



European
Commission

THE TRANS-EUROPEAN TRANSPORT NETWORK

An **EU that delivers**

Investments in smart,
sustainable and safe
mobility
for jobs and growth



TEN-T Days

Ljubljana **25>27** April 2018

Mobility
and Transport



CONNECTING
EUROPE

DELIVERING TEN-T

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I. Key facts about the transport sector and EU transport policy objectives

1. Transport policy objectives

Transport is a strategic sector of the EU economy. Prerequisite for most of the activities in the society, it has a major impact on Europe's social, economic and environmental development.

Transport contributes to economic growth and jobs, global competitiveness and trade, enabling people and goods to move across Europe and beyond. Transport is the key enabler of the four freedoms of movement defining the Single Market - people, goods, services and capital.

Transport directly affects everyone in Europe. Whatever age we are, and whatever activities we undertake, transport and mobility play a fundamental role in today's world. The Commission's aim is to promote mobility that is efficient, safe, secure and environmentally friendly, serving the needs of citizens and businesses.

In order to contribute to achieving the overall goals set at EU level, the Commission has set a number of objectives for transport policies based on the priorities outlined by President Juncker¹. Achieving a well-interconnected, interoperable and efficiently managed transport system in Europe, able to support EU economic growth and global leadership, requires a coordinated long-term approach at EU level. Transport means connectivity and mobility. Europe's competitiveness on the global scene will increasingly depend on its level of connectivity and efficiency both inside and in respect to the rest of the world. Investment and, especially infrastructure investment, is a major driver to strengthen the prosperity and cohesion in the Union, and to fight climate change and negative externalities from transport activities. Adequate infrastructure, innovative intelligent transport systems (ITS), measures to improve the safety, security and environmental performance of the transport sector are essential.

Commissioner Bulc supports the vision of a Transport Union aiming at 2 priorities: (i) promoting efficiency in the EU single market, and (ii) connectivity on a global scale. These goals are empowered by: decarbonisation, digitalisation, investment, people's benefits, innovation and global leadership.



¹ EU transport policy and investment activities contribute actively in particular to the following 5 Priorities: Priority 1: "A New Boost for Jobs, Growth and Investment", Priority 2: "A Connected Digital Single Market", Priority 3: "A Resilient Energy Union with a Forward-Looking Climate Change Policy", Priority 4: "A Deeper and Fairer Internal Market with a Strengthened Industrial Base", Priority 9: "A Stronger Global Actor".

- **Decarbonisation:** The objective is to move towards a zero emissions European transport system in a sustainable economy.
- **Digitalisation:** The objective is to develop a seamless digital layer through the entire single European transport area.
- **Investment:** The objective is to Connect Europe thanks to multi-modal transport infrastructure in Europe and beyond and to create an environment more conducive to private and public investments.
- **People's benefits** (rights, safety, security, jobs): The objective is to improve the wellbeing of EU citizens, thanks to affordable, accessible, reliable, and secure transport networks without unnecessary administrative burdens. Establish transport as an asset for competitiveness of the EU economy
- **Innovation:** The objective is to make the EU a global leader in innovative, multimodal mobility solutions, harnessing automation.
- **Global leadership:** the objective is that EU acts on the international scene as an influential partner. Collaboration and economic diplomacy will promote the EU vision and standards at the global scale.

The **EU added-value** is:

- to promote **EU and global cooperation** and co-creation opportunities via multi-stakeholder engagement (political dialogue, business fora, connectivity platforms, transport dialogues, civil society) for sustainable solutions in mobility and connectivity;
- to accelerate the shift to **low-emission mobility** solutions. Our engagement in research and pilot activities will need to be complemented with wider-scale deployment tools allowing to quickly reaching a critical mass and to include sector and areas not served by the market in a satisfactory manner;
- to accelerate the shift to **innovative and digital-based solutions** to maximise efficiency, interconnectivity, scalability and adaptability;
- to catalyse **public and private finance** towards the EU policy objectives, e.g. completion of the TEN-T core network by 2030 and the new low-emission mobility; to enable key investment where the costs are national/local and the benefits are tangible at European scale, e.g. cross-border sections, low-emission modes, interoperability systems;
- to develop **EU financing instruments** to promote European investments inside and outside the EU, in close cooperation with EIB and other public financial institutions;

2. Key facts about the transport sector in the EU

- Transport sector (services, manufacturing, maintenance, construction) accounts for more than **9% of EU Gross Value Added (GVA)**. Transport services alone account for around € 662 billion in GVA, or 5 % of total EU GVA in 2015.
- Transport sector (services, manufacturing, maintenance, construction) employs more than **20 million people, or more than 9% of total EU workforce**. Of this, transport services employ around 11 million persons, or around 5.2 % of the total EU workforce.
- **Around 13% of household consumption expenditure** (2015) is spent on transport items – second only to housing.
- **EU exports of machinery and transport equipment** account for over **42%** of goods exports, or €743 billion in 2016. Exports of road vehicles accounted for € 197 billion of this amount, and other vehicles (ships, trains, planes) an additional € 98 billion.
- **EU export of transport services** accounted for **17.2%** for an amount of €145.6 billion in 2016. This left a trade surplus in this sector of €16.9 billion.



The transport sector also generates significant **additional economic benefits**:

- Efficient mobility services and global connectivity are the prerequisites for almost all other economic sectors to function, to enable social exchanges, tourism, competitiveness of EU businesses, and to foster innovation. For example, transport:
 - addresses the mobility needs of more than 500 million European people;
 - ensures the flows of goods from more than 11 million EU industries to their consumers;
 - enables the smooth functioning of international trade, allowing the EU to export their products to the rest of the world for a total value of more than € 1700 billion per year.
- IMF estimates that an increase in public investment in infrastructure of 1% of GDP leads to a **1.5 % increase in GDP** over four years. If countries plan and execute infrastructure well, the return is even greater: **2.6 %** over four years.

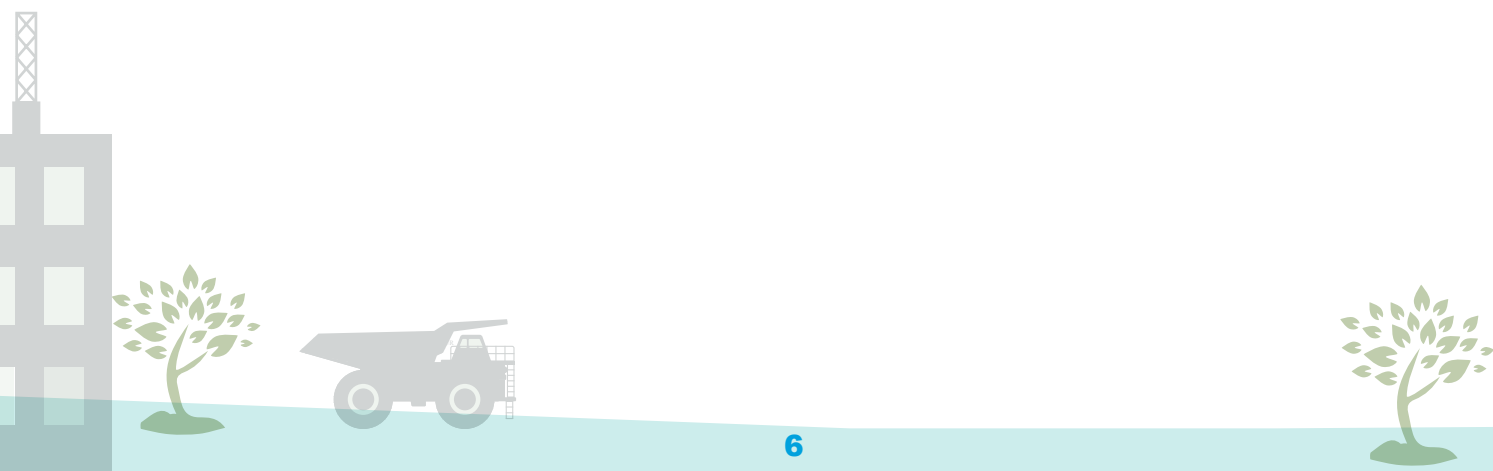
However, **transport also generates negative external effects** such as accidents, GHG emissions, air pollution, noise and other environmental effects (illustrative figures from 2011-2016 studies²):

- 25.500 lives were lost in 2016 and 135.000 people annually are seriously injured in road accidents in the EU;
- transport represents 24% of total GHG emissions (excl. intl. shipping) - approx. 1 billion tonnes CO₂;
- air pollution amounted to costs approx. 0.43% of EU GDP in 2008³;
- noise amounted to costs approx. 0.15% of EU GDP in 2008;
- External costs due to transport have been evaluated to be equivalent in value to approx. 4% of EU GDP (excluding congestion, 2008).
 - delay costs of road congestion: 1% of EU GDP (140 billion €/275€ per EU citizen in 2014)⁴; hours spent yearly in road congestion by the average driver: 29.5 hours (2015).

² A complete report of these externalities will be available in 2019. The abovementioned costs are quantification in monetary terms of non-market items (lives, health, air quality, time, etc.) merely expressed as % of GDP for an idea of their size; therefore they cannot be compared to the share of transport in the economy as % of GVA.

³ Source: CE Delft, INFRAS, Fraunhofer ISI (2011). External Costs of Transport in Europe. Update Study for 2008.

⁴ Source: Ricardo, TRT (2017). Study on urban mobility – Assessing and improving the accessibility of urban areas



II. Estimated investment needs for transport infrastructure, framework conditions and related impacts

The preparation of a new proposal for an investment instrument in support of the EU transport policies (including trans-European networks) under the next multi-annual financial framework (MFF) requires a thorough estimation of the investment needs.

