

TUNNEL EURALPIN | LYON TURIN

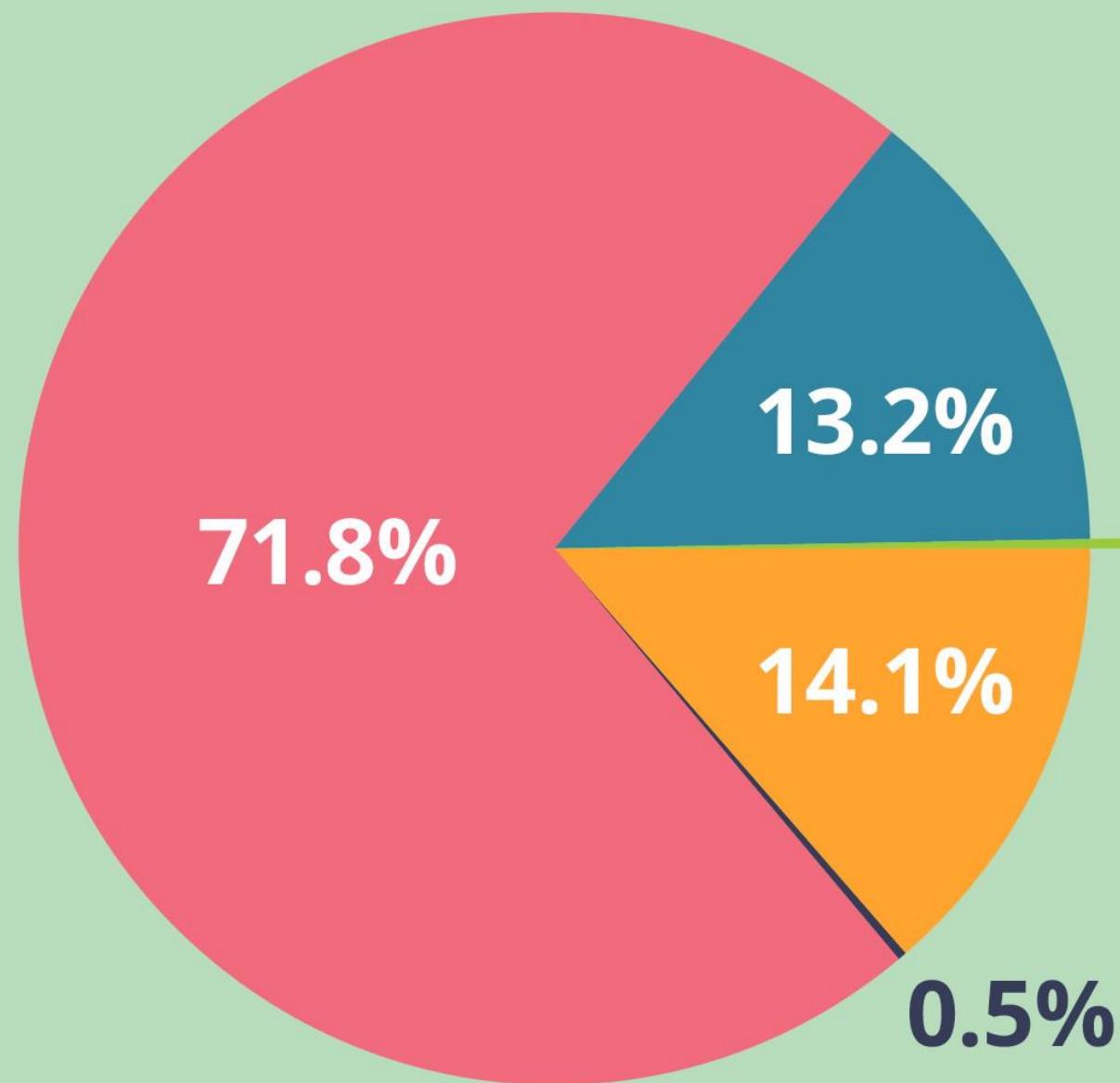
THE INTERNATIONAL
SECTION OF THE LYON-TURIN
RAILWAY LINK

