

## LYON-TURIN: PRESS KIT

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## THE INFRASTRUCTURE: GENERAL OVERVIEW

<p>The Lyon-Turin line is a freight and passenger <b>new railway line</b> that covers 270 km, 70% of which in France and 30% in Italy.</p> <p>It is the central link of the <b>Mediterranean Corridor</b>, one of the 9 axes of the European TEN-T transport network, which extends for 3,000 km, connecting 7 EU corridors from East to West.</p> <p>The line is divided into three sections:</p> <ul style="list-style-type: none"> <li>• the common cross-border stretch between Italy and France, from Susa (Piedmont) to Saint-Jean-de-Maurienne (Savoy), under the responsibility of the Italian-French public promoter TELT, whose main project is the Moncenisio <b>base tunnel</b> measuring 57.5 km, currently under construction</li> <li>• the Italian part, from Turin to Bussoleno (Susa Valley), under the responsibility of RFI</li> <li>• the French part, from Saint-Jean-de-Maurienne to Lyon, under the responsibility of the SNCF.</li> </ul>	<p>What the Lyon-Turin is</p>
<p>The European Union project foresees 9 TEN-T (Trans-European Transport Network) networks to encourage the movement of people and goods via an environmentally friendly mode of transport: rail. Among these networks, there is the <b>Mediterranean Corridor, from Budapest</b> (Hungary) <b>to Algeciras</b> (southern Spain), which includes the Lyon-Turin line.</p> <p>The Lyon-Turin project:</p> <ul style="list-style-type: none"> <li>- guarantees a connection, south of the Alps, between Western and central-eastern Europe;</li> <li>- aims to promote economic exchanges and strengthen the competitiveness of Mediterranean European countries;</li> <li>- is a <b>freight and passenger railway network</b>, which also intersects with the most important sea and river ports, major cities and airports.</li> </ul> <p>The long-term strategic objective is to create the "<b>European Metro Line</b>", discouraging the use of road transport, in favour of lower greenhouse gas emissions.</p> <p>Based on this objective, <b>7 tunnels</b> have been foreseen in Europe to facilitate the crossing of the Alps: Moncenisio (57.5 km), Gotthard (57 km), Brenner (56 km), Koralm (32 km), Semmering (27 km), Ceneri (15.4), Lötschberg (34.6 km).</p>	<p>Where the works are located</p>
<p>The realisation of the Lyon-Turin line is established by <b>four international agreements</b> between Italy and France (1996, 2001, 2012 and 2015, supplemented by the Additional Protocol of 2016).</p> <p>Between the end of 2016 and the beginning of 2017, the Italian and French parliaments ratified the agreement, allowing the final works to start.</p> <p>With this step, the decision-making procedure for the work, in Italy and France, was completed.</p>	<p>The funding international agreements</p>