In 2017, transport investment needs were estimated in different ways:

(A) Assessment of the project pipeline by the Commission services and on the work carried out by the TEN-T European Coordinators in the framework of the Core Network Corridor work plans;

(B) Following the request of Commissioner Bulc, Member States recently provided their own estimates of the investment needs on the core and comprehensive network. Moreover, Member States provided feedback on what could be done to enhance the regulatory framework, to boost the project pipeline and to develop financial instruments with the help of the EU.

I. First Pillar. Estimated investment needs to implement the TEN-T

A. Investment needs according to the Core Network Corridor Work Plans

DG MOVE reviewed the project list with a view to refine the knowledge and prioritisation of the projects necessary to complete the Core Network Corridors. This process was accompanied by further analysis on the expected impact of the realisation of the corridors.

B. Investment needs according to Member States

In 2017, Member States communicated their own estimate of investment needs on the core and on the comprehensive networks. They also indicated the share of investment that would need EU grants and that would be suitable for EU financial instruments (loans, guarantees, equity). 25 Member States had communicated their figures and for 2 Member States the Commission had made an estimate based on historical trend.

Investment needs in Transport post-2020

Following this analysis, the estimated investments needs in EU27 for the period 2021-2030 to complete the TEN-T core network are about EUR 500 billion, and about EUR 1,000 billion for the TEN-T comprehensive network and other transport investments such as decarbonisation, digitalisation, safety, maintenance, etc.

Thus, in the period 2021-2027, the estimated investment needs in EU27 are about EUR 350 billion for the TEN-T core network, and about EUR 700 billion for the TEN-T comprehensive network and other transport investments such as decarbonisation, digitalisation, safety, maintenance, etc.



II. Second Pillar.

Appropriate EU funding and financing instruments to address investment needs

In their replies, Member States also reflected on the way that EU instruments provide support to transport investments. They notably made proposals to simplify the rules and procedures for obtaining CEF grants (incl. via blending with funds from public or private banks) and the monitoring thereof, to allow more flexibility and to align CEF and other EU funds. While acknowledging the growing role of financial instruments, Member States also insisted on the need for continued grant support to address market failures in terms of positive and negative externalities of transport infrastructure investments.

A. EU help to develop financial instruments

Member States generally supported a wider application of the blending approach (not only under CEF). They stressed the need for exchange of best practice and technical assistance, including for project promoters.

Concrete proposals include: the expansion of the scope of EFSI and CEF blending calls (e.g. to include the comprehensive network or longer and more complex projects), higher co-financing rates for projects using IFIs, taking into account sectorial or geographical specificities, introducing comparable or similar rules across different financial instruments, allowing the use of a wide array of financing options, reducing the administrative burden, protecting investments from interest rate risks and economic cycles, developing investment fund type of financing platforms (e.g. for cross-border projects, multimodal logistic platforms, innovation and energy efficiency in transport, Motorways of the Sea), preparing toolkits for Member States to disseminate information on financial instruments, conducting analyses of acceptable cost for infrastructure users and possible private capital involvement in non-revenue projects.

Some Member States also proposed to evaluate financial instruments before introducing new ones.

B. Continuing need for grants

While there is general acknowledgement of the growing role of financial instruments, the majority of Member States insisted on the need to continue or (significantly) reinforce the grant part of EU funds as the main method of intervention. This message comes out particularly clearly for modes of transport such as railways and inland waterways, as well as for cross-border projects for which financial instruments are not always appropriate.

Grants are also seen as essential to attract private financing and to close the gap between cohesion and other Member States. Smaller Member States highlighted the difficulty to implement PPP schemes in areas with low traffic and limited population. Others feared disadvantages when not wishing to use financial instruments. While some asked for attribution of funds based on merits, others would favour a fair geographical distribution. Funding for comprehensive network should be expanded and better incentivised, according to one Member State.

Several Member States stressed the need to reflect on possible support to maintenance and repair of the network (where it has EU added value), as well as its modernisation and optimisation. New challenges such as digitalisation and automation and the resulting investment needs in interoperable networks were also highlighted. Some cohesion Member States insisted on the continued importance of road investments and asked for transparent funding rules in this regard.

Some cohesion Member States proposed to eliminate the situation in which there is competition between or doubling of financial resources from different EU funds and diverging requirements e.g. in terms of necessary permits.



C. Articulation between grants and financial instruments

The estimation of the share of grants and innovative financial instruments to respond to these investment needs led to very different replies among Member States. More than half of the Member States did not provide such estimates, judging that it could not be done on the basis of a solid methodology at this stage.

The proportion of investments using financing from EU grants was indicated at levels ranging from 9,4% to 100% for the core network, from 0,1% to 100% for the comprehensive network and from 0% to 100% for other transport investments.

The proportion of investments that could be using financial instruments was estimated at levels ranging from 0% to 75% for the core network, from 0% to 50% for the comprehensive network, and from 0% to 50% for other transport investments.

This shows that there is a large diversity in approach among Member States on the split between grants and financial instruments to finance transport investments.

III. Third Pillar. Conditions to boost the project pipeline

Plans of Member States to boost the project pipeline generally involve the adoption and regular evaluations or update of long-term transport strategies and plans (at different levels, based on traffic models and sector trends), clear and stable prioritisation, consensus-building, pooling of investments as well as special attention to the project preparation phase, collaboration between and appropriate capacities of the relevant parties.

Assessment of the viability and impact on the local population, as well as possible use of financial instruments and using the European Investment Project Portal were also mentioned as ways to enhance the planning of investments. One Member State adopted a strategy on accelerating planning procedures, following an Innovation Forum on the topic.

In addition, Member States proposed to strengthen the regional and local presence of the European Investment Advisory Hub, to provide technical assistance for project preparation and to promote exchange of best practice on building mature project pipelines.

IV. Fourth Pillar. Enhancing the regulatory framework

Member States highlighted possible ways to improve the regulatory framework with a view to enhancing the investment strategy. Member States considered that there is room for improvement of the regulatory framework in the following areas:

- **Simplification of public procurement procedures:** streamline and shorten procedures, stimulate competition, maximise transparency and quality dialogue with interested parties, reduce court proceedings, provide training for contracting authorities.
- **Simplification of permitting procedures:** reduce the duration/introduce deadlines for permits, reduce the costs and risks, streamline or introduce a specific set of rules for cross-border projects/projects of EU added value, ensure that complaints are legitimate, align the timelines of various permitting procedures, set up special purpose agencies at national level, plan jointly larger corridor sections.
- **Public acceptance:** de-risk and align consent processes as much as possible, give particular attention to public acceptance when translating the results of the permitting study into concrete measures, introduce more effective communication strategies to raise visibility and acceptability of investments.
- **Legal certainty:** stable and predictable technical specifications, clear and predictable priorities and eligibility criteria for calls; common regulatory environment for port finance.
- **State aid control:** simplify and accelerate procedures, improve consistency with TEN-T policy, clarify rules for PPPs, allow more investments in smaller airports, review state aid guidelines for ports and Motorways of the Sea, develop new incentive schemes for Motorways of the Sea.
- **Eurostat accounting under the Stability and Growth Pact:** enter investments in public infrastructure into national accounts over a longer period of time, make ESA 2010 accounting rules less restrictive by allowing the investment clause to be used for projects with EIB involvement, amend fiscal and statistical rules to make PPPs more attractive.



III. EU Transport Infrastructure - Key Results

The key results achieved through overall implementation of TEN-T policy since the entry into force of the TEN-T Regulation (EU) N° 1315/2013⁵ and the key results expected through the allocation of EU funding under the Connecting Europe Facility⁶ since 2014 can be summarised as follows:

I. Developing the Trans-European Network for Transport (TEN-T)

A. Overall results of TEN-T implementation

The following status of TEN-T completion was reached by 2015:

Railways

- Standard track gauge of 1435 mm is present on 77% of the rail core network and 76% of the comprehensive rail network;
- Around 81% of the TEN-T (81.3% for the core and 80.6% for the comprehensive network) are electrified;
- ERTMS is in operation only on 9.5% of core network corridors sections.

Roads

- 74.5% of the core network is compliant with the standards required in the TEN-T guidelines (i.e. motorway or expressway standard), whereas only 58.1% of roads of the comprehensive network fulfil this requirement.

Inland Waterways and ports

- 95 % of the inland waterway core network is compliant with the standards, corresponding to the CEMT requirements for class IV;
- On 79.6% of the inland waterway core network, River Information System has been implemented in accordance with EU standards;
- All seaports of the TEN-T (both core and comprehensive networks) are connected to the TEN-T railway network.

Airports

- Out of 38 core airports falling under the obligation regarding a connection to the TEN-T rail network, 23 (i.e. 60.5 %) are already compliant with this requirement.

On 21 June 2017, the Commission adopted the first Progress report on implementation of the TEN-T network in 2014-2015⁷.

⁵ Regulation (EU) N° 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network

⁶ Regulation (EU) N° 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility

⁷ <https://ec.europa.eu/transport/sites/transport/files/com20170327-progress-report-tent-2014-2015.pdf>



B. Benefits of the TEN-T corridor approach to generate EU added value

The TEN-T corridor approach is an innovative multi-level governance system for bringing Europe closer to all stakeholders, primarily its citizens. It has proven to be effective to focus on delivering EU added value.

The Core Network Corridors are indeed a powerful instrument of communication, cooperation, collaboration and coordination. In the framework of their mandate, the European Coordinators have engaged in a very close cooperation with Member States, regions, infrastructure managers of all modes, users and stakeholders at local, regional, national and European level.