SEVEN BASE TUNNELS UNDER THE ALPS

The trains are competitive only if they run on the flat and the only way to do this in the Alpine areas is by drilling through the mountains at the level of the plain. Seven base tunnels under the Alps are planned for this purpose: Gotthard, Lötschberg, Ceneri (already in operation) Mont Cenis, Brenner, Semmering, Koralm (under construction)



#EUYearofRail



RAIL IS SUSTAINABLE

Greenhouse gas emissions from transport (EU-27, 2018):

RAIL TRANSPORT

0.4%



EUROPEAN YEAR
OF RAIL **2021**

Source: Statistical Pocketbook 2020

THE LYON-TURIN RAILWAY LINE



1871



2020



2030



TUNNEL STORICO DEL FREJUS
TUNNEL HISTORIQUE DU FREJUS
(13 km)

1300 m



NUOVO TUNNEL DI BASE DEL MONCENISIO
NOUVEAU TUNNEL DE BASE DU MONT CENIS
(57,5 km)



500 m



12 operational sites
between Italy and France

2 new international stations

113 km of exploratory drilling carried out

30 km excavated tunnels

+20K contracts with contractors and
subcontractors

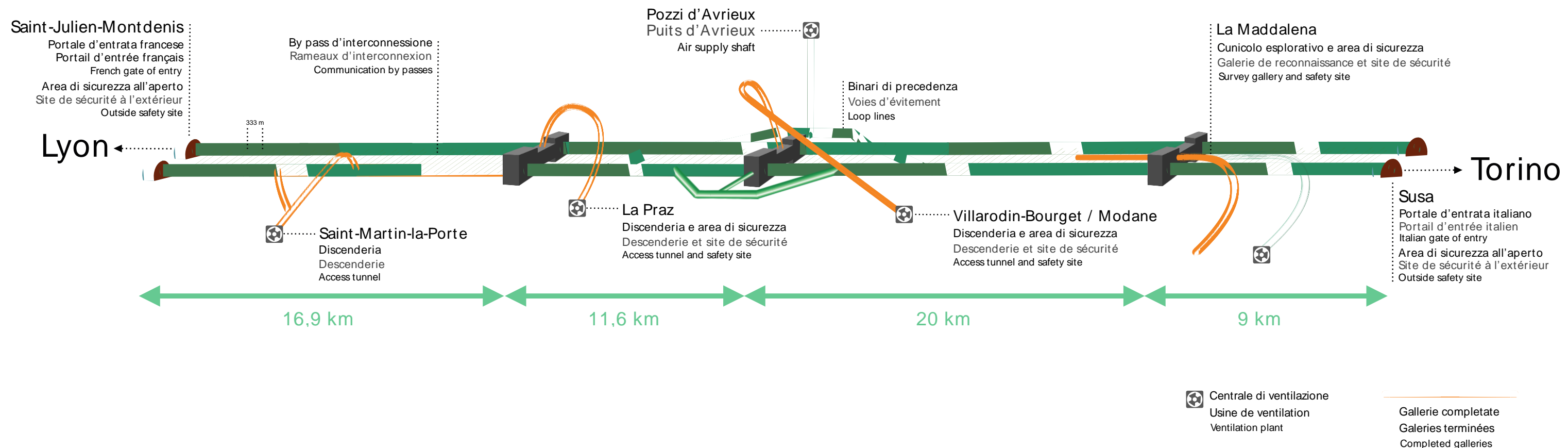
8.6 B Euros of investments

81 international calls for tenders

2.8 B committed to the work

4,000 direct and 4,000 indirect workers between
France and Italy

2030 completion of the works



113 km

exploratory drilling
carried out

30 km

completed galleries

100%

mechanical
excavation
completed
in SMP₄

21%

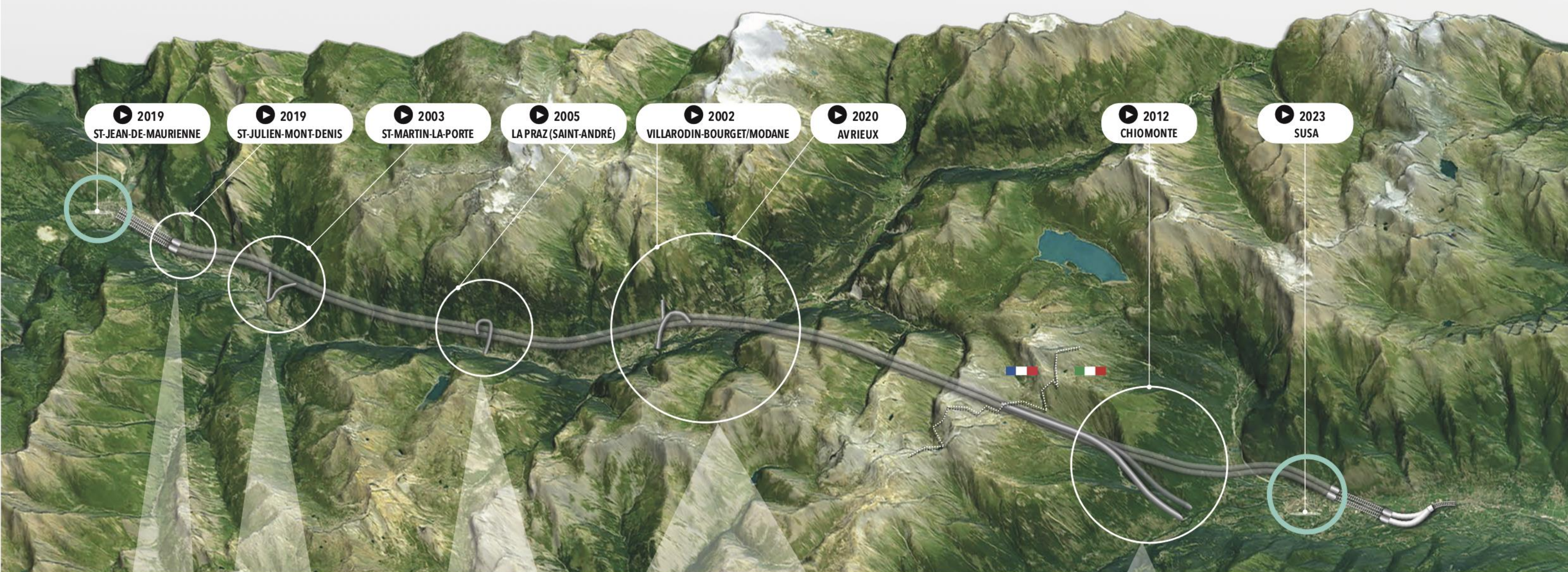
Work contract
awarded
in both
countries

3.2 bn

already spent or
committed to the
work

1,000

people at work in
construction sites,
planning and
services



2019
ST-JEAN-DE-MAURIENNE

2019
ST-JULIEN-MONT-DENIS

2003
ST-MARTIN-LA-PORTE

2005
LA PRAZ (SAINT-ANDRÉ)

2002
VILLARODIN-BOURGET/MODANE

2020
AVRIEUX

2012
CHIAMONTE

2023
SUSA

TRANCHÉE COUVERTE E DIGHE
