

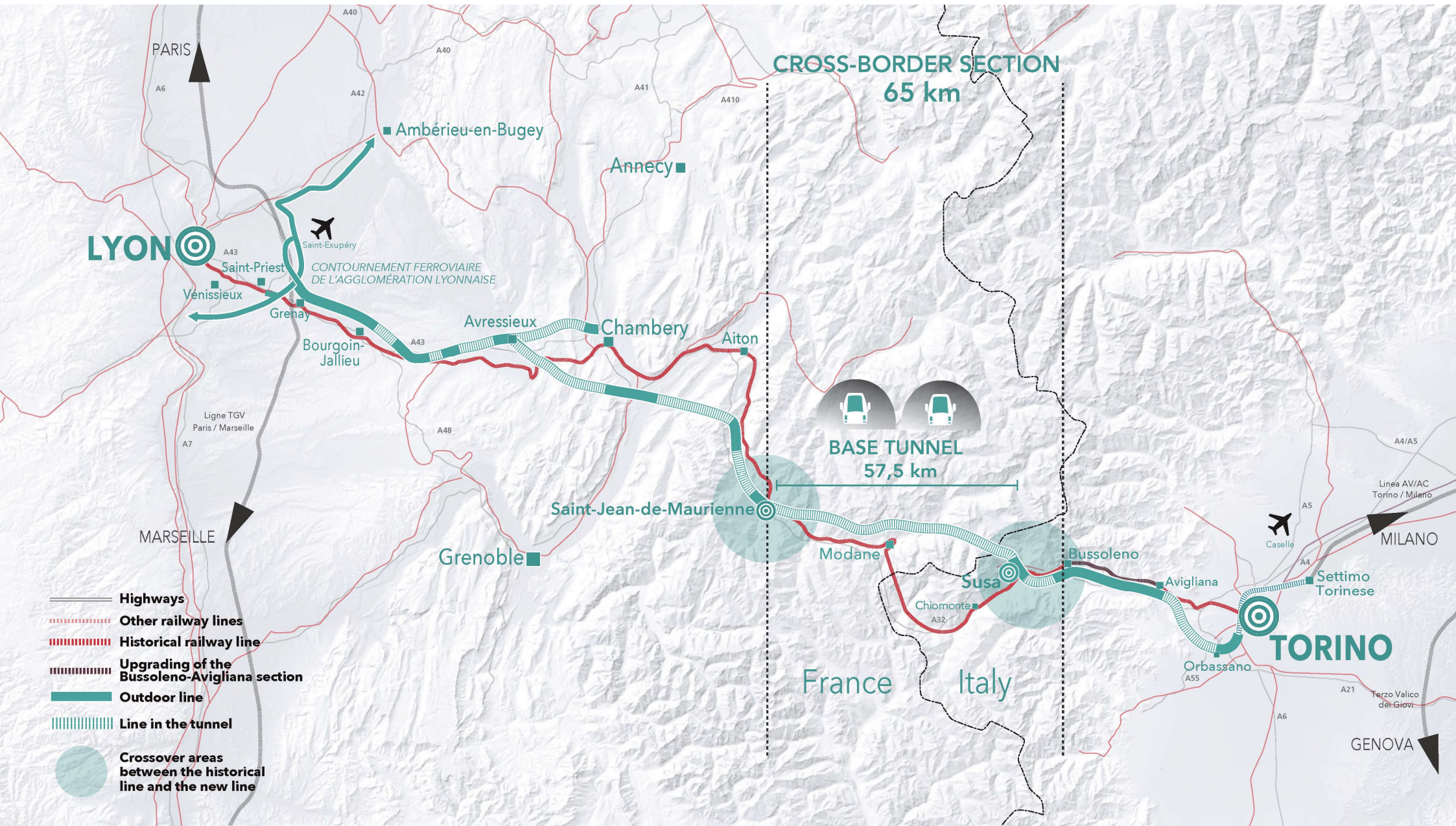
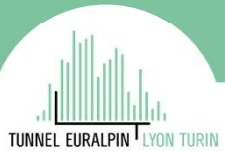
TUNNEL EURALPIN LYON TURIN

# FROM WORKSITES TO OPERATION: TWO LINES FOR ALPINE LOGISTICS BETWEEN ITALY AND FRANCE

Lorenzo BRINO  
Deputy Director Railway Division



# LYON - TURIN: THREE TRACKS, ONE LINE





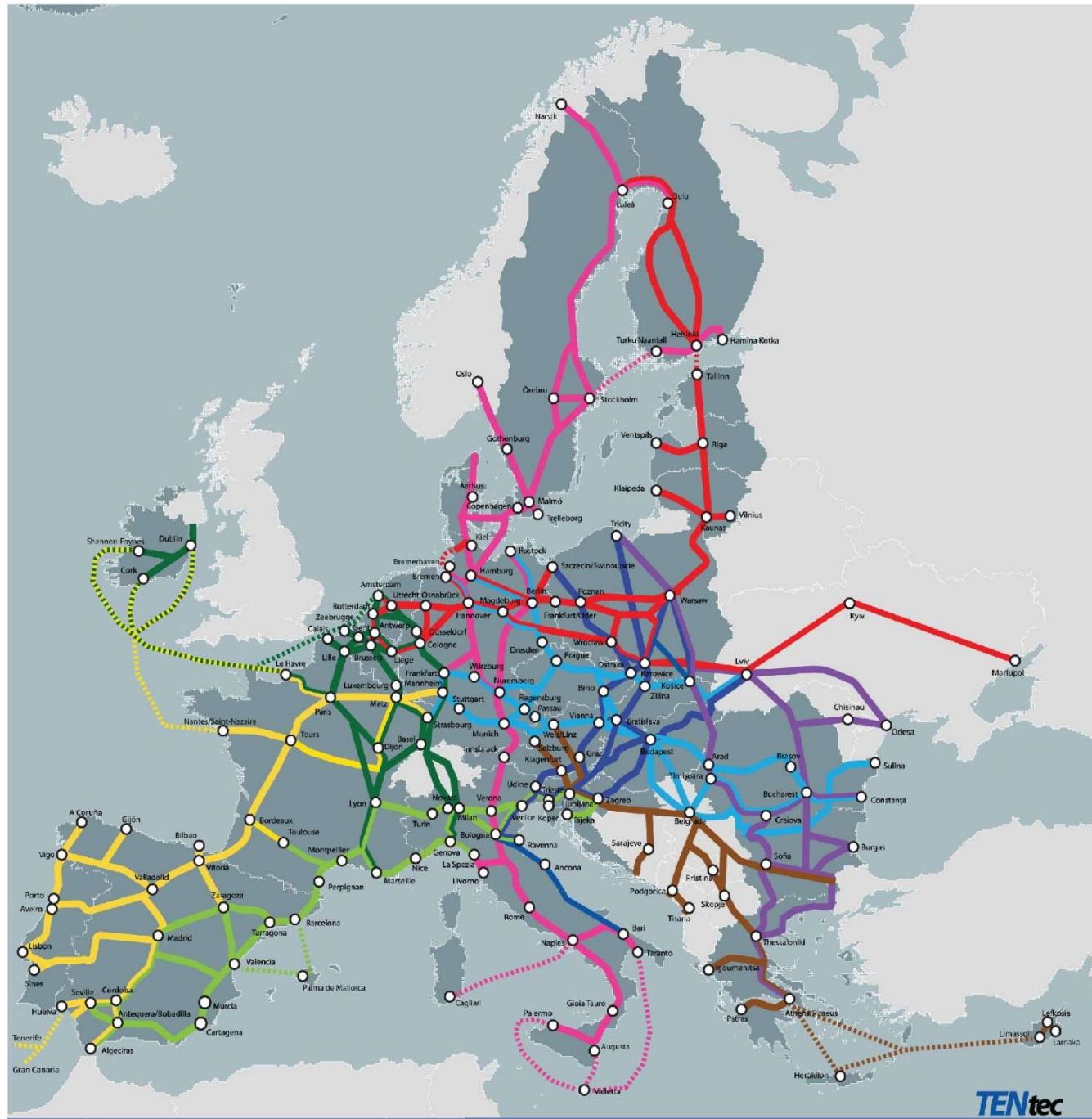
The Turin-Lyon is the **central link in the Mediterranean Corridor**, one of the 9 axes of the European TEN-T transport network.

The ongoing revision of the network, following the conflict in Ukraine, envisages the Mediterranean Corridor connecting with the Baltic Sea-Adriatic and North Sea-Baltic to link the entire continent **from East to West, which is from the port of Algeciras to Mariupol**.

The section being built by TELT is the **common section between Italy and France (65 km)**, from **Susa (Piedmont) to Saint-Jean-de-Maurienne (Savoy)**, whose main work is the Mont Cenis base tunnel (57.5 km).

Finally, the Turin-Lyon is closely connected with the North Sea - Alpine Corridor by bringing the ports of Marseille and Genoa closer together.

Revised  
corridors to  
include Ukraine  
and Moldova  
Publication  
date  
27 July 2022





A wide-angle photograph of a large tunnel under construction. The tunnel's interior is lined with a series of curved, dark metal ribs that create a semi-circular arch. The ground is uneven and covered with loose soil and debris. In the foreground on the right, a yellow and grey tracked vehicle, possibly a loader or excavator, is parked. It has "CARRIER" and "NAVIGATOR" written on its side, along with the number "84 718 72 43 99". In the distance, another piece of yellow construction equipment is visible, working further into the tunnel. The lighting is dim, with some artificial light sources illuminating the scene.

# WORKSITES: COMPLETED AND IN PROGRESS



# COMPLETED WORKSITES

St-Jean  
De-Maurienne  
Multimodal hub  
(2019 – 2022)



Saint-Julien-Montdenis  
cut and cover  
90 m  
(2019-2021)



Chiomonte  
adit / service gallery  
7,020 m  
(2011-2017)



LYON

TORINO

SMP4 adit  
2.400 m  
(2003-2010)  
1,800 m  
(2015 – 2016)



SMP4 / 3B  
base tunnel  
1,500 m  
(2017- 2022)



SMP4  
base tunnel,  
south tube  
10,215 m  
(2015- 2022)



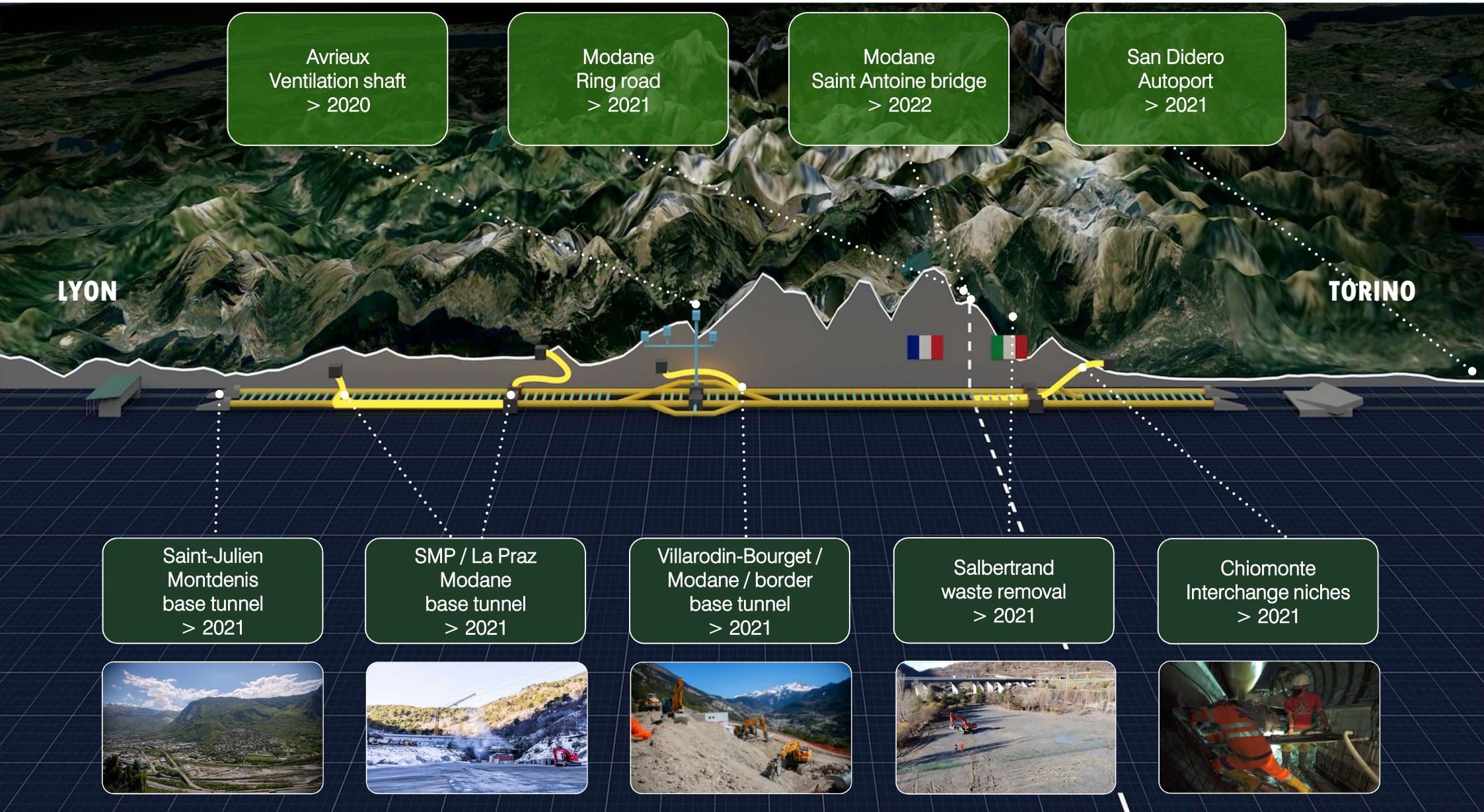
La Praz  
adit  
2,700 m  
(2005- 2009)



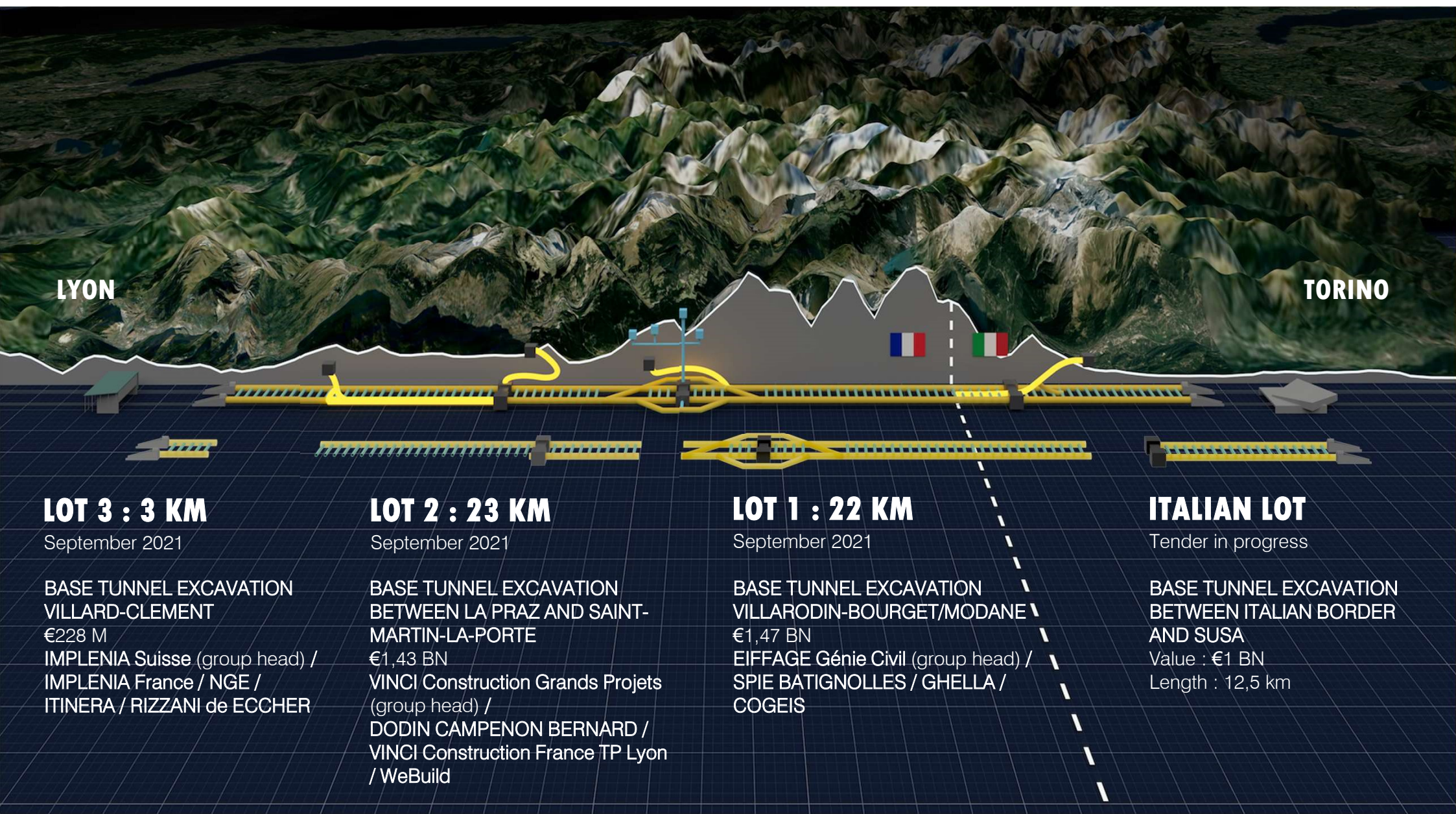
Villarodin-Bourget /  
Modane  
adit  
4,050 m  
(2002- 2007)











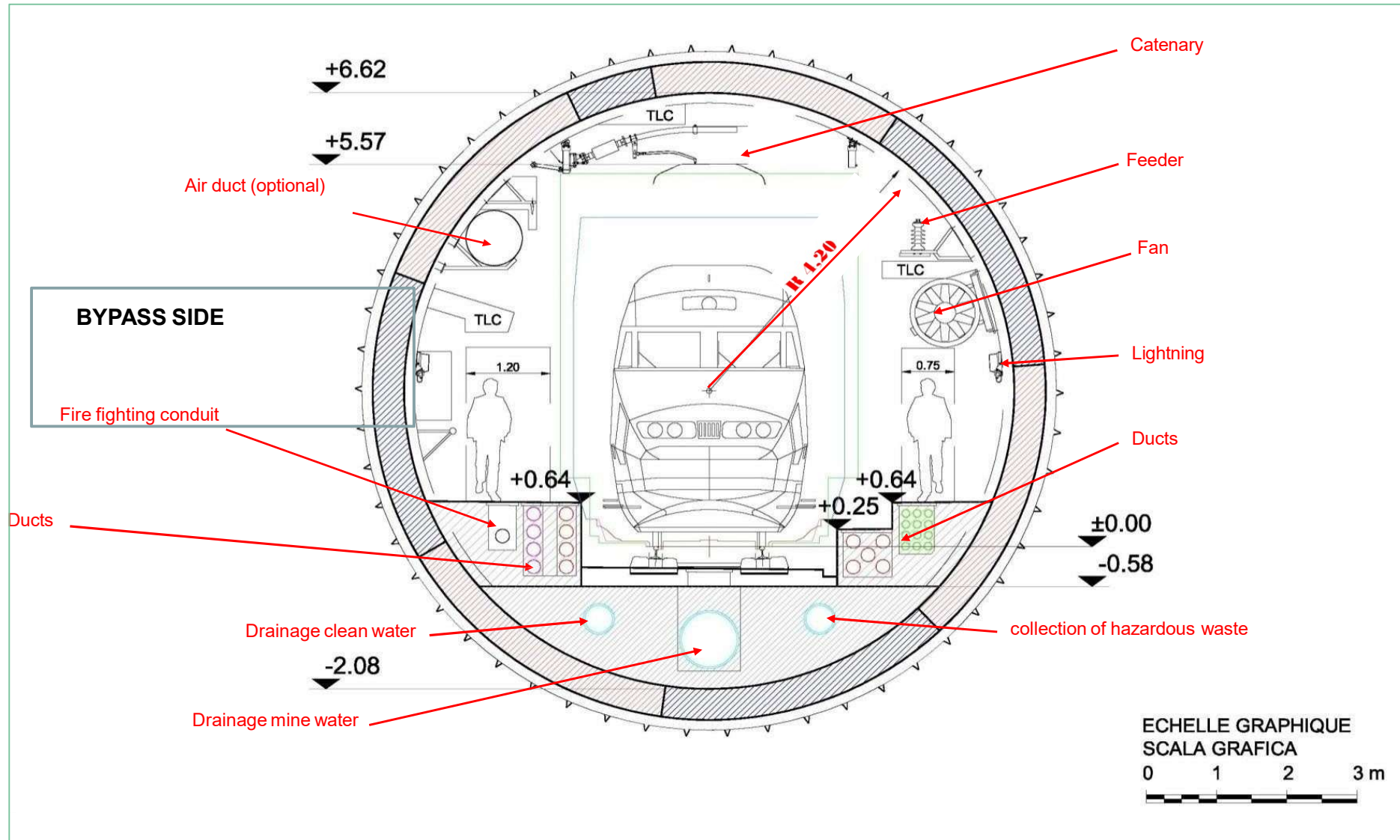


The Lot 12 tender will take the shape of a **Marché global de performance - MPGP**.

This solution combines the benefits of design/build with the needs of maintenance during an initial operational phase of the new line. In this case the MPGP would guarantee maintenance for between 7 and 15 years.



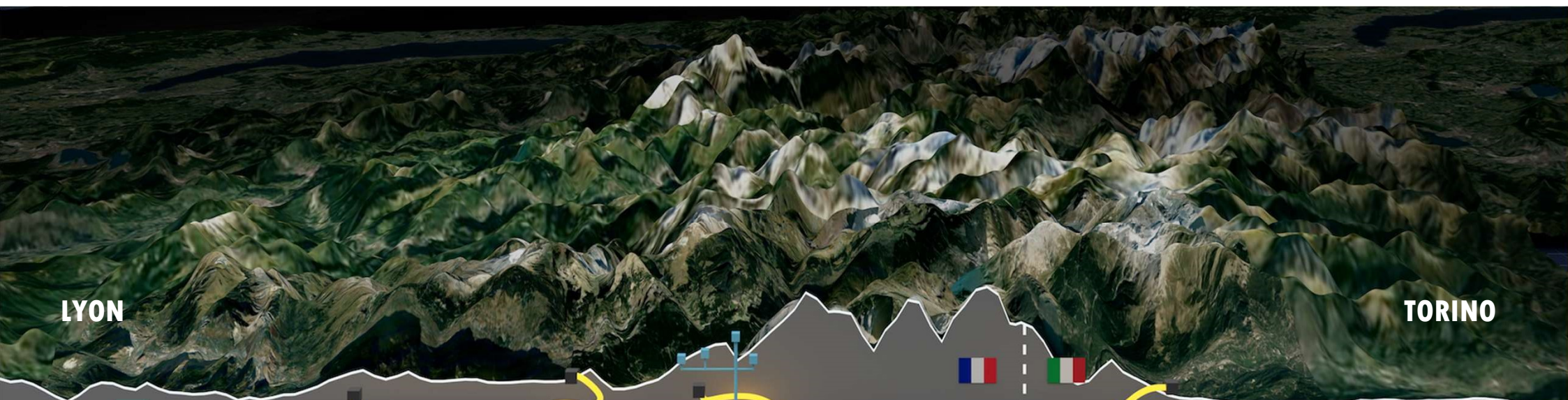






Maximum length of trains in tunnels	750 mt <i>for freight</i>
Maximum number of trains in tunnel	7 from FRANCE to ITALY 6 from ITALY to FRANCE <i>at rush hour</i>
Category of trains allowed in tunnels	B
Maximum speed of freight trains	120 K/h
Signalling system	ERTMS 2
Track gauge	Ue standard 1435 mm





LYON

TORINO



St-Jean-de-Maurienne

## PROJECT MANAGEMENT CONTRACTS AWARDED IN APRIL 2022

ITALFERR  
SYSTRA France  
Pini Group SA

SYSTRA France  
WSP  
Richez Associés



Susa  
Kengo Kuma design



2021 - 2029	<b>CIVIL WORKS</b> <ul style="list-style-type: none"><li>• excavations</li><li>• open air works</li><li>• interconnections with national lines</li></ul>
2026 – 2031	<b>INSTALLATIONS</b> <ul style="list-style-type: none"><li>• railway tracks and systems</li><li>• safety and signalling systems</li><li>• electrical distribution</li><li>• etc.</li></ul>
2032	<b>TESTING AND LINE COMMISSIONING</b>





# ITALY-FRANCE FREIGHT TRAFFIC: MULTIMODALITY GOAL



Since 2000, nearly 7,000,000 trucks and 100,000 trains cross the Alps every year, which represents nearly 150 million tons transported.

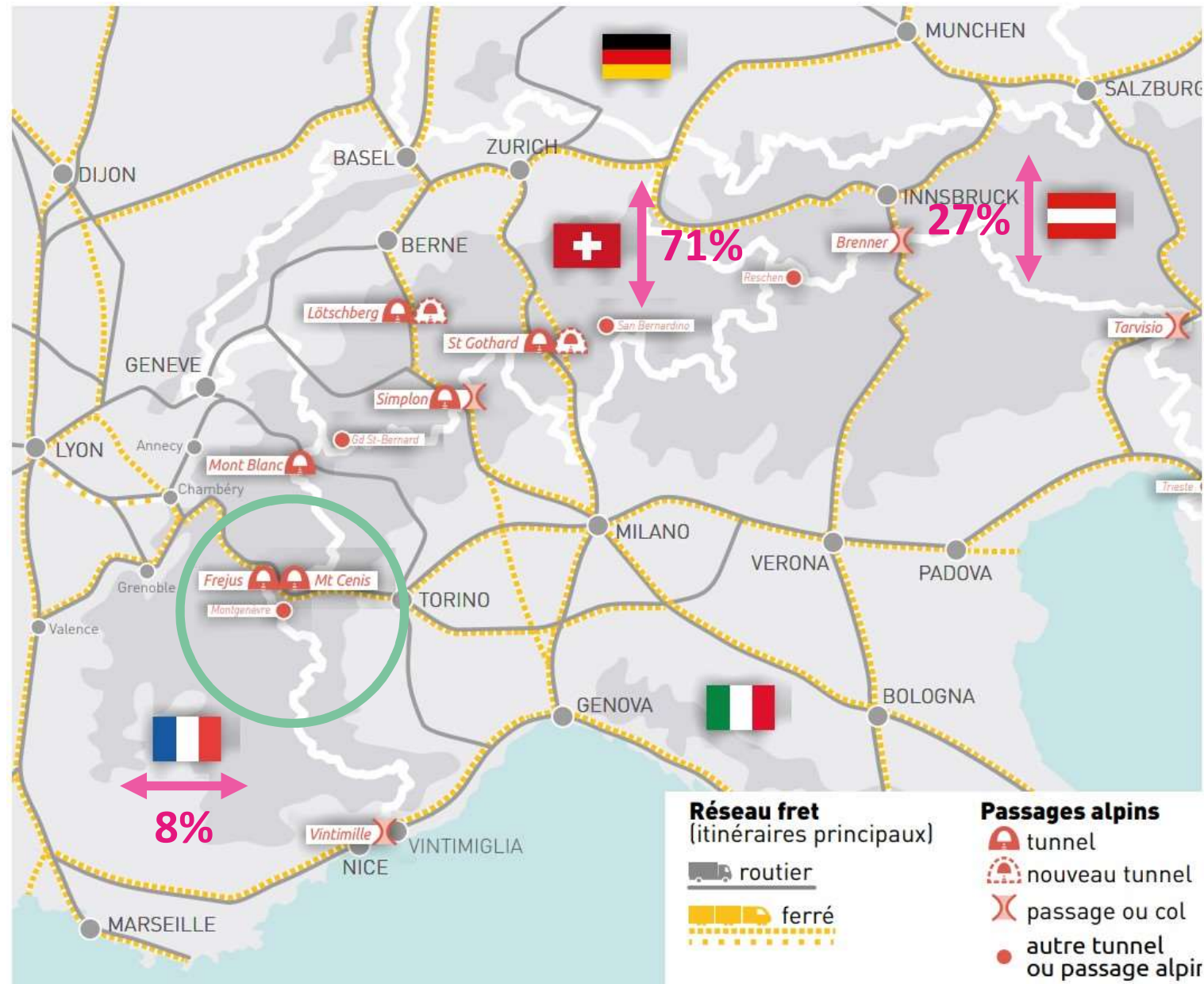
Road remains the preferred mode of transportation, as in 2019 70% of these goods were transported by road, 30% by rail. Total traffic increased by 15 percent in 2014-2019, that is at an average annual rate close to 3%.

Beyond cyclical variations and the impact of the health crisis, however, this 3% average covers very different situations across border areas that can be directly attributed to public policies on freight transportation. Indeed:

SWISS – ITALY 71%

ITALY – AUSTRIA 27%

ITALY – FRANCE 8%





## TRAINS

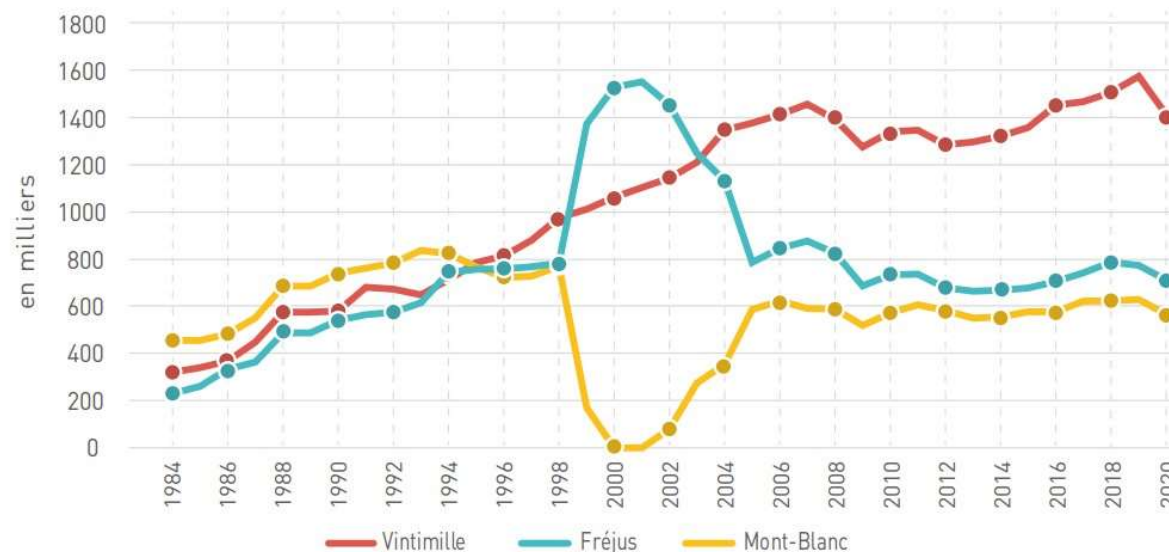
entre  
**3 et 4 millions de tonnes**  
chaque année  
(2009-2019)

**+15%**  
de tonnages  
entre  
2014 et 2019

## POIDS LOURDS

entre  
**36 et 42 millions de tonnes**  
chaque année  
(2009-2019)

**+2 %**  
de PL entre  
2018 et 2019  
(+60 000 passages)



**Un record de près de 43 Mt**

en 2019,

soit

**3 millions**

de poids lourds

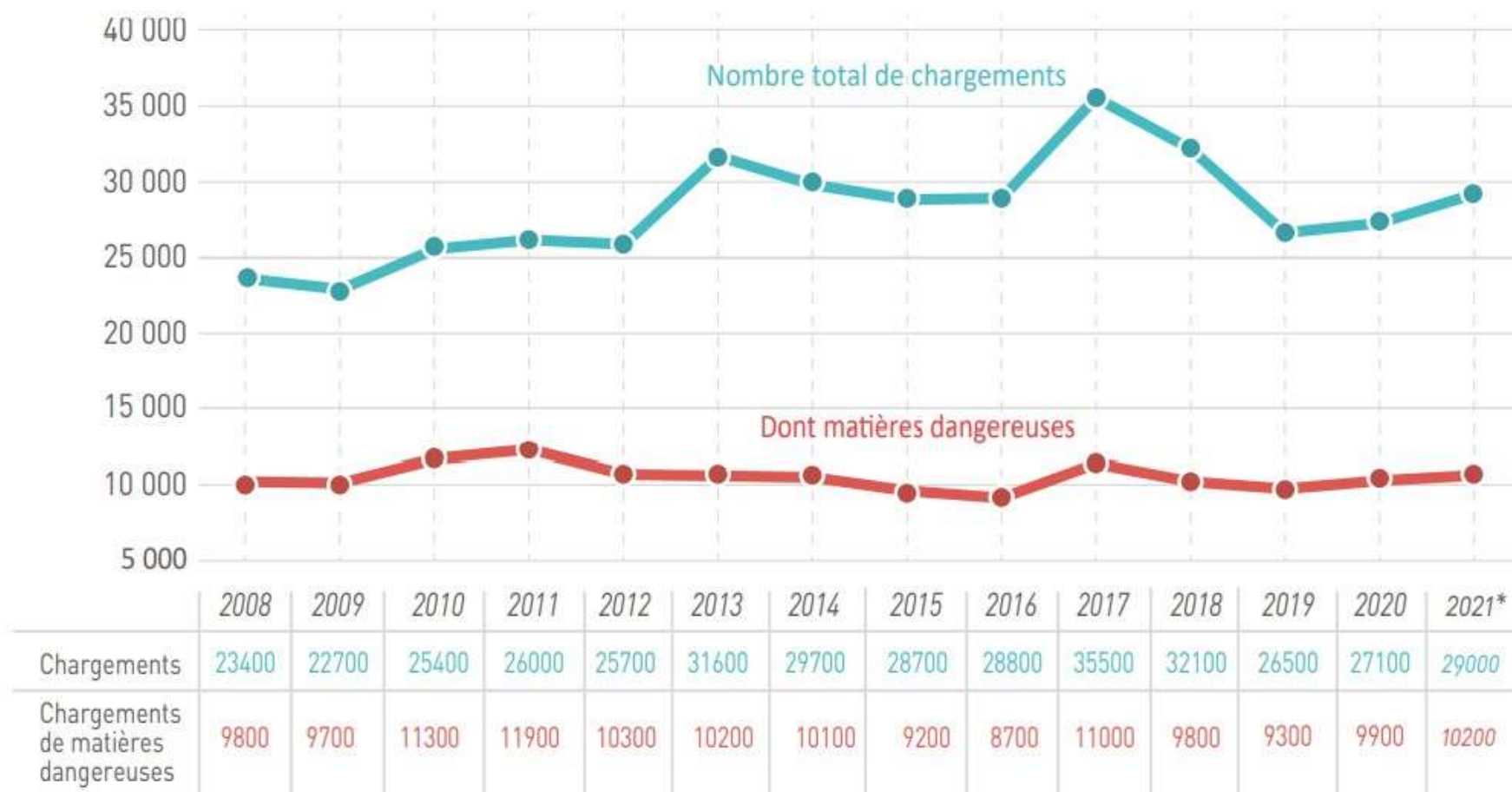
et

**moins de 8%**

des volumes transportés  
par le rail

With 2.97 million heavy goods vehicles, the traffic recorded in 2019 exceeds the historical level of 2007 (+50 000 HGVs). Growth is particularly marked at the Ventimiglia crossing (+4.5% in traffic between 2018 and 2019), the most important crossing point between France and Italy, which alone accounts for around 10% of traffic in the entire Alpine arc.





Sources : AFA, SFTRF

NB : estimation sur 12 mois à partir des données au 30/11/2021.

The AFA - Alpine Railway Highway Project on the AITON (CHAMBERY) - ORBASSANO (TURIN) section was born in 2003 with the aim of finding safer transport solutions, especially for dangerous goods, and for the 44 T transit prohibited in the Frejus road tunnel. It is a short-distance service capable of transporting semi-trailers across the Alps, with a high degree of efficiency.



An aerial architectural rendering of a proposed freight infrastructure project. The scene features a large, modern freight terminal with several large, flat-roofed buildings and multiple tracks. A prominent bridge structure crosses a river or valley, connecting the terminal to a highway interchange. The surrounding landscape is a mix of green fields, trees, and some existing buildings. The overall design is sleek and modern, emphasizing efficient logistics and infrastructure.

# SHORT AND LONG DISTANCE FREIGHT SERVICE BETWEEN ITALY AND FRANCE



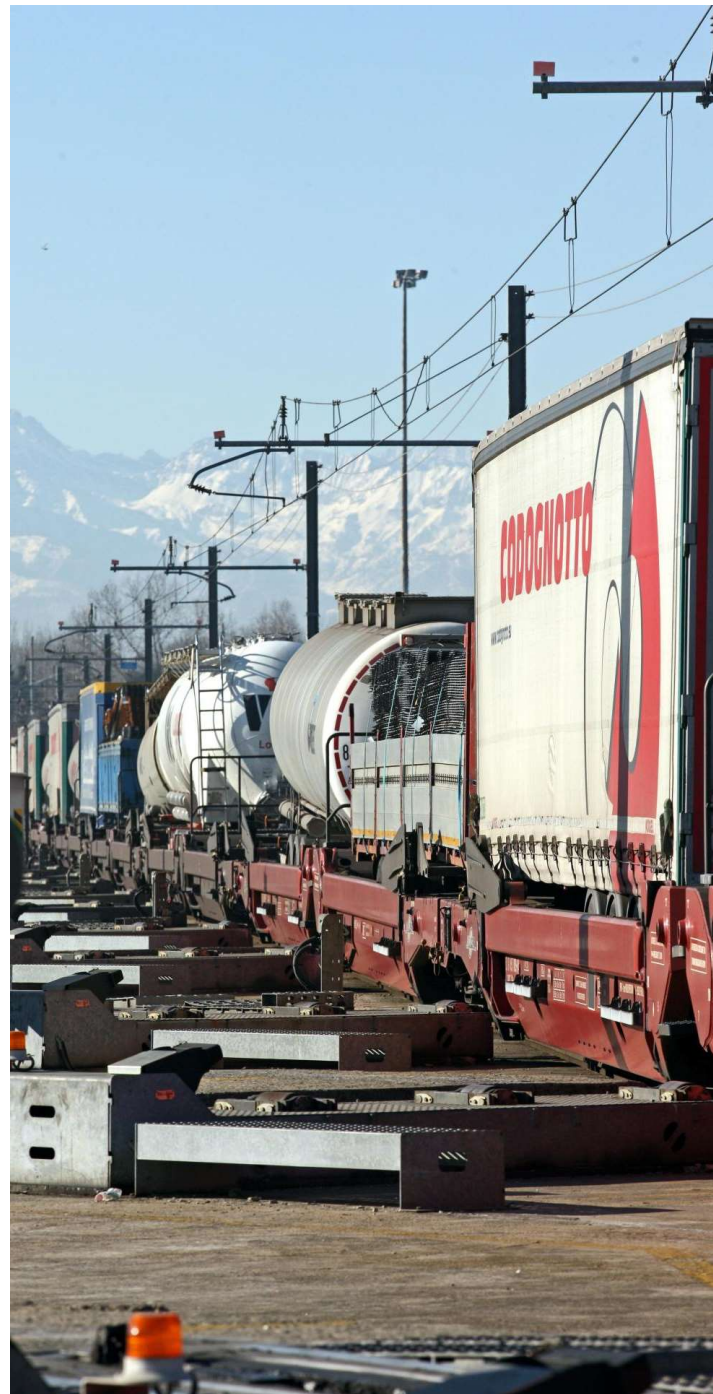
As mentioned before, in 2019 rail freight traffic accounted for 8% of logistics between Italy and France.

When fully operational, the Lyon-Turin is aiming to reach 50%, a credible target considering that the ratio of rail to road in Switzerland is 70 / 30.

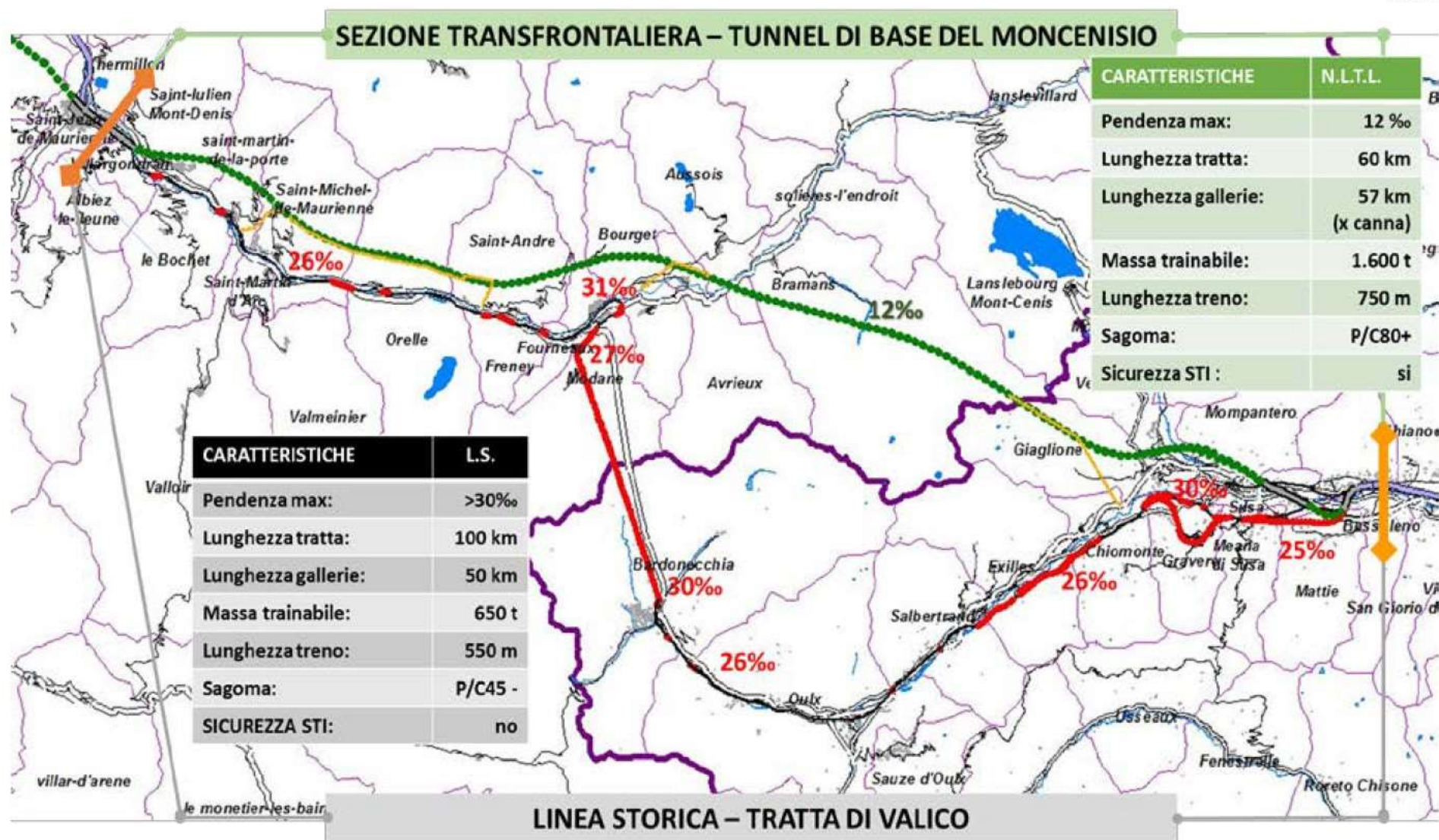
The modal transfer on the Western Alps, on the horizon of 2032, will therefore be able to count on two different but parallel routes.

- The current Fréjus railway tunnel, the interregional scale line, for exchanges between Piedmont and AURA;
- The future Mont Cenis base tunnel, a continental scale line for long and heavy goods trains for maximum energy and emission savings.

Of course, the performance of the two tunnels is very different, both managed by TELT.








For freight trains passing through the Mont Cenis base tunnel, they will require between 33% and 40% of the energy per ton of the actual passage through the Frejus pass, taking into account the overall energy balance:

33% ► 4,24 kWh/t vs 1,4 kWh/t

40% ► 2,26 kWh/t vs 1,52 kWh/t





THANKS FOR YOUR ATTENTION

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