In particular, the TEN-T corridor approach ensures that efforts are concentrated on the implementation of cross-border projects but also allows encompassing several relevant aspects of transport investment across different policy areas.

C. Expected impact of TEN-T infrastructure investments on jobs, economic growth and decarbonisation

A study on the assessment of the impacts of the completion of the core network corridors on growth, jobs as well as on decarbonisation is currently ongoing. The results of this study will be presented at the 2018 TEN-T Days in Ljubljana.

a) Impact on jobs and growth – preliminary estimate

On the basis of the preliminary analysis for the third version of the Core Network Corridor work plans, the investment necessary to develop the nine Core Network Corridors was estimated to generate up to **EUR 4,500 billion of cumulated GDP**. This would mean **1.8% additional GDP in 2030**.

The number of job-years created by the implementation of the 9 Core Network Corridors could reach up to **13,000,000 job-years**.

These are preliminary results based on a methodology developed by the consultancies M-Five⁸, KombiConsult and HACON. A more up-to-date study is ongoing, which also pays increasing attention to the longer-term effects.

b) Impact on decarbonisation

The completion of the nine TEN-T corridors stimulates modal shift, especially through the implementation of major rail and inland waterway projects as well as through the enhancement of a multi-modal transport network. The development of the Core Network Corridors also includes, as integral part, components such as alternative fuels infrastructure (charging equipment), intelligent and innovative transport systems etc. Thereby, it plays an indispensable role as enabler for the decarbonisation of the transport system as a whole.

⁸ Schade W., Krail M., Hartwig J., Walther C., Sutter D., Killer M., Maibach M., Gomez-Sanchez J., Hitscherich K. (2015): "Cost of non-completion of the TEN-T". Study on behalf of the European Commission DG MOVE, Karlsruhe, Germany.



D. Specific TEN-T corridors results

TEN-T Information Fiches for the nine Core Network Corridors, major cross-border infrastructure projects and a selection of innovative projects are provided in annex 1.

These TEN-T Information fiches illustrate the **results and impacts on connectivity, efficiency, capacity, decarbonisation, jobs and growth** and illustrate **human or local factors** as well as success stories on the corridors.

For instance, the TEN-T information fiches show that:

- The Baltic-Adriatic Corridor which interconnects the Polish ports in the Baltic Sea with the Italian and Slovenian ones in the Adriatic Sea is expected to generate 1.56 million job-years and 535 billion EUR of GDP until 2030;
- 217 projects have been identified on the Mediterranean Corridor that will provide a multimodal link to the ports of the Western Mediterranean with the centre of the EU;
- Rail Baltica – EUR 5.8 billion investments - will link the capital cities of Estonia, Latvia, Lithuania and Poland and is currently one of the biggest investments improving the mobility and travel opportunities as well as developing business, trade, and tourism in the region;
- With Electric Vehicles Arteries (EVA+), 200 multi-standard fast charging stations are being installed on key roads and motorways in Italy and Austria offering all the fast charging standards (CCS Combo 2, CHAdeMO or AC charging).
- There are various success stories regarding the deployment of ERTMS. Some Member States have opted for network-wide deployment such as Belgium, Luxembourg, the Netherlands, Denmark. Other important sections of the rail network are equipped for instance in Spain and Italy. Cross-border cooperation is also advancing for instance on the North Sea-Mediterranean Core Network Corridor.

II. Investment Plan for Europe – results in transport

A. First pillar: mobilise EU resources for investment

Since 2014, the **Connecting Europe Facility (CEF)** completed 3 series of transport calls for proposals in 2014, 2015 and 2016. Through CEF, grant support has been allocated to 604 projects, carried out by almost 2000 beneficiaries, accounting for CEF co-funding of EUR 21.4 billion. This represents over 90% of the total grant budget, for a total investment (EU and other public and private support) of EUR 41.6 billion. These projects are expected to deliver the following results:

- Independent studies on investment in the TEN-T allow estimating that such total investment will result in **job creation of over 900 000 man/ years and stimulate the European GDP with an amount of EUR 264 billion for the duration of the projects;**
- Removal of 243 rail, road and inland-waterways bottlenecks by 2020 (30% on cross-border sections);
- 3088 new supply points for alternative fuels for road transport;
- 1790km of rail sections adapted to nominal gauge, 5788 km with ERTMS, 1753km electrified, 2804 km freight lines improved;
- 3862 km of inland waterways upgraded;
- 138,082 rail wagons equipped with low noise brakes;
- 38 actions aiming at deploying intelligent transport systems on EU roads, ensuring the interoperability of traffic management services and implementing ITS applications;
- Support to the coordinated and synchronized deployment of the Single European Sky air traffic management (SESAR) involving 28 airports, 25 air navigation service providers, 14 airlines and 2 international organisations.



Besides, EUR 1 billion has been committed in December 2017 under the first **CEF blending call** to 39 projects in 24 MS, leveraging a total EUR 4.5 billion from EFSI, EIB, National Promotional Banks and private banks.

Grant agreements for these projects are in progress. The requested CEF funding under this blending call was more than twice the budget available.

The purpose of this call was to maximise the leverage of private involvement and capital in the delivery of CEF Transport projects, while at the same time pursuing the ultimate objective of the CEF programme, i.e. completing the TEN-T core network and its corridors by 2030 and the comprehensive network by 2050.

Roadshows have been organised during 2017 in several Member States to raise awareness and provide information about this new instrument.

A EUR 350m top-up of CEF Blending call was launched in November 2017, in the context of the Clean Mobility package and focused on alternative fuels infrastructure. The cut-off date for proposals is in April 2018 and the European Commission decision on selected projects is expected in September 2018.

In addition, around EUR 70 billion have been programmed in EU co-funding from the **European Structural and Investment Funds (ESI Funds)** for the period 2014-2020, e.g. Cohesion Fund (CF) and the European Regional Development Fund (ERDF). This includes EUR 34 billion for TEN-T infrastructure and EUR 36 billion for transport investment projects which connect to or complement the TEN-T projects. This includes investment e.g. in clean transport and alternative fuels, in sustainable urban mobility, in smart transport (e.g. the deployment of ITS solutions) or in active modes of transport such as cycling and walking.

In the 2014-2020 period, the following achievements from cohesion policy support are expected:

- 1136 km of new TEN-T railway lines, including 571 km on the TEN-T;
- 9680 km of improved railway lines, including 4636 km on the TEN-T;
- 3414 km of new roads, including 2022 km on the TEN-T;
- 9742 km of improved roads, including 798 km on the TEN-T;
- 977 km of inland waterways;
- 748 km of new or improved tram and metro lines.

From its launch in 2015 until March 2018, the **European Fund for Strategic Investments (EFSI)** approved **57 operations** contributing to transport objectives, expected to mobilise close to **EUR 23.58 billion investment value**. In addition, 4 programmes have been preapproved, including the 2 green shipping programmes with potential to mobilise additional EUR 3.5 billion of investment.

As of the end of 2017, the CEF Debt Instrument and its legacy instruments LGTT (the Loan Guarantee Instrument for TEN-T) and PBI (Project Bonds Initiative) mobilised more than EUR 14 billion of additional investment in TEN-T, out of which around EUR 5.5 billion since 2014.

More details on the execution of EU instruments to provide funding support to transport infrastructure projects is presented in annexes 2 and 3.

B. Second Pillar: help investment projects reach the real economy

As of 31 July 2017, transport represents 23.3% of the 408 project-specific requests to the European Investment Advisory Hub (EIAH) and is a leading sector in terms of a number of requests (followed by energy with 20.3%).

As of 12 June 2017, more than 276 projects have been submitted to the European Investment Project Portal (EIPP), out of which 161 have been published on the portal with EUR 60.9 billion total investment proposed (sum of all projects). As a primary sector transport represents 33% of the published projects.⁹

⁹ *EIPP Project Promoters can select one or two sectors from a choice of 25 sectors in line with Article 9.2 of (the "EFSI") Regulation 2015/1017. With a second sector included, transport accounts for 28%.*



C. Third pillar: Improve the investment environment

Important progress has been made to improve the investment environment of transport projects. Certain long-term infrastructure financing has been made more attractive through amendment of Solvency II Delegated Regulation. Investments with better risk characteristics than other infrastructure (“qualifying infrastructure investments”) benefit from an appropriate risk calibration which will ultimately lead to a lower capital charge.

In the area of State aid, the Commission published guidance on when public spending falls within, and outside, the scope of EU State aid control. As a result, the “Notice on the notion of State aid” will help public authorities and companies to identify when public support measures can be granted without needing approval under EU State aid rules. Furthermore, the General Block Exemption Regulation was amended by extending its scope to aid for port and airport infrastructure.

In September 2016, Eurostat issued a guide in cooperation with EPEC, the European PPP Expertise Centre, to promote a clear and coherent approach on the statistical treatment of PPPs. The guide has received positive feedback from stakeholders and is expected to have a positive impact on project pipeline in the medium term.

The Commission carried and published a ‘Study on permitting and facilitating the preparation of TEN-T core network projects’ in 2016. Building on its results, the Commission conducted an impact assessment to evaluate the various options proposed by the study. This process is now well-advanced and the Commission envisages to put forward a very targeted legislative proposal as part of the 3rd Mobility Package to be adopted on 16 May 2018.

The initiative followed an extensive consultation process. Apart from a 13 week open public consultation, three thematic workshops were organised in 2017, respectively on public procurement, on governance, State aid and financing issues and finally on permits, environmental assessments and public consultations.

The present initiative aims at addressing significant delays encountered in the implementation of TEN-T infrastructure projects and bringing greater clarity to the processes which project promoters need to follow, in particular as regards permit granting, public procurement and other procedures.