TRANCHÉE COUVERTE ET DIGUES

DISCENDIERIA E TUNNEL DI BASE
DESCENDERIE ET TUNNEL DE BASE

DISCENDIERIA
DESCENDERIE

POZZI DI VENTILAZIONE E
STAZIONE SOTTERRANEA DI SICUREZZA
PUITS DE VENTILATION ET
STATION SOUTERRAIN DE SÉCURITÉ

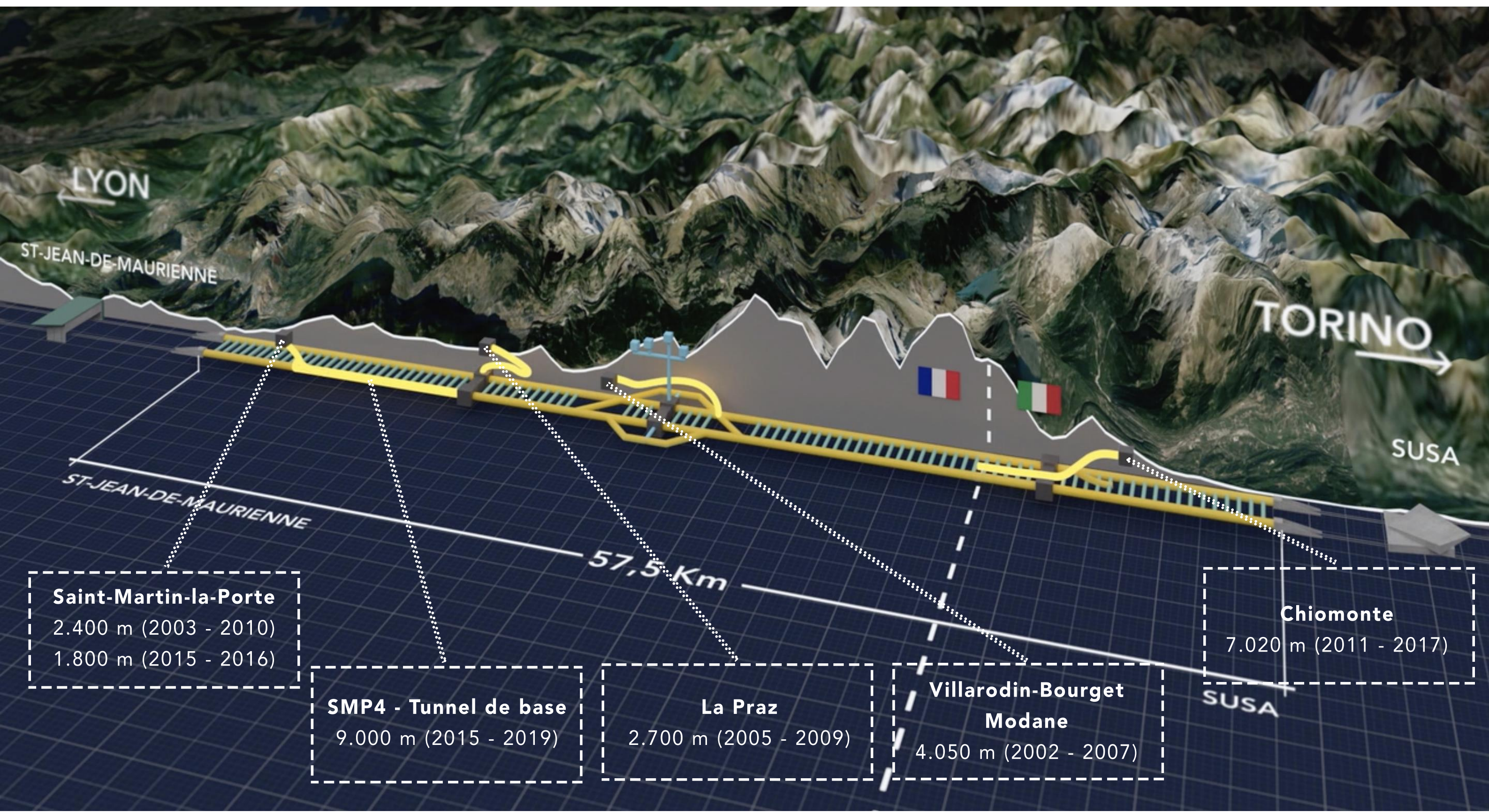
DISCENDIERIA, TUNNEL DI BASE
SVINCOLO AUTOSTRADALE SULL'A32
DESCENDERIE, TUNNEL DE BASE
ET ÉCHANGEUR AUTOROUTIER DE L'A32

scavi completati
galeries terminées

lavori all'aperto per
le stazioni internazionali
travaux à l'air libre pour
les gares internationales

THE MONCENISIO BASE TUNNEL

More than 18,5% of the 162 km of tunnels planned for the project have been excavated: a complex system consisting of two parallel tunnels of 57.5 km, 4 shafts (already built) and 204 safety by-passes. In Saint-Martin-La-Porte, the first 9 km of tunnel have been completed, where trains will pass in the direction of France.





