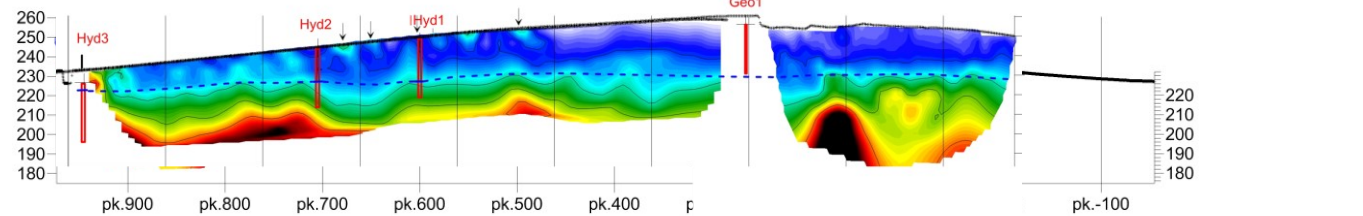




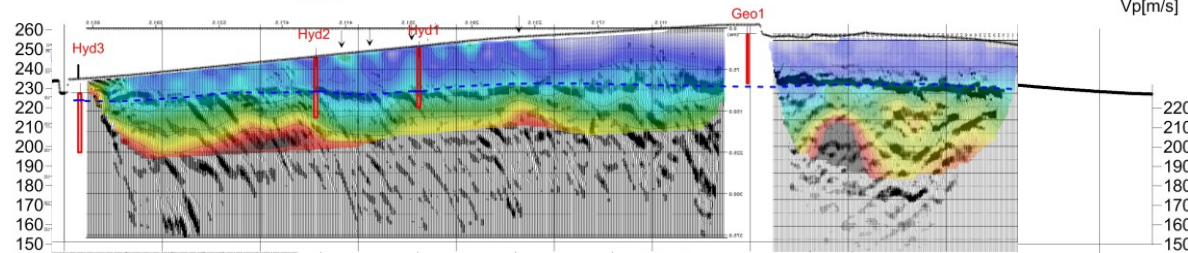
# Geologie und Seismik – geologia e sismica



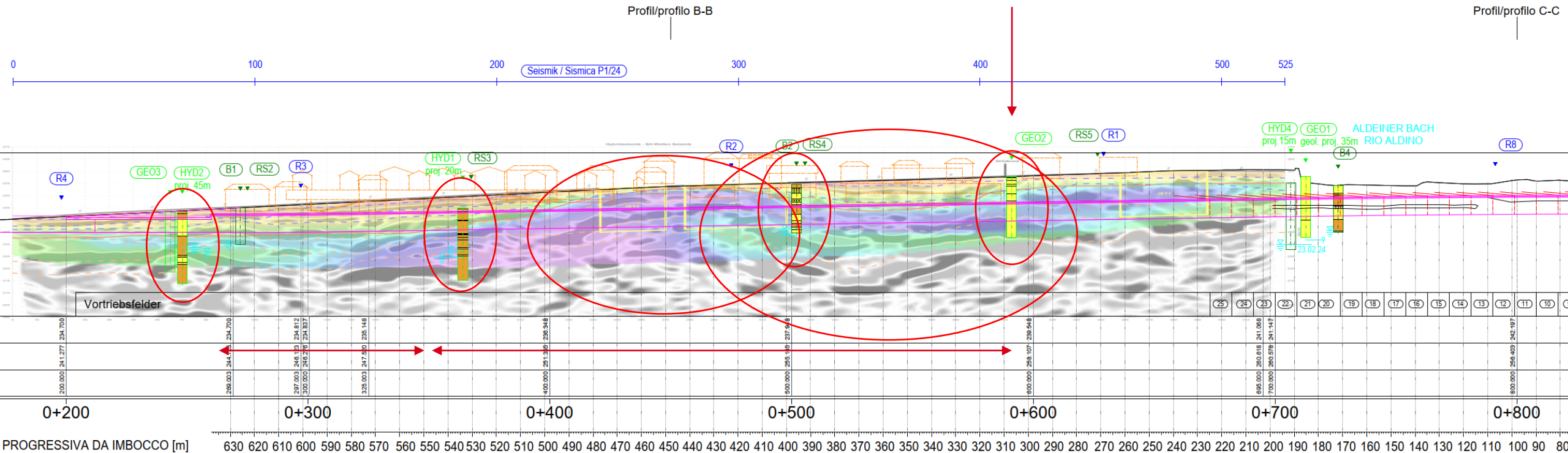
Tomografia sismica a rifrazione



Sismica a riflessione

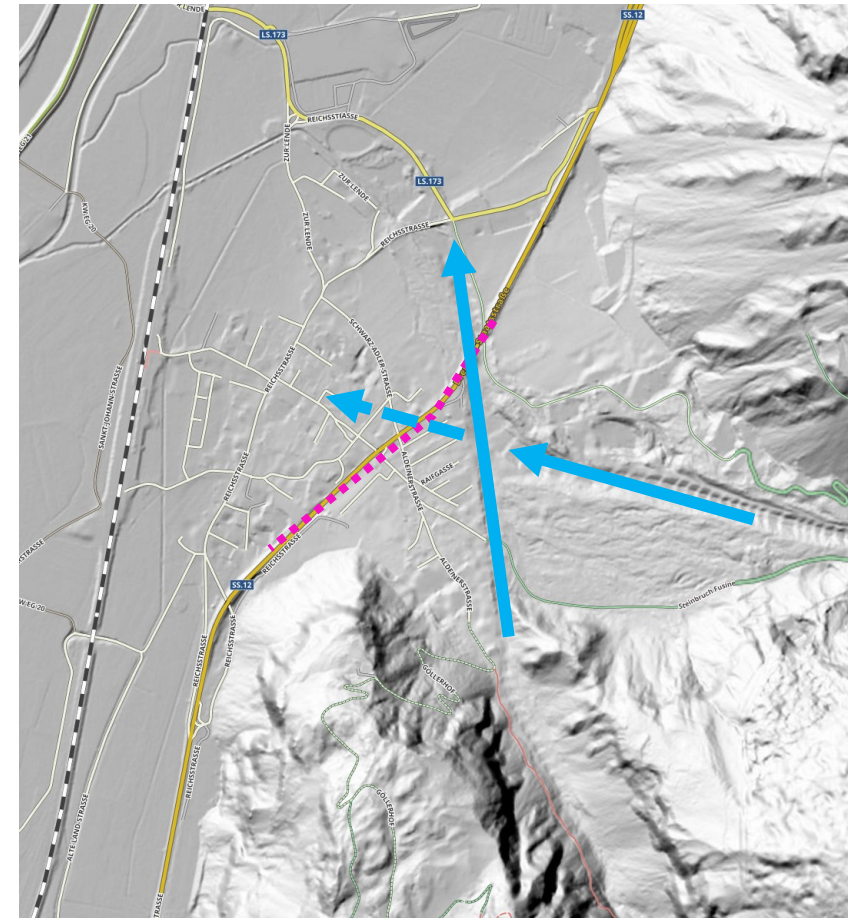
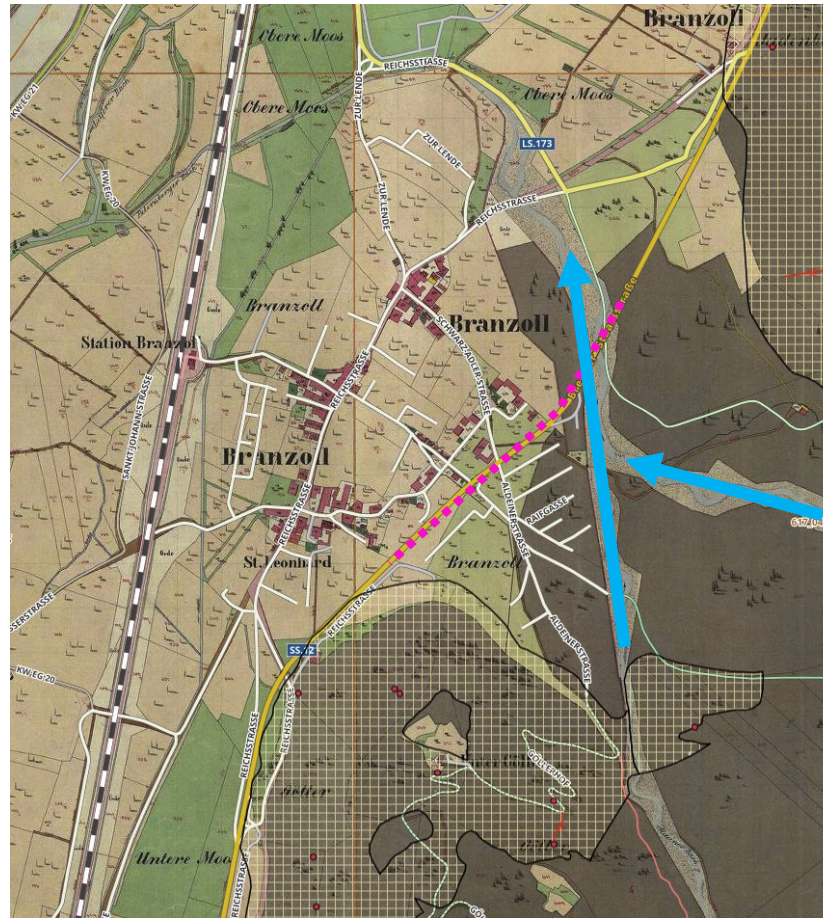
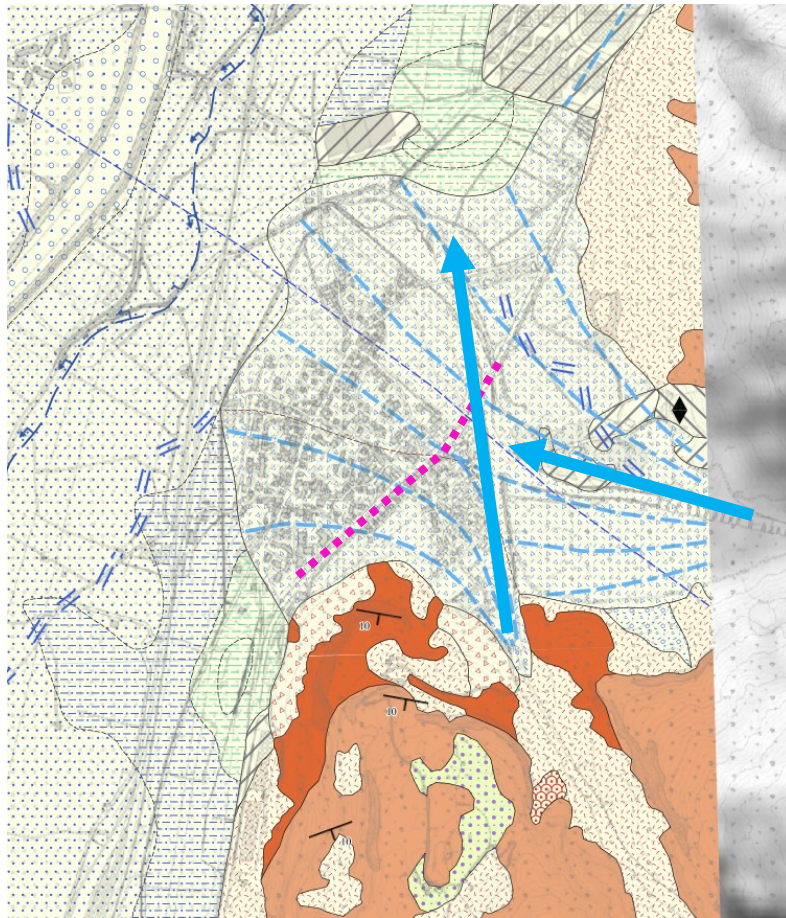


# Vertiefende Erkundung – indagine sismica specifica





# Geologische Überlegungen – considerazioni geologiche





# Bilder sprechend für sich – foto illustrano ...





**GRAZIE  
PER L'ATTENZIONE**

**DANKE  
FÜR DIE AURMERKSAMKEIT**



**Committente:**



**Progettisti:**



**Direzione Lavori:**



**Imprese Esecutrici:**