Apart from generating more investment and attracting private capital to the infrastructures of high Union added value, it is believed to provide more clarity for citizens and civil society by strengthening the transparency framework for their involvement in the planning of TEN-T projects.

The specific expected benefits are estimated to be:

- Timing: permit granting procedure would be expected to last up to a maximum of 3 years which is a significant improvement in comparison to the current situation.
- Cost savings: more than EUR 5bn user cost savings;
- Investment: 84% of total investments on the core TEN-T network brought forward to before 2025,
- Reduction of transport externalities: EUR 700 million in terms of CO2 emissions, noise mitigation, air pollution, congestion and lower number of accidents. The reduction of CO2 emission is estimated to 2,686 tonnes saved for the period 2018-2030.
- Administrative cost: net savings of EUR 150 million for project promoters and public authorities.

Furthermore, as required by the ex-ante conditionality for receiving financial support from ESI Funds under Thematic Objective 7 (sustainable transport), comprehensive national and regional transport plans, were developed in 20 Member States, including mature project pipelines and measures to strengthen the capacity of administrations and beneficiaries.

In this context it is also noteworthy that the Commission had presented in 2013 a new concept for the development of Sustainable Urban Mobility Plans. In the programming period 2014-2020, many EU urban areas will benefit from Cohesion Fund and ERDF support in the development and implementation of such plans.

The reinforced planning at all levels – EU, national, regional and local – will facilitate coordinated and coherent transport investments in the years to come and enhance the planning security for both public and private investors.



TRANS EUROPEAN TRANSPORT NETWORK



Core Network Corridors

Disclaimer:

Data reported for respective core network corridors has been collected by individual consultants and can be different from the aggregated ones



European Commission

Jobs Growth

The completion of the Corridor is expected to generate:

- **2.06 million job-years** until 2030
- **715 billion EUR of GDP** until 2030

Features

- **8 Member States**
- **17.4% of EU's GDP** generated by Corridor's regions
- **14.5% of EU's population living** in the Corridor's countries

Funding Needs



520 projects identified:
130 road, 127 rail, 76 maritime, 75 airport, 36 inland waterway, 18 MoS, 16 ERTMS projects

98.7 billion EUR of estimated investment:
32.5 billion EUR for road
37.9 billion EUR for rail

North Sea Baltic



CONNECTIVITY

The North Sea Baltic Corridor is the only Corridor situated exclusively in the North of Europe. It joins the Baltic Sea Region with the low countries of the North Sea Region by way of Helsinki, the Baltic States, Poland and Germany.

Efficiency

The Corridor will make transport more efficient by eliminating the missing cross-border links, solving bottleneck problems at Amsterdam Sea Lock, building the hinterland connection to the main ports, improving efficiency of urban nodes connectivity.

Success Stories



The main success of the Corridor has been the integration of the Eastern and Western markets in the North of Europe and developing an important catalyst of continued economic development.



The Twin-Port projects enable Helsinki and Tallinn to run their passenger harbours more smoothly. In a way, Helsinki and Tallinn have merged. The connection has created an entirely new dimension and passenger numbers have increased at an incredible rate.



Low Emission



Emissions will be lowered by developing the Corridor through harmonised TEN-T standards, increased share of inland waterway transport, modal shift from road to rail and further deployment of alternative fuels infrastructure.



European Commission

Jobs Growth

The completion of the Corridor is expected to generate:

- **2.2 million job-years** until 2030
- **743 billion EUR of GDP** until 2030

Features

- **6 Member States**
- **Switzerland** (and an inland port in Luxembourg)
- **19% of EU's GDP** generated by Corridor's regions
- **13% of EU's population** living in the Corridor's

Funding Needs



318 projects identified:
 110 projects concern rail
 41 projects concern inland waterways
 37 projects are in Switzerland

100 billion EUR of estimated investment:
 73.4 billion EUR for rail
 5.2 billion EUR for inland waterways
 41 billion EUR for Swiss projects



Rhine Alpine



Efficiency

Access routes to the Swiss rail tunnels:

- Karlsruhe-Basel in the north
- Chiasso-Milan, Domodossola-Novara in the south.

Capacity restrictions on the extension of the Betuwe route into Germany between Zevenaar – Emmerich – Oberhausen

CONNECTIVITY

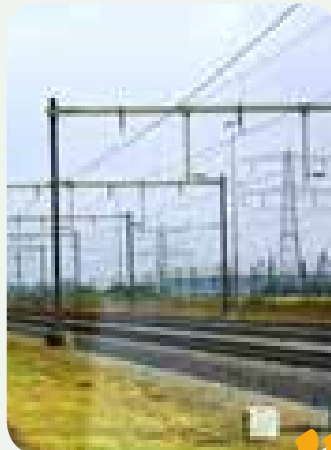
The Rhine-Alpine Corridor is one of the busiest freight routes in Europe, connecting key North Sea ports of Belgium and the Netherlands with the Mediterranean port of Genoa. The regions it encompasses are among the most densely populated and economically advanced in Europe.

Success Stories



Gotthard base tunnel – the longest and deepest rail tunnel in the world, allowing high-speed trains and the cut in journey time from Zurich to Milan by 30 minutes

Betuwe route – a dedicated, high-capacity freight line, linking the largest European port of Rotterdam with the industrial Ruhr region in Germany



Low Emission



Achieving compliance of the Corridor with the TEN-T standards by 2030 will ensure a **stable dominant position of inland waterways** in international freight transport (50.3%) while **the share of rail will increase to 22.2%** from 20.4 in 2010



European Commission

Jobs Growth

The completion of the Corridor is expected to generate:

- **1.56 million job-years** until 2030
- **535 billion EUR of GDP** until 2030

Features

- **6 Member States:** Poland, Czech Republic, Slovakia, Austria, Italy, Slovenia
- **The Corridor regions** represent **18.5% of EU GDP** and **23% of EU population**

Funding Needs



535 projects identified:
 170 rail and ERTMS projects
 99 road projects
 115 maritime, IWW and MoS projects

74.5 bn EUR of estimated investment:
 37.9 bn EUR for rail and ERTMS
 20.1 bn EUR for roads
 9.2 bn EUR for maritime, IWW, MoS



Baltic Adriatic



Efficiency

ERTMS: technology installed on 18% of the corridor, including most of the Slovenian lines; projects under development in all Member States; works ongoing in the Czech and Slovak Republics which cover most of the corridor links
Last mile connections of ports: Improvements ongoing at the maritime ports to further promote competitiveness of multimodal operations at terminals, and MoS

CONNECTIVITY

The Baltic-Adriatic Corridor interconnects the Polish ports in the Baltic Sea with the Italian and Slovenian ones in the Adriatic Sea. It crosses the industrialised areas between Southern Poland, Czech Republic and Slovakia and interconnects Vienna and Bratislava, the Eastern Alpine region and Northern Italy.



Success Stories



Railway Eastern Branch in PL
 Modernisation at TEN-T standards of railway line E65 between the core ports of Gdynia and Gdańsk, and Warszawa



Cross-border sections
 Bilateral letters of intent and memoranda of understanding have been signed in 2016 for the development of each of the eight critical cross-border sections of the Baltic-Adriatic Corridor.



Low Emission



Achieving compliance of the Corridor with the TEN-T standards by 2030 will keep railway transport competitive with a market share of 36%. The implementation of rail transport supporting policies would further **increase the rail modal** share up to 39% compared to 35% in 2014.



European Commission

Jobs Growth

The completion of the Corridor is expected to generate:

- **1.97 million job-years** until 2030
- **622 billion EUR of GDP** until 2030

Features

- **6 Member States:** Hungary, Slovenia, Croatia, Italy, France, Spain
- **17% of EU's GDP** generated by Corridor's regions
- **13% of EU's population** living in the Corridor's area

Funding Needs



217 projects identified:
124 projects concern rail & ERTMS
28 projects concern inland waterways

104 billion EUR of estimated investment:
77.7 billion EUR for rail
6.0 billion EUR for inland waterways

Mediterranean



Efficiency

The Lyon-Turin railway link, with the 57,5 km Mont Cenis base tunnel as its major component, is the main missing link in the corridor creating the only east-west freight corridor south of the Alps. It aims at connecting southwestern Europe with the central and eastern European Countries.

CONNECTIVITY

The Mediterranean Corridor will provide a multimodal link to the ports of the western Mediterranean with the centre of the EU. It will create an east-west link through the southern part of the EU, contributing to intermodality in sensitive areas such as the Pyrenees and the Alps and connecting some of the major urban areas of the EU with high speed trains..

Success Stories



The Madrid-Barcelona high-speed line reduced the journey time between the two cities from 5 hours in 1996 to 2 hours 38 minutes today

Avignon node – RRT & IWW
Creation of a tri-modal platform IWW-rail-road by upgrading and integrating existing port facilities on Courtine area and RRT of Champfleury



Low Emission



Achieving compliance of the Corridor with the TEN-T standards by 2030 will double the share of rail transport(from 13% to 27%) thus shifting important volumes of freight from road to rail.