**SAINT MARTIN
LA PORTE / LA
PRAZ**

Base tunnel
and slope



**CHIOMONTE:
MADDALENA 1**

Slope

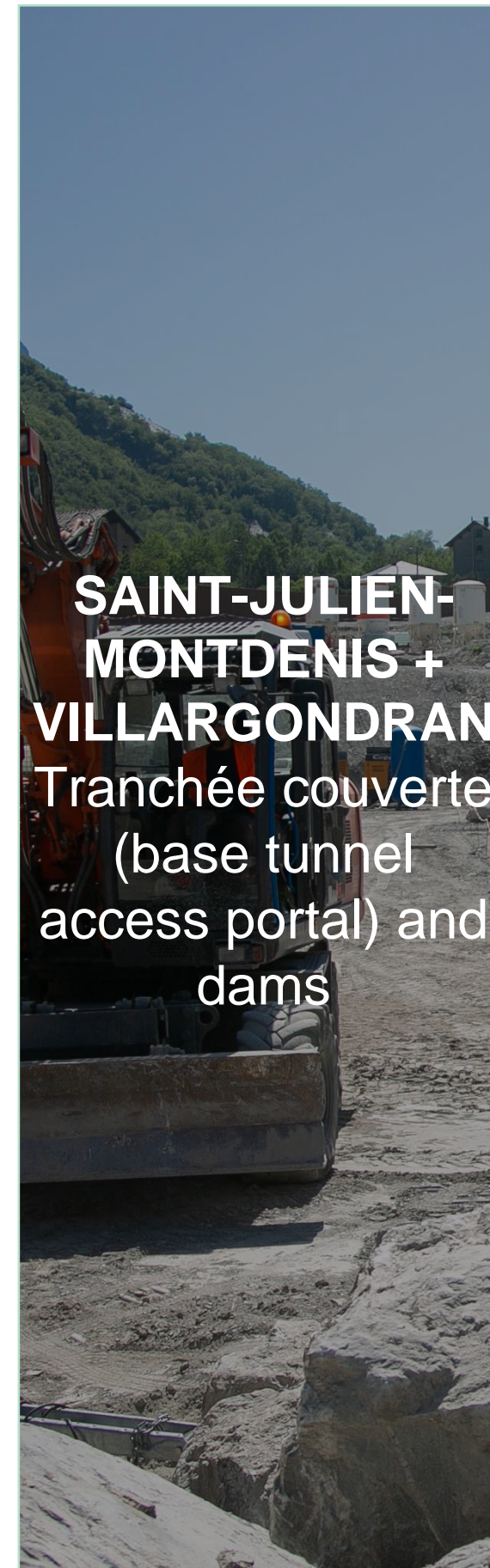
MADDALENA 2

Base tunnel
and slope



**SAINT-JEAN
DE-MAURIENNE**

Multimodal hub



**SAINT-JULIEN-
MONTDENIS +
VILLARGONDRA**

Tranchée couverte
(base tunnel
access portal) and
dams



AVRIEUX

Ventilation shafts

CONSTRUCTION SITE SMP₄

9,000 m of tunnel to be excavated
100% completed (September 2019)

Year of opening 2003
480 peak of busy people



Traditional excavation of the base tunnel on the French side in the direction of Saint-Jean-de-Maurienne is underway in the most difficult area of the massif, due to the presence of carboniferous rocks.



With a length of 2,700 m and a downhill gradient of 12%, the La Praz slope is located on the right bank of the Arc river and is divided into two sections, the second of which runs parallel to the future base tunnel.



ASHLAR FACTORY



CONSTRUCTION SITE OF CHIOMONTE - ITALY

7,020 m of tunnel to be excavated
100% completed (February 2017)

Year of opening 2011
170 peak of workers



The works for the multimodal interchange hub are in progress: two years in the pipeline that SNCF Réseau has started as a result of an agreement with TELT. The aim is to set up the transitory structure of the international station and to prepare the connection of the local railway lines.



CUT AND COVER EXCAVATION

In Saint-Julien-Montdenis, in the Villard-Clément area, work is underway on the entrance of the Lyon-Turin base tunnel on the French side. Since February 2019, work has been in progress on the tranchée couverte, an artificial tunnel providing access to the tunnel through which the trains will pass.



Saint-Jean-de-Maurienne is located in a flood risk area. For this reason, in order to safely construct the railway embankments necessary for the construction of the new line, TELT is reinforcing the dams on the banks of the River Arc, raising the ground by about ten metres.