## THE CROSS-BORDER SECTION

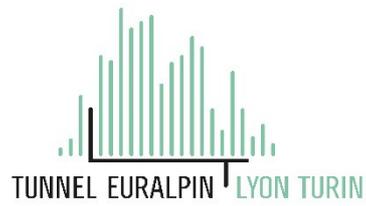
<p>The <b>cross-border section</b> of the Lyon-Turin line is the stretch between Susa (in Italy) and Saint-Jean-de-Maurienne (in France); it is 65 km long, 89% of which in tunnels. Most of the systems above ground are located in already populated areas.</p> <p>The public promoter <b>TELT</b>, a bi-national company, has been entrusted with the mandate by the Italian and French governments for its realization and subsequent management. According to the works schedule the project will become operational in 2030.</p>	<p>The cross-border section</p>
<p>The current route of the cross-border section is the result of a participatory planning. In Italy, it was managed by the <b>Lyon-Turin Observatory</b>, established by the Italian government in 2006 after the violent protests in Venaus against the first track of this work.</p> <p>After 205 work sessions and 300 auditions of technicians and experts, and 10 route alternatives, a <b>definitive project route</b> was established in 2013 and approved in 2015. Moreover, the <b>work was planned to be carried out in phases</b>; the first phase, the so-called "low cost" project, involves the construction of the base tunnel; the upgrading of the historical line capacity between Bussoleno and Avigliana the construction of the mixed freight/passenger tunnel from Avigliana to the logistics platform in Orbassano; works for adapting the Turin hub.</p> <p>A <b>Débat Public</b> (Public Inquiry) took place in France before the works were approved, coordinated by an independent commission, regarding the feasibility of the realization of the works and the project itself. The route has been planned for all major works and involves all the stakeholders (proponents, committees, citizens, experts and all those who wish to participate).</p> <p>In the case of the Lyon-Turin line, the route gained a favourable opinion.</p>	<p>The participatory project design</p>
<p>The fundamental element of the new line is <b>the tunnel at the base of Moncenisio</b>, the longest railway tunnel in the world.</p> <p>It is a twin-tube single-track tunnel, of <b>57.5 km of length</b> (of which 45 km in France and 12.5 km in Italy) connecting the international stations of Saint-Jean-de-Maurienne and Susa, where it connects to the existing line.</p> <p>150 years after the inauguration of the <b>Fréjus railway tunnel</b> (at an altitude of 1300 m), where the current historical line passes, this project a turning point to comply with current transport standards.</p>	<p>The Base tunnel</p>
<p>The new tunnel transforms the current mountain line into a <b>plain railway</b>, making the <b>rail transport</b> more competitive. Trains that travel on level ground allow energy savings and achieve higher speeds.</p> <p>In the Italian-French section, the historic line does not currently comply with <b>international transport standards</b>: it climbs the mountain with a <b>slope</b> of up to 30‰, so the trains need up to 3 locomotives, with a 40% higher energy cost. The diameter of the old Fréjus tunnel, inaugurated in 1871, is smaller than that required by current international standards and it has a single-tube which does not meet current safety standards.</p>	<p>The reasons why</p>

## THE WORKS

<p>Progress in numbers:</p> <ul style="list-style-type: none"> <li>- <b>over 18.5% of the 164 km of tunnels planned</b> for the work have already been excavated, a complex system consisting of two parallel tunnels, 4 declines and 204 safety by-passes</li> <li>- the <b>first 9 km of the base tunnel (where the trains will travel) have been completed</b> in the Saint-Martin-La-Porte/La Praz construction site</li> <li>- the construction site of the <b>temporary Saint-Jean-de-Maurienne station</b> is currently operational, since the existing railway lines will be connected to the new base tunnel</li> <li>- at the beginning of 2019, work began on the cut-and-cover tunnel, an artificial tunnel that will be <b>the entrance to the base tunnel</b></li> <li>- <b>68 km of exploratory surveys</b> and core borings have been carried out in Italy and France</li> <li>- in France, the <b>declines</b> required to start the construction sites inside the mountain have been completed: Villarodin-Bourget/Modane (4,000 m, completed in 2007), La Praz (2,480 m, completed in 2009) and Saint-Martin-la-Porte (1,800 m completed in 2016 and 2,400 m completed in 2010)</li> <li>- in Italy, the <b>Chiomonte exploratory tunnel</b> (Val di Susa, 7,020 m) has been completed</li> </ul> <p>Alongside the excavations, <b>preliminary open-air works</b> are also in progress, in French and Italian territory.</p>	<p>Progress report</p>
<p>In order to proceed <b>on the cross-border section</b>, the new works on <b>the base tunnel</b> will begin from the access points already completed.</p> <p>The 4 declines provide access tunnels for the construction equipment and, during full capacity operations, there will be <b>15 excavation faces and 7 TBM moving forward simultaneously</b> to complete <b>the tunnel</b> through which the trains will travel.</p> <p>On the <b>Italian side</b>, on 21 March 2018, the Interministerial Committee for Economic Planning (CIPE) approved the Modification project for the construction sites, which involves the realization of the main activities of the work starting from Chiomonte, and not from Susa.</p>	<p>Next steps</p>
<p>Overall, the current construction of this project involves <b>almost 800 people</b>: around 530 work in the construction sites and 250 for services and engineering companies.</p> <p>During the peak of the activities, there will be <b>4,000 directly hired workers</b> and a same number of people employed in the related industries.</p> <p>For the areas where the construction sites are located, <b>tools have been set up to support local employment</b>:</p> <ul style="list-style-type: none"> <li>- In France, the <i>Démarche Grand Chantier</i>, an exceptional instrument aimed at rooting projects on the territory, by means of local recruitment. It was implemented in the past for the Channel Tunnel construction sites, the super nuclear reactor at Flamanville and the Seine-Nord Europe Canal.</li> <li>- In Italy, the Piedmont Regional Law <i>Construction sites, development, territory</i> (4/2011), aimed at maximising the impacts through the "Pact for the Territory".</li> </ul>	<p>Employment</p>