European Commission

Jobs Growth

The completion of the Corridor is expected to generate:

- **1.49 million job-years** until 2030
- **517 billion EUR of GDP** until 2030

Features

- **9 Member States** incl. Cyprus as remote area
- **11.2% of EU's GDP** generated by Corridor's regions
- **14.1% of EU's population** living in the Corridor's regions (Status 2012)

Funding Needs



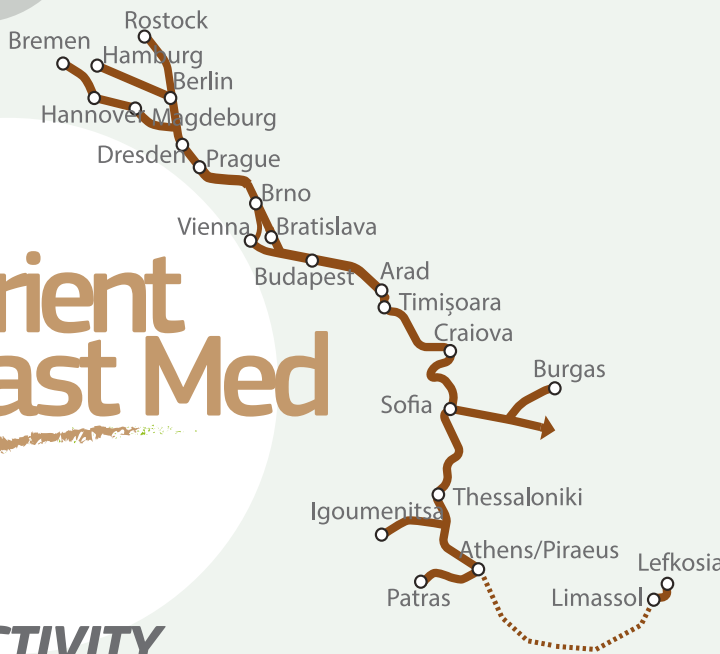
415 projects identified:
177 projects concern Rail, RRT & ERTMS
24 projects concern IWW

68 billion EUR of estimated investment:
40.4 billion EUR for Rail, RRT, ERTMS
2.2 billion EUR for IWW

Efficiency

Elbe and Weser Rivers have underused capacity but less reliability.
Rail capacity restrictions are frequent in DE, SK and HU nodes.
Bottlenecks: HU – RO – BG – EL stretches must be adapted to TEN-T standards.
Administrative border-crossing obstacles are to be minimized.

Orient East Med



CONNECTIVITY

The Orient/East-Med Corridor is a long north southeast corridor that connects central Europe with the maritime interfaces of the North, Baltic, Black and Mediterranean seas, making the best of Motorways of the Sea ports. It will foster the development of those ports as major multimodal logistic platforms and will improve the multimodal connections of major economic areas in Europe to the coastlines, using rivers and channels in Germany and the Czech Republic.

Success Stories

Vienna Main Station – this new passenger rail hub connects three Core network corridors (Baltic-Adriatic, Rhine-Danube and OEM) and features a new urban quarter.

High speed link between Athens/Thessaloniki almost completed by 2018 giving fast access between the 2 ports areas in the north and south of Greece



Low Emission



Achieving compliance of the Corridor with the TEN-T standards by 2030 will reduce the **dominance of road transport** in international freight transport (56.8% from 59.5%), while **the share of rail is foreseen to increase** to 33.1% (from 27.1% in 2010).



European Commission

Jobs Growth

- The completion of the Corridor is expected to generate:
- **1.09 million job-years** until 2030
 - **419 billion EUR of GDP** until 2030

Features

- **4 Member States: PT-ES-FR-DE**
- **The corridor** crosses regions which represent **12% of EU's GDP**
- **11% of EU's population** living in the Corridor regions

Funding Needs



217 projects identified:
112 projects concern rail/ERTMS
40 projects concern maritime

44 billion EUR of investment:
26 billion EUR for rail
4 billion EUR for maritime

Atlantic



Efficiency

- **Missing Links:** Évora-Mérida border missing link between Madrid and Lisbon
- **Gauge differences:** coexistence of Iberian and UIC gauges as a major bottleneck in the border ES-FR
- **Bottlenecks in crossing major cities:** rail capacity bottlenecks in the crossing of Paris and Madrid urban nodes



CONNECTIVITY

The Atlantic Corridor connects the Europe's South-Western regions towards France and Germany, including also the Seine as inland waterway. Its main potential is linked to the exploitation of the maritime dimension enhancing the connectivity of the Atlantic Coastline with the central regions of Europe. Better port rail connections and rail interoperability are strategic to achieve that potential. This will also help to de-isolate the Iberian Peninsula

Success Stories

Continuity of the sea corridor—almost parallel to the inland corridor: intra corridor sea flows continue growing (16% since 2010)

Conclusion of the **Tour-Bordeaux HSR**, the biggest PPP ever, a remarkable case of blending for a large-scale green-field project, entering in operation July 2nd 2017



Low Emission

Achieving compliance of the Corridor with TEN-T standards by 2030 will contribute to better connect the Atlantic maritime front to the rail network and to enhance competitiveness and progress in promoting environmentally friendly modes.



European Commission

Jobs Growth

The completion of the Corridor is expected to generate:

- **1 million job-years** until 2030
- **299 billion EUR of GDP** until 2030

Features

- **6 Member States: BE, FR, IE, LU, NL, and UK**
- **26% of EU's GDP** generated by Corridor's regions
- **20% of EU's population** living in the Corridor's

Funding Needs



350 projects identified:

92 projects concern rail
116 projects concern waterways

70 billion EUR of estimated investment:

33 billion EUR for rail
11 billion EUR for waterways



North Sea Mediterranean

Efficiency

Bottlenecks in major cities:

Rail capacity bottlenecks in Paris, Brussels and Lyon.

Missing Links: Lack of connections between French waterway basins and the Rhine/Meuse network.

Accessibility:

Peripherality of northern UK and Irish regions for passengers and freight.

CONNECTIVITY

The North Sea Mediterranean Corridor

is one of the busiest freight and passenger transport corridors in Europe, containing three of Europe's top five airports and four of the top-ten seaports. It is strongly characterised by the role being played by **waterborne** transport, both maritime and inland navigation.

Success Stories

High Speed Rail Network – long-Connecting major cities of London, Amsterdam, Paris, Brussels, and Marseille via TGV, Thalys and Eurostar networks.



High Capacity Inland Waterway Network – linking major Dutch, Belgian and French seaports to a network of inland ports and terminals, logistics hubs and onwards multimodal connections.



Low Emission

Achieving compliance of the Corridor with TEN-T standards by 2030 will expand the network of high-capacity inland waterways and enhance the competitiveness of rail services, continuing the progress in promoting environmentally friendly modalities.



European Commission

Jobs Growth

- The completion of the Corridor is expected to generate:
- **4.2 million job-years** until 2030
 - **1 468 billion EUR of GDP** until 2030

Features

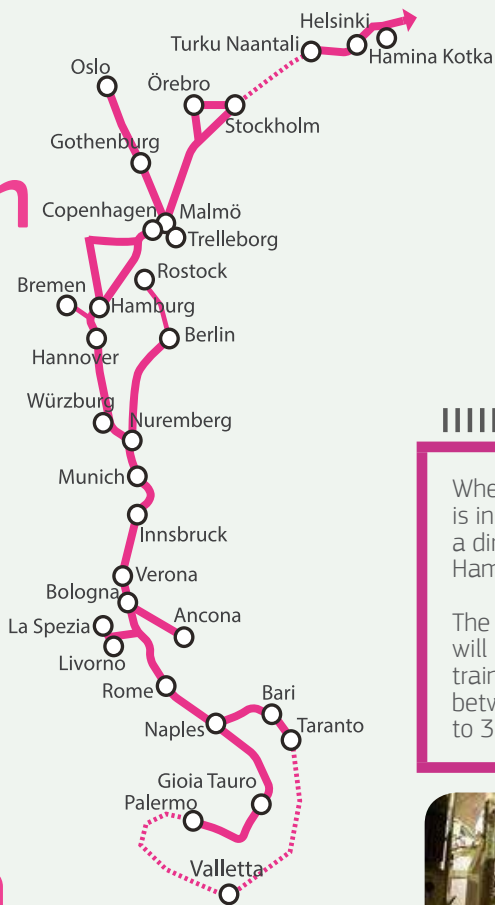
- **7 Member States and Norway**
- **20% of EU's GDP** generated by Corridor's regions
- **15.2% of EU's population** living in the Corridor's regions

Funding Needs



666 projects identified:
 167 projects concern rail+ERTMS
 204 projects concern maritime and Motorways of the Sea (MoS)
202.4 bn EUR of estimated investment:
 132.5 bn EUR for rail + ERTMS
 10.8 bn EUR for maritime and MoS projects

Scandinavian Mediterranean



Efficiency

When the **Fehmarnbelt Fixed link** is in place, it will be possible to take a direct train from Copenhagen to Hamburg in two and a half hours.

The new **Brenner Base Tunnel** will increase rail capacity up to 400 trains per day and reduce travel time between Munich and Verona from 5.5 to 3 hours.



CONNECTIVITY

The Scandinavian-Mediterranean Core Network Corridor is the largest – in terms of the length – corridor in Europe, connecting Scandinavia with Germany, Austria and Italy including Malta. The regions it encompasses are among the most densely populated and economically advanced in Europe.

Success Stories

Øresund fixed link – the 15.9 km long Øresund Bridge opened on 1 July 2000 and is a fixed combined bridge and tunnel link between Denmark and Sweden.

Combined passenger and truck ferry “Stena Germanica” is **the first ferry running on methane** along the corridor route Kiel – Göteborg since 2015 thereby respect the Emission Control Area targets.



Low Emission

Achieving compliance of the Corridor with the TEN-T standards by 2030 will ensure sustainable transport modes becoming more important. With “green cities” e.g. Greater Copenhagen, also the urban nodes will contribute to reducing GHG emissions.

Jobs Growth

- The completion of the Corridor is expected to generate:
- **2 million job-years** between 2015 and 2030 in the MS
 - **725 billion EUR of GDP** between 2015 and 2030

Features

- **9 Member States**
- **14% of EU's GDP** generated by Corridor's regions
- **13% of EU's population** living in the Corridor's regions

Funding Needs

563 projects identified:
 141 projects concern rail
 65 projects concern inland waterway
 118 projects concern ports
91.9 billion EUR of estimated investment:
 54.7 billion EUR for rail
 4.2 billion EUR for inland waterways
 2.6 billion EUR for ports



Efficiency

- Completion of the high priority railway line connections by 2030:**
- between Black Sea and Rhine
 - Southern Germany and SK/UA border
- Inland waterway transport along the Danube**
- By measures improving the navigability

CONNECTIVITY

The Rhine-Danube Corridor is the main East-West link between continental European countries, connecting France, Germany, Austria, Czech Republic, Slovakia, Hungary, Croatia, Romania and Bulgaria all along the Main and the Danube rivers to the Black Sea by improving (high speed) rail and inland waterway interconnections

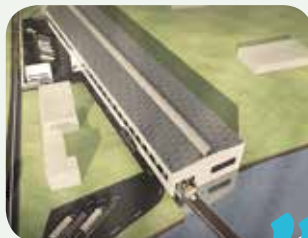


Success Stories

Vienna Main Station – this new passenger rail hub ensures:
 - intersection between Baltic-Adriatic, Rhine-Danube and Orient-East Med rail Corridors



High Performance Green Port Giurgiu – Transformation into the first “Green Danube Port” based on integrated energy-efficiency concepts and comprehensive environmental measures for intermodal ports.



Low Emission

Improvements into energy efficiency measures will help to reduce the emissions in traffic flows: Total GHG emissions are expected to fall from 20.4 million tonnes of CO₂ equivalent to 19.7 million tonnes across the selected traffic flows, by 2030

Photo Sources © | Vienna Main Station: ÖBB/Roman Bönsch (www.wien.info)
 Port Giurgiu: Presentation ILR Logistica Romania SRL (16th March 2016, Brussels)
 Danube (right picture): viadonau/Johannes Zinner (viadonau.org)

TRANS EUROPEAN TRANSPORT NETWORK



Cross-Border Infrastructure Projects

Disclaimer:

Data reported for respective cross-border infrastructure projects has been collected by individual project promoters or consultants and can be different from the aggregated ones

Cross-Border Infrastructure Projects

HIGH-SPEED RAIL LINK DRESDEN – PRAHA



Connectivity

The existing rail line between Praha and Dresden (200 km) is in operation since the 1850's and follows its natural routing along the rivers Elbe and Vltava. Between Pirna and Děčín (51 km), it is limited to 2 tracks and a speed of 100 km/h. Narrow river valley, environmental protected areas, curves and existing noise emission prohibit a line extension. A border crossing new high-speed link between Dresden and Ústí n.L. of 35 km is planned, shortening the overall distance from 82 to 56 km. including a base tunnel of 26 km, designed for 200 – 230 km/ speed and mixed traffic. A complementary Czech high-speed passenger rail link from Ústí n.L to Praha shall allow for 250 – 350 km/h and reduce the route from 114 to 84 km, thereof 80 km new tracks. This section will be dedicated for passenger operations only. Passenger rail travel time could be shortened from 2:15h to 1h while distance could be reduced by 50 km.

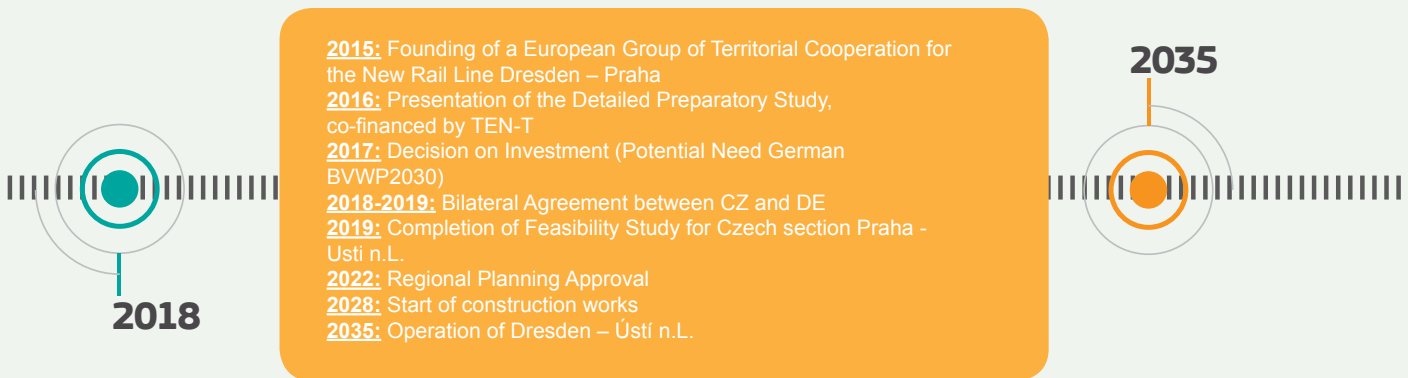
Decarbonisation

The new Dresden – Praha line will improve rail freight capacity and reduce noise emission in the picturesque Elbe Valley.

For the Czech Republic, the line carries the majority of the exported rail transport volume to the North and is key for the rail connection to German seaports. In 2015, more than 220 daily trains, thereof 127 for freight, used the link. Until 2030, this number might increase up to 178 trains (+40%), especially from/to the German Ports (e.g. containers and car transport), and this section could become a capacity bottleneck. Already today, the border crossing between Bad Schandau and Děčín is the second most used among all German rail border crossings.

Timeframe

Dresden – Ústí n.L HSR cross-border section

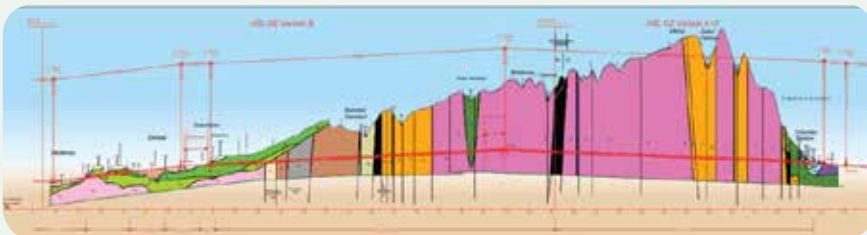


Funding needs

The total cost of the project is estimated to amount to 4.5b€. The German part is estimated at € 1.3 bn, the Czech border crossing part until Ústí n.Labem. at €1.0 bn, and the complementary route Praha – Ústí n.L. may cost up to € 2.2bn.



€4.5 bn
investments



Cross-Border Infrastructure Projects

HIGH-SPEED RAIL LINK DRESDEN – PRAHA

Local - social - human factors



The new High-speed rail link will ensure:

- Reduction of travel time
- Increase of rail capacity
- Foster modal shift from road to rail through higher capacity and reliability
- Connection to the European high-speed railway network
- Flood-safe rail connection, reduce noise generally and especially in the Elbe River valley and its touristic values
- Reduce environmental impact compared to road traffic
- Reduce GHG emission due to high efficient electrical operation and reduced dependence from hydrocarbon fuels.



View of existing track in the Elbe Valley works



Jobs and growth

Creation of 12.300 jobs annually and a GDP increase by 5,6 b€ in the next 15 years.

Dan Ťok,
Minister of Transport of the Czech Republic

Martin Dulig,
Saxon State Minister for Economic Affairs, Labour and Transport:



“ The new high-speed rail line Dresden – Prague is one of the most important railway projects in Central Europe... It is a vital part of the Orient/ East-Med Corridor of the TEN-T, which connects the North and Baltic Seaports and economic centers in Southeast Europe. ”



Railway Connection Dresden – Prague



Cross-Border Infrastructure Projects

KARLSRUHE - BASEL



Connectivity

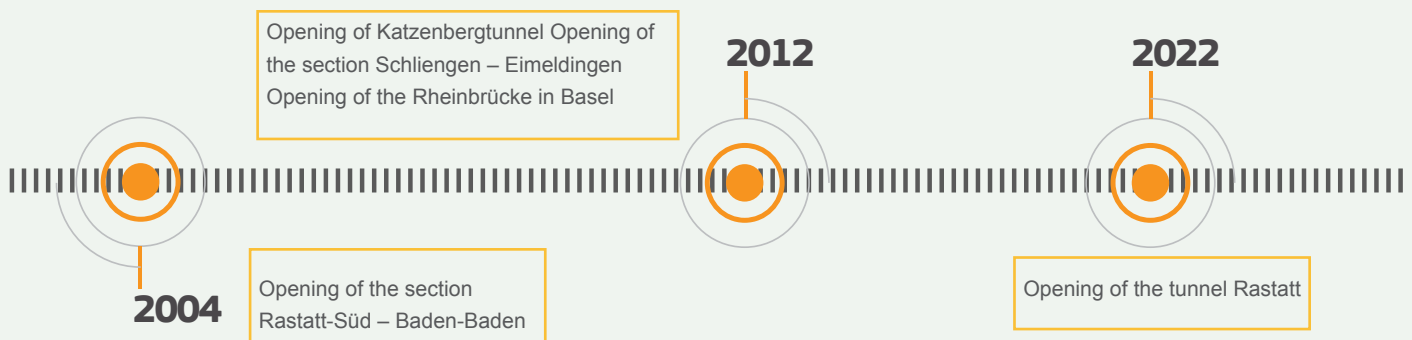
The railway line between Karlsruhe and Basel belongs to the busiest freight routes of Europe, linking the North Sea ports of Rotterdam and Antwerp to the Mediterranean basin in Genoa and providing northern access to the Swiss tunnels. When completed, a continuous four-track line will allow for more efficient use of capacity: slower freight and commuter trains will use the existing tracks, while the new tracks, allowing top speeds of up to 250 km/h, will serve faster long-distance passenger trains (during the day) and freight trains (at night).

Decarbonisation

The completion of the Karlsruhe - Basel railway line will stimulate the modal shift of freight transport from road to rail. Forecasts executed on behalf of the German Ministry of Transport estimate a modal shift potential of more than 7 million tonnes per year. Altogether, more than 180,000 tonnes of CO₂ will be reduced annually (freight and passenger transport).

Timeframe

Karlsruhe – Basel



Funding needs

The global cost of Karlsruhe – Basel is estimated at 6.6 billion EUR. It will be financed by the German state. A grant of 338.5 million EUR from the Connecting Europe Facility has been allocated to the project.



€6.6 bn
investments



Cross-Border Infrastructure Projects

KARLSRUHE - BASEL

Local - social - human factors



The project will have a significant impact in particular on local residents. It is estimated that more than 120,000 people will benefit from noise reduction thanks to new tunnels and other dedicated measures. Above that, modal shift to rail will significantly reduce traffic volumes on roads and motorways.



Katzenbergtunnel (source: DB Netz AG)



Jobs and growth

The Karlsruhe – Basel project will have positive effects on jobs and growth in the Rhine-region in Southern Germany. Around 2000 jobs are directly related to the construction activities. In addition, the attractiveness of the region will increase with a positive effect on job creation.

Andreas SCHEUER,
Federal Minister of Transport and
Digital Infrastructure

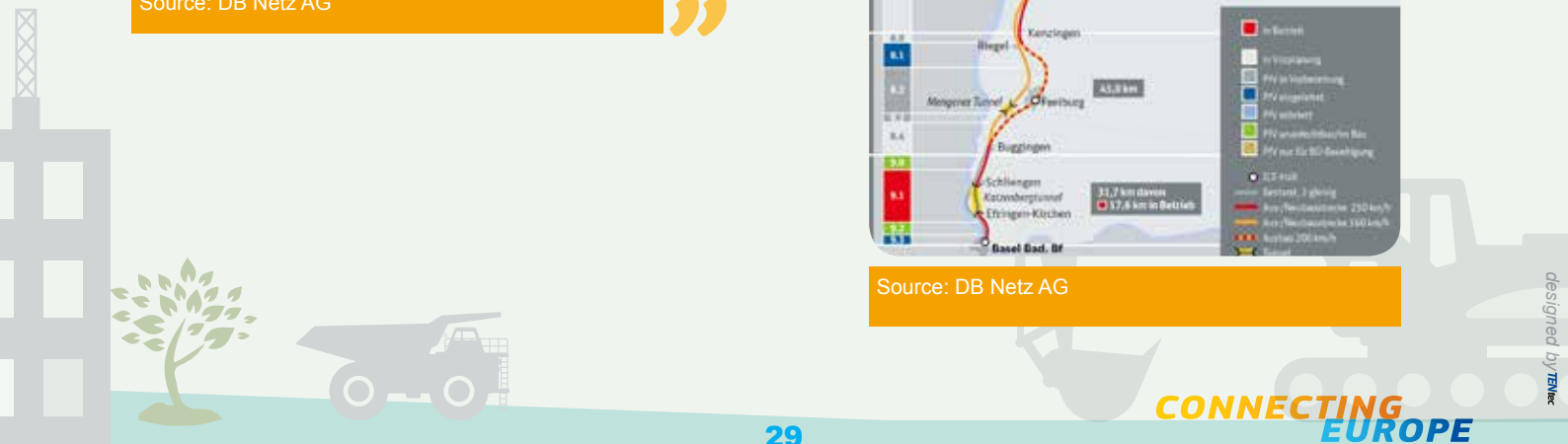


“We strengthen the Rhine valley railway as an important north-south axis and make it fit for future passenger and freight traffic”

Source: DB Netz AG



Source: DB Netz AG



Cross-Border Infrastructure Projects

EMMERICH - OBERHAUSEN



Connectivity

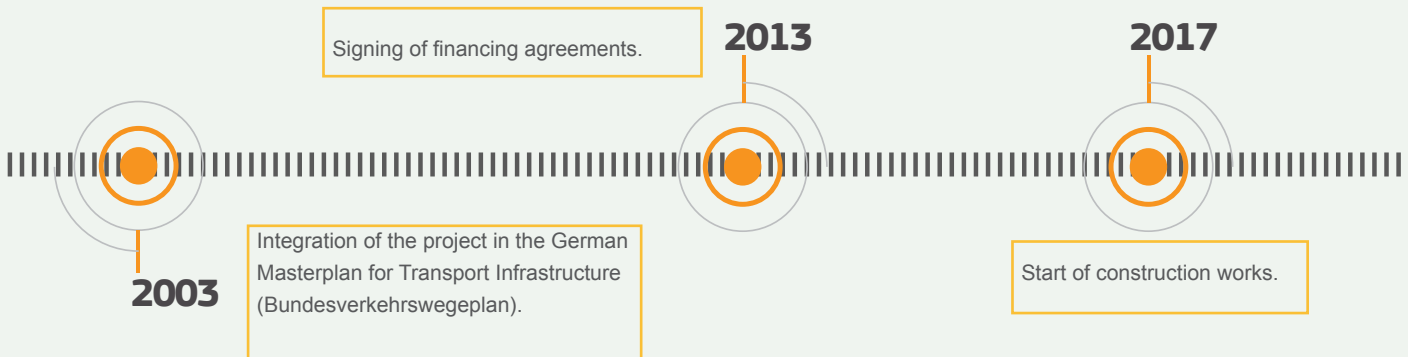
The railway line between Emmerich and Oberhausen connects the major European seaports of the Netherlands with the Rhine - Ruhr metropolitan area in Germany. It directly links to the Dutch Betuwe line, currently one of Europe's most modern routes for rail freight. To the south, the route is the rail backbone of the Rhine-Alpine Corridor, continuing through Cologne, the Rhine valley and the Swiss Alpine tunnels, to Northern Italy. The main goals of the project are the extension of line capacity, the improvement of transport quality and the separation of passenger and freight transport.

Decarbonisation

The completion of the Dutch Betuwe line will efficiently connect the Rhine-Alpine Corridor to the Rhine-Ruhr area. This will allow for greater capacity for trains on the entire corridor. The quality of international rail transport will be strengthened significantly, which should lead to further modal shift from road to rail.

Timeframe

Emmerich - Oberhausen



Funding needs

The total costs of the Emmerich – Oberhausen project are estimated at 2 billion EUR. The financing needs are in majority covered by the German state.

A grant of 32.6 million EUR from the Connecting Europe Facility has been allocated to the project. This extends the total support of the EU over the period from 2006 till now to some 130 million EUR.



€2 bn
investments



Cross-Border Infrastructure Projects

EMMERICH - OBERHAUSEN

Local - social - human factors



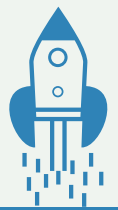
The integration of local residents' interests plays an important role in the project development. As a result, specific requirements on environmental and noise measures are considered such as 75 kilometres of noise protection walls.

For the local passengers' traffic, 11 out of 14 railway stations will be modernised and will improve the quality and attractiveness of the regional public transport system.

Safety will be enhanced by the removal of 55 level crossings and the subsequent construction of 38 new bridges.



Opening of works in January 2017 (source: DB Netz AG)



Jobs and growth

The construction activity will generate 1000 jobs. Efficient hinterland connections will secure and create a further large number of jobs in the logistics industry in the Northern part of the Rhine-Alpine corridor.

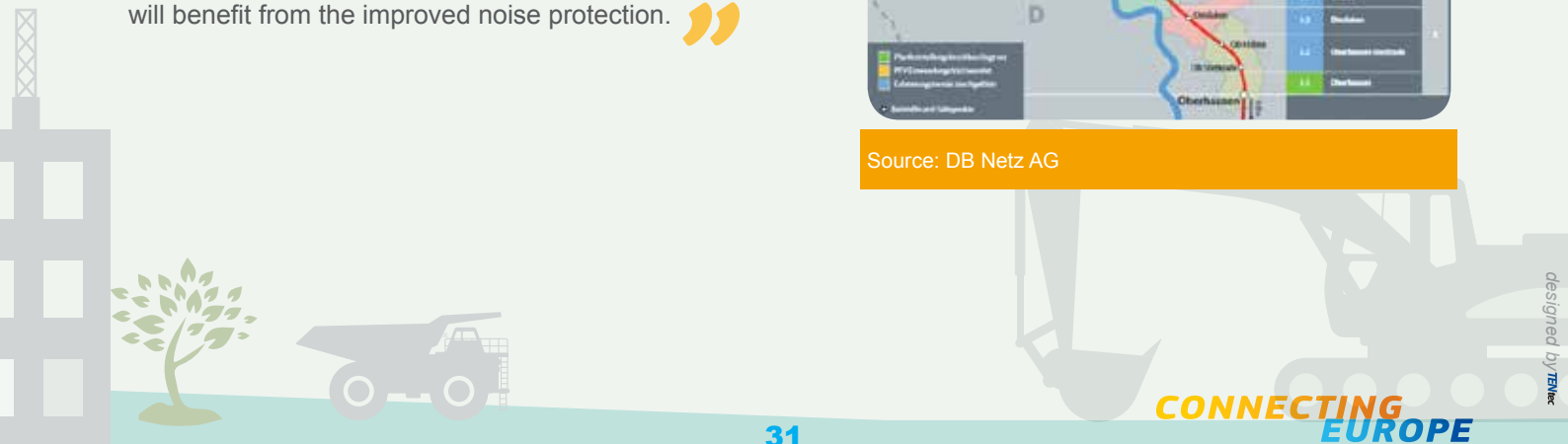
Enak FERLEMANN,
Parliamentary State Secretary at the
German Ministry of Transport and Digital
Infrastructure



“ Our goal is to bring more freight from the road to the rail. The capacities for long-distance and local transport are also being increased. The residents will benefit from the improved noise protection. ”



Source: DB Netz AG



Cross-Border Infrastructure Projects

FEHMARNBELT FIXED LINK



Connectivity

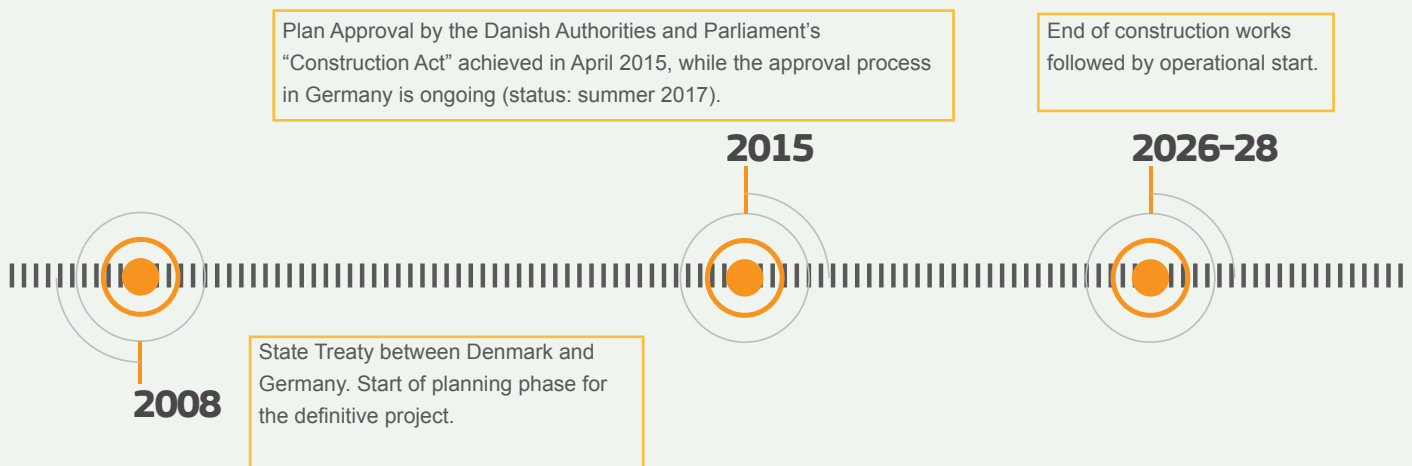
The Fehmarnbelt Fixed Link is one of the major projects along the Scandinavian-Mediterranean Core Network Corridor. At a length of 18 km, the Fehmarnbelt Fixed Link will be the world's longest immersed tunnel and the longest tunnel for both road and rail traffic. Jointly with its northern and southern access routes it will connect Scandinavia and continental Europe through Denmark. While removing a major bottleneck it will provide for an operational multimodal link that allows more efficient cross border rail transport for both passenger and freight.

Decarbonisation

The duration of a train journey between Hamburg and Copenhagen will be cut short from about four and a half to less than three hours. In the future, freight trains will be able to avoid the 160 km longer detour via the Great Belt. This will create a strong transport corridor between Germany, Denmark and Sweden, increase mobility and result in better conditions for travelling, commuting and trade.

Timeframe

Fehmarnbelt Fixed Link



Funding needs

The total costs are estimated at 7.1 billion EUR. The financing of the project follows a model already used in Denmark: the implementing body is a single purpose company with private legal status that obtains loans on the capital market, which are guaranteed by the Kingdom of Denmark. User charges from both trains and vehicles are used to pay back the investment during operations. The European Union will provide grant funding to the rail part of the project.



€7.1 bn
investments



Cross-Border Infrastructure Projects

FEHMARNBELT FIXED LINK

Local - social - human factors



The Fehmarnbelt Fixed Link will not only play an important role for the long distance transport of passengers and freight between Scandinavia and continental Europe, it will also provide benefits for tourists and the regional and local commuters.

The project is carried out with great respect for nature, the environment and the local.



Artist impression of the coming tunnel portal on Lolland© Femern A/S;



Jobs and growth

During the 8.5-year construction phase 25.000 jobs will be created directly at the construction sites around the Fehmarnbelt, with another 30.000 jobs being created by subcontractors and suppliers, according to a study by economics consultancy Copenhagen Economics. The project is expected to generate approximately 261.000 jobs and an additional growth of approximately 118 billion EUR until 2030 according to the European Commission's estimate.

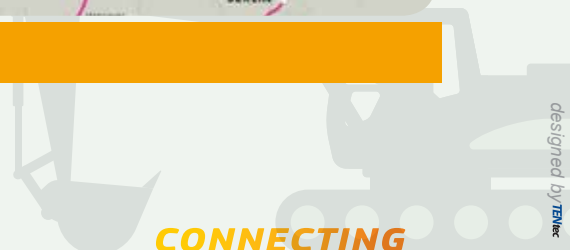
Steen BACH NIELSEN, Chairman of the STRING network



The Fehmarn Belt Fixed Link will secure a historical level of mobility between Southern Scandinavia and Northern Germany with growth and jobs for our citizens, but also exchange of knowledge and ideas – and more sustainable transport.



© Femern A/S



Cross-Border Infrastructure Projects

BRENNER BASE TUNNEL



Connectivity

The Brenner Base Tunnel is one of the TEN-T projects. It will become the longest underground railway connection in the world. It forms the heart of the Scandinavian-Mediterranean corridor, connecting the regions and ports in the Scandinavian countries, Benelux and Germany with their counterparts in the Mediterranean. The Brenner Base Tunnel will remove one of the key rail bottlenecks in the EU. Passenger and freight transport will benefit from reduced travel times and more efficient connections.

Timeframe

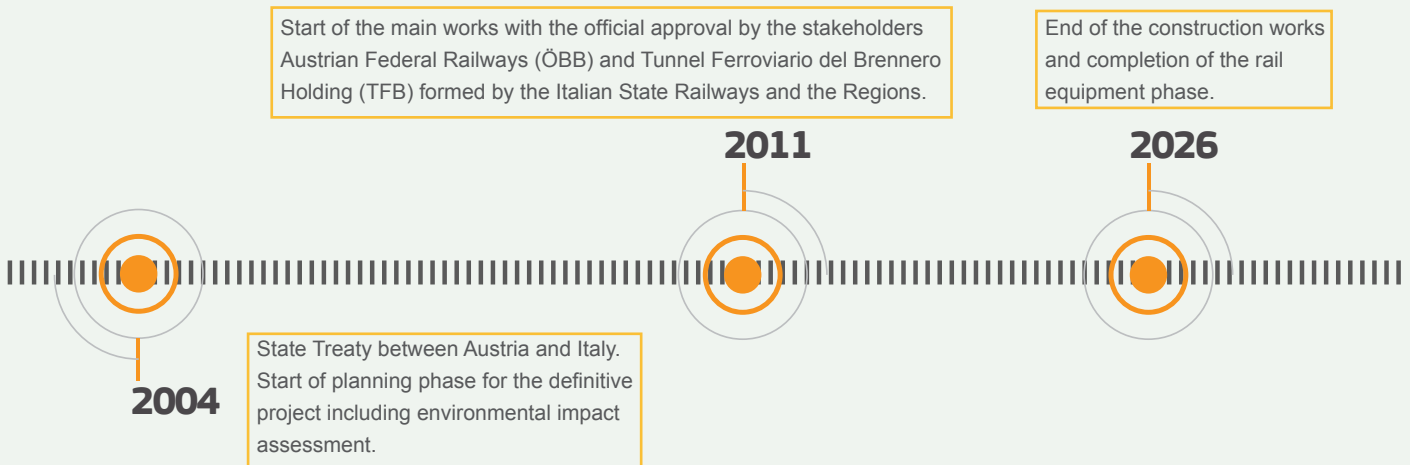
Brenner Base Tunnel

Decarbonisation

The Brenner Base Tunnel is expected to shift 50 % of the heavy traffic from road to rail. In the long run, it is expected to change the modal share from today's 30% transport of goods by rail and 70 % by road to 70% by rail and 30 % by road.

The slope of the railway line will be reduced from 27 ‰ to 6,7 ‰ in Austria and 4 ‰ in Italy. The length of the rail stretch between Innsbruck (Austria) and Fortezza (Italy) will be reduced from 75 km to 55 km.

Passing the tunnel with a speed of over 200 km/h travel time for passengers will significantly be reduced from 80 to 25 minutes. In addition, longer and heavier freight trains can navigate the route.



Funding needs

The total costs are approximately 8.7 billion EUR, including budget for identifiable and non-identifiable risks. Due to its European value added and the location on the border crossing section the current study and works on BBT are co-funded up to 40% by the EU. The remaining costs are shared equally by Austria and Italy.



€8.7 bn
investments



Cross-Border Infrastructure Projects

BRENNER BASE TUNNEL

Local - social - human factors



The Brenner Base Tunnel is crucial for the ecological and sustainable future of the very sensitive alpine region. In 2016 more than 50 million of tons have been transported with more than 2 million of heavy trucks over the Brenner Pass. The heavy traffic with its air pollution and noise along the Brenner highway has a very negative impact on the economic growth and the tourism in this region. No future traffic development would be possible without the Brenner Base Tunnel.



The Tunnel is built for the next generation © BBT SE