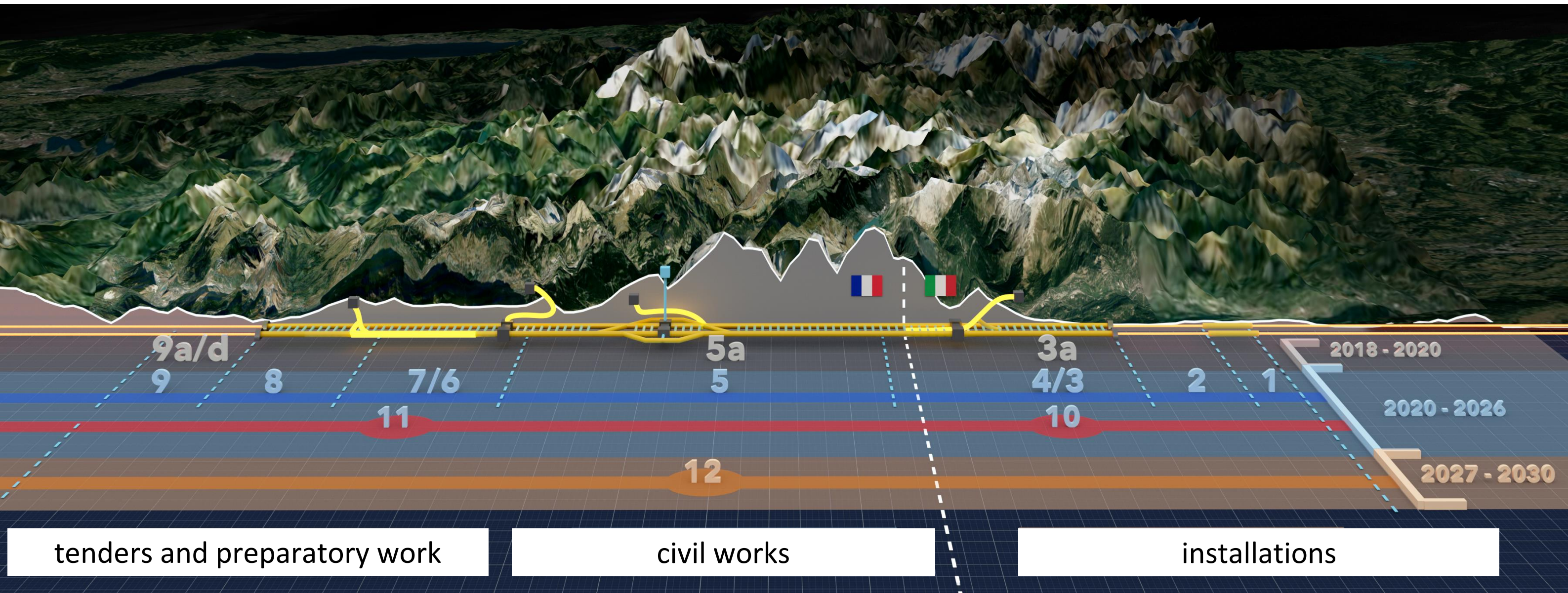
AVRIEUX VENTILATION SHAFT

The aim of the construction site is to create four parallel vertical tunnels starting from the bottom of the Villarodin-Bourget/Modane slope and reaching outwards. With a depth of 500 metres and a diameter of 5.2 metres, the shafts will be excavated by Raise Boring Machines.



OPERATIONAL WORKSITES

160 km of tunnels in 12 operational sites, grouping together both underground and outdoor civil works and the railway equipment necessary for commissioning in 2030.