## WORK IN PROGRESS DETAILS

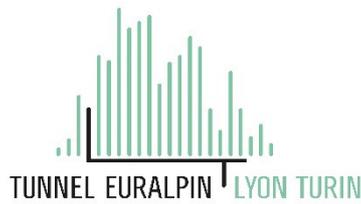
<p><b>Saint-Martin-La-Porte SMP4 (France): BASE TUNNEL (first stretch, 9 km)</b></p> <p>Since the summer of 2016 until September 2019, the "Federica" TBM has been at work excavating the first 9 km of the tunnel through which the trains will travel. The French 2,400-ton TBM, with the power of eight Formula 1 engines, is <b>progressing at an average pace of 15-20 meters a day</b>. Located in an old sawmill, a <b>segment factory</b> is connected to the construction site. Segments are concrete rings used to line the tunnel.</p> <p>The construction site in Savoy has witnessed <b>two previous operation phases</b> (2003-2010 and 2015 and 2016) for the construction of two declines, respectively 2,400 m and 1,800 m in length.</p> <p>In figures:</p> <ul style="list-style-type: none"> <li>2015-2021: timeline foreseen for the execution of works over 450 people involved</li> </ul>	France
<p><b>Saint-Jean-de-Maurienne (France): STATION</b></p> <p>Pursuant to an agreement with TELT, in January 2019 SNFC Réseau started preparatory works for the construction of a temporary station in Saint-Jean-de-Maurienne, in view of the connection of the existing railway lines to the base tunnel.</p> <p>To support travellers and maintain the bus and train stations operational during the works, a <b>transitory multimodal exchange hub</b> was realized and will remain in service until the end of 2021. The structure will then become the new international station.</p> <p>In figures:</p> <ul style="list-style-type: none"> <li>2019-2021: timeline foreseen for the execution of works 30 workers</li> </ul>	
<p><b>Saint-Julien-de-Montdenis (France): BASE TUNNEL ENTRANCE</b></p> <p>At the beginning of 2019, work began on the <i>cut-and-cover tunnel</i>, an artificial tunnel that will be the entrance to the base tunnel. It is a cement "box" above ground, located under the raised platforms of the A43 motorway and the RD1006 highway.</p> <p>In figures:</p> <ul style="list-style-type: none"> <li>2019-2021: timeline foreseen for the execution of works 40 workers</li> </ul>	
<p><b>Chiomonte (Italy): BASE TUNNEL CONSTRUCTION SITE ENTRANCE</b></p> <p>It is the <b>largest Italian construction site</b> of the Lyon-Turin project; since 2012, it has been a site of national strategic interest, and is the access point to the base tunnel works in Italy. According to the <b>variation to the final project</b> approved by the CIPE in 2018, in fact, the main construction site was located here to ensure minimum ground consumption, less inconvenience to citizens, as well as higher safety levels. An <b>expansion of the construction site</b> and the construction of a motorway junction on the A32, built by SITAF, were foreseen to perform the base tunnel works.</p> <p>In 2017, the exploratory activity aimed at gathering information on the structure of the mountain was completed, respecting the timing and environmental parameters. Site maintenance work is currently in progress along with support to the police forces.</p> <p>In figures:</p> <ul style="list-style-type: none"> <li>in progress since 2013</li> <li>40 people currently hired; they will become over 400 in peak phases.</li> </ul>	Italy



In December 2019, the contract for the construction of the interchange niches in Chiomonte was awarded. The 40 million euro contract includes the realization of 23 niches (3 m deep and 30 to 40 m long) in the existing tunnel to facilitate the passage of construction site vehicles. The Maddalena tunnel, created for survey purposes, will be transformed into a service passage and a ventilation shaft for the base tunnel.

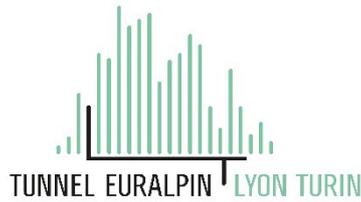
## TIMING AND COSTS

<p>The <b>base tunnel</b> is scheduled to become operational in <b>2030</b>.</p> <p>Its realization involves three phases:</p> <ul style="list-style-type: none"> <li>➤ Assignments, engineering and preparatory works - to be completed <b>by 2020</b></li> <li>➤ Civil works by <b>2026</b></li> <li>➤ Plant systems and pre-operation activities by <b>2029</b></li> </ul>	<p>Realisation times</p>
<p>The cross-border section cost amounts to <b>8.6 billion EUR</b>, certified by the international Tractebel Engineering – Tuc Rail group. TELT has undertaken to respect the budget, and put in place an internal monitoring system.</p> <p>Within the scope of the CEF-Connecting Europe Facility (EU financial instrument for European networks), in 2015 Italy and France signed the <b>Grant Agreement</b>, which provides for a European contribution of 41.08%, equal to 813.8 million EUR.</p> <p><b>To date, around € 2.5 billion have been allocated to this work</b>, of which € 1.2 billion have already been spent on studies and designs (50% funded by the European Union, 25% by Italy, and 25% by France).</p> <p><b>Currently there are contracts for around 1.3 billion EUR.</b></p>	<p>Costs and funding</p>
<p>The works are organised into <b>81 calls for tender</b> distributed over <b>12 operational construction sites</b>:</p> <ul style="list-style-type: none"> <li>- 9 for works on the alpine crossing, subdivided by geographical area (4 in Italy and 5 in France) between the interconnections with the old line in Italy and in France;</li> <li>- 2 for the reuse of excavated materials in Italy and France;</li> <li>- 1 for the technological plant systems and safety.</li> </ul> <p>In detail:</p> <ul style="list-style-type: none"> <li>- 45 calls for tender concern civil works, divided into four ranges (up to € 5 million, between € 5 and 50 million, between € 50 and 500 million, and between € 500 million and € 1.300 billion),</li> <li>- 36 calls for tender concern engineering services.</li> </ul> <p>Besides the largest amounts, several contracts worth less than € 50 million are foreseen in order to facilitate the direct participation of small and medium enterprises in the works.</p>	<p>Calls for tender</p>



## THE REASONS FOR REALISING THE LYON-TURIN LINE

<p>When the Lyon-Turin line will be operational, over 1 million lorries used for international road transport will no longer be present on alpine roads, <b>thus reducing CO<sub>2</sub> emissions by 3 million tons per year.</b></p> <p>The reduction of polluting emissions in the Alpine region is one of the primary objectives set by <b>COP21</b>, the Climate Conference held in Paris in 2015, during which the need to transfer 30% of freight to railway transport by 2030 and 50% of it by 2050 was reiterated.</p>	Environment
<p>It is necessary to make the railways competitive for the transport of freights and passengers, and to increase <b>connectivity between Italy and the European railway networks.</b></p> <p>The existing historical line, climbing over 1,300 meters and with a tunnel dating back to 1871, does not meet the <b>international transport standards</b> and involves an energy cost which is 40% higher than the one of a line without any slope.</p> <p>Moreover, the Mediterranean Corridor, to which the Lyon-Turin section belongs, concerns 18% of the European population in regions representing 17% of the EU GDP. <b>To support the economic development</b> of these territories, an efficient and green infrastructure is essential.</p>	Transport and the economy
<p>In general, cross-border projects are those that give the greatest benefit to the European economy, with a <b>multiplier 3 times higher</b> than the average of the 9 TEN- T corridors.</p> <p>France and Italy are the second and third economies of the European Union and respectively the second commercial partner of one another.</p> <p>The economic exchange involves over <b>44 million tons of goods per year</b>, mainly transported by road (92% travels on lorries), and represents a total of € 81 billion (Source: ISTAT 2017), almost twice the trade of France with China.</p>	Italy-France interchange
<ul style="list-style-type: none"> <li>- <b>More trains:</b> the project foresees <b>22 long-distance trains a day</b>, compared to the 6 TGVs travelling today on the historic line between Turin and Lyon (Source: Volume 11 of the Observatory).</li> <li>- <b>Less travel time:</b> Lyon-Turin (with no intermediate stops): 1h 47", against 3h 47" Milan-Paris: 4.5 hours instead of about 7 hours Turin-Paris: about 4 hours, which is about an hour and a half less</li> <li>- <b>More connections:</b> the departures-destinations will multiply for passengers on different European routes, encouraging new passengers to travel by train, using the corridors and their connections.</li> </ul>	Advantages for passengers
<ul style="list-style-type: none"> <li>- <b>Greater interchange:</b> with the creation of a tangible alternative to road transport, it will be possible to intercept the increase in the circulation of goods, as seen through the other Alpine passes</li> <li>- <b>Greater capacity:</b> the extended compliance with the European standard will allow the passage of trains with capacities of up to 1,500 tons, compared to the 600-700 tons seen today</li> <li>- <b>Ecology:</b> a train eliminates 60 heavy goods vehicles travelling on the road networks</li> <li>- <b>Savings:</b> rail transport costs decrease over time; road costs increase.</li> </ul>	Advantages for freight transport



## THE PUBLIC PROMOTER: TELT

<p>Tunnel Euralpin Lyon Turin is the Public Promoter in charge of the construction and management of the Lyon-Turin cross-border section.</p> <p>A company established under French law on 23 February 2015 according to <b>international agreements</b> that define the realization of the line itself.</p> <p>The above were signed by the two <b>founding partners: the French government and Ferrovie dello Stato italiane (Italian State Railways)</b>.</p> <p>TELT succeeds Lyon Turin Ferroviaria (LTF SAS), former Public Promoter involving SNCF (France) and RFI (Italy), and, since 2001, has been in charge of the studies, investigations and preliminary works for the shared Italian-French part.</p>	<p>Company profile</p>
<p>The corporate set-up is structured as follows:</p> <ul style="list-style-type: none"> <li>- 50% Ferrovie dello Stato SpA (FS) for Italy</li> <li>- 50% French State</li> </ul> <p>The <b>Board of Directors</b> consists of 10 members with voting rights appointed by both countries, plus one representative of the European Commission, without voting rights.</p> <p>The Board includes as observers without voting rights:</p> <ul style="list-style-type: none"> <li>- a member from the Auvergne-Rhône-Alpes Region (France)</li> <li>- a member from the Piedmont Region (Italy).</li> </ul> <p>The French State appoints the Chair and the Italian State appoints the General Manager choosing among the Board members.  <b>The Chair of TELT is Hubert du Mesnil.</b>  <b>The General Manager is Mario Virano.</b></p>	<p>Corporate and management setup</p>
<p><b>163 people from both Italy and France</b> currently work for TELT, with an average age of 45 and with an equal distribution between genders.</p> <p>The team consists of 70% engineers who have worked on infrastructure projects worldwide, participating in the <b>design and engineering of a total of 1,150 km of railways and 454 km of tunnels</b>.</p>	<p>Team</p>
<p>The Company has established two control bodies (the <b>Contract Committee and the Permanent Monitoring Service</b>), which respectively monitor the contract awarding procedures for compliance with EU law and the correct use of funds.</p> <p>They are both chaired by French representatives and are composed of 12 members, 6 appointed by each government, for a renewable term of 5 years.</p>	<p>Supervisory Bodies</p>

## THE COMMITMENTS

<p>TELT takes part in the <b>United Nations Global Compact</b> to sustain its goals and promote its values among its stakeholders:</p> <ul style="list-style-type: none"> <li>human rights</li> <li>international occupational standards</li> <li>environment</li> <li>fight against corruption</li> </ul>	Global Compact
<p>The Lyon-Turin project was conceived with <b>environmental objectives</b> and refers to several initiatives launched by the European Union over the years, including:</p> <ul style="list-style-type: none"> <li>- the <b>Alpine Convention</b> (1995), which foresees measures to reduce inter-alpine traffic on the road;</li> <li>- the <b>Paris Climate Conference</b> (2015), which encourages the reduction of greenhouse gases.</li> </ul> <p>Given the current lack of competitiveness of the oldest railway tunnel in the Alps, environmental requirements do not exist. With the new line, it will be possible to <b>reduce emissions equal to those of a city with 300 thousand inhabitants</b>.</p> <p>The environmental commitment in construction sites is achieved by 24/7 monitoring, using internal and external control units with tests conducted on different environmental parameters (water, dust, asbestos, radon etc.), carried out under the supervision of national control bodies.</p>	Environment
<p>In 2017, TELT submitted its first <b>Health Impact Assessment (HIA)</b> on the Chiomonte construction site, drawn up by experts from the Occupational Medicine section of the Department of Public Health and Paediatric Sciences of the University of Turin.</p> <p>The over <b>60,000 measurements, carried out</b> under the supervision of the Regional Environmental Protection Agency (ARPA), by means of which 135 parameters were monitored, within a radius of 15 km from the construction site, together with the 26 control points inside the work area, did not detect any critical issue for the health of citizens and workers.</p>	Health
<p>The new Lyon-Turin railway line represents the <b>first case in Europe of application of the anti-mafia legislation at a transnational level</b> regardless of the nationality of the construction sites.</p> <p>In 2018, the Prefect of the Auvergne-Rhône Alpes Region and the Prefect of Turin signed the agreement that makes the binational structure operational for anti-mafia checks on Italian and French tenders.</p> <p>The two Prefects work in parallel, sharing information, with the support of the respective police forces that carry out joint checks and inspections in the construction site areas. The checks are carried out not only on the contractors, but also on the entire subcontracting chain (also for contracts worth € 1).</p> <p>The companies that have everything in order are included in a transnational White List, a sort of register of entities who can work on the construction sites.</p>	Legal aspects



## KEYWORDS

**#Works The** Lyon-Turin line, a work in progress: we have currently excavated over 17% of the total 164 km of tunnel to be completed

**#CertifiedCost** The cross-border section cost of the Lyon-Turin line amounts to € 8.6 billion, certified by a third-party, the Belgian grouping of companies Tractebel Engineering – Tuc Rail.

**#Investments** To date, € 1.5 billion have already been invested in projects and works

**#GrantAgreement** Europe has allocated € 813.8 million to the Lyon-Turin base tunnel in the financing program regulated within the Grant Agreement, a contribution of 41.08%

**#Mafiafree** Lyon-Turin: the first case in Europe of transnational application of the anti-mafia legislation. A single White List, checks entrusted to a binational structure coordinated by the prefects, monitoring along the entire supply chain of contracts and subcontracts, including companies from third countries

**#GlobalCompact** TELT is committed to integrating 10 fundamental principles within its management mechanism and project implementation activities, which will extend to all French and Italian companies and institutions involved in the Lyon-Turin line

**#Federica** French 2,400-ton TBM with the power of eight Formula 1 engines. It advances by around 15 m a day in a particularly delicate area of the Alps

**#Environment** The Lyon-Turin line will generate savings of 3 million tons of Co2 per year: the emissions of 1 million heavy goods vehicles

**#Environment** In Chiomonte there are no major critical issues on over 75,000 measurements of 135 environmental parameters, monitored 24/7 by 66 control units within a radius of 15 km around the construction site

**# TEN-TNetwork** The Lyon-Turin line is the heart of the Mediterranean Corridor of the TEN-T network, the new European Metro Line, which serves 18% of the EU population, in regions that represent 17% of European GDP

**#TEN-TNetwork** The completion of the TEN-T network by 2030 is worth 1.8% of the European GDP and 10 million jobs.