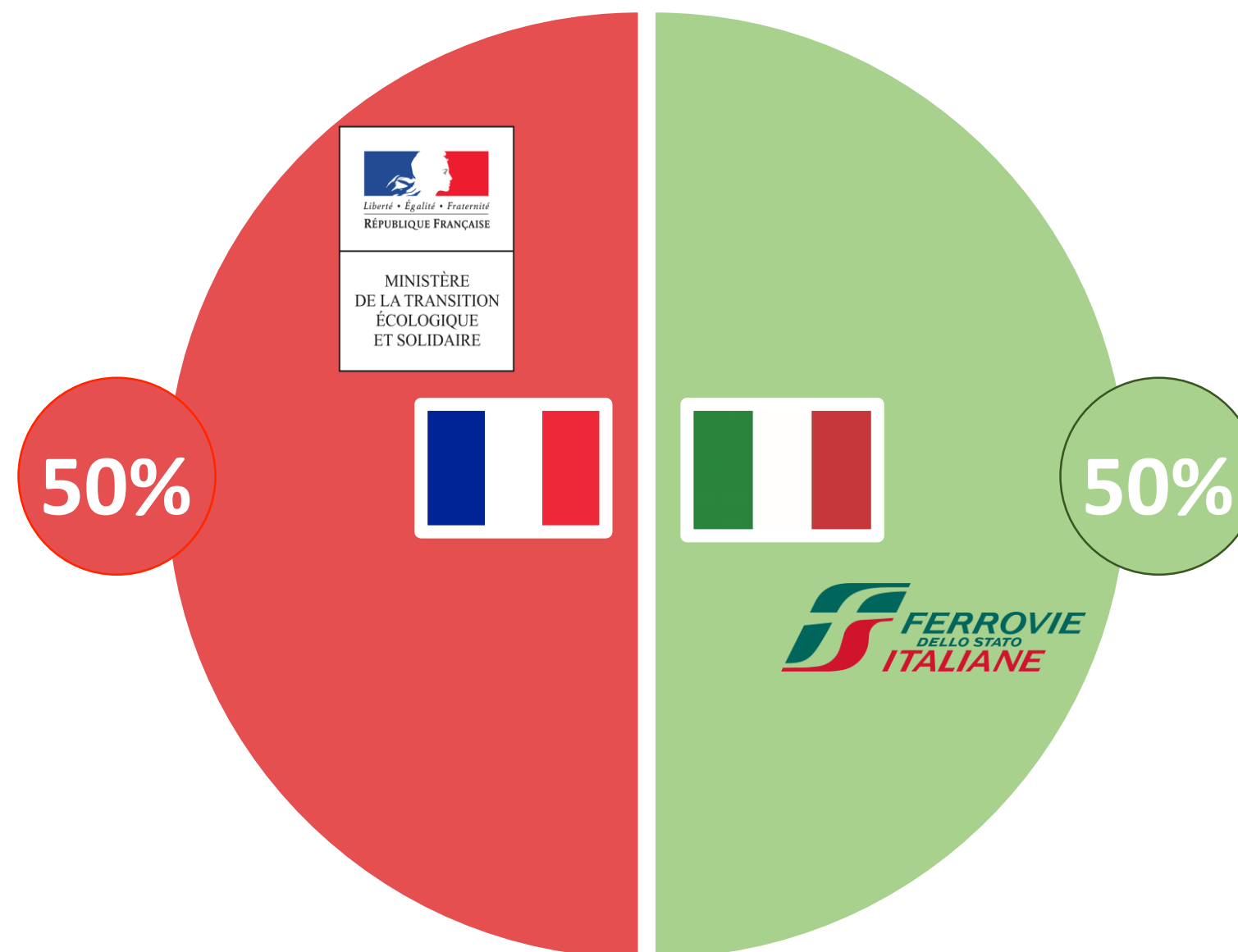
Susa/Bussoleno (IT)
Designer:
Kengo Kuma



Saint Jean de Maurienne (FR)
Designer: Ar Thème Associés

TELT is the Public Promoter in charge of the construction and management of the cross-border section of the future line, freight and passengers, Turin-Lyon. Established in Paris on 23 February 2015, the company structure is made up of a 50% stake between Ferrovie dello Stato Italiane (FS) and the French State. The new promoter succeeds LTF - Lyon Turin Ferroviaire, which from October 2001 to February 2015 handled the studies and preliminary work.

Compagine societaria



183 EMPLOYEES IN JANUARY 2021

DOMAINS
OF STUDY

54%

Engineers, Architects,
Geologists

17%

Jurists



7%

Economists



23%

Humanists

PROFESSIONAL
EXPERIENCES

1450 km

Railway lines built



150 km

Roads



430 km

Tunnel digging



117 bn

Project value managed
before TELTORIGIN
AND GENDER

55



36



41



51

Average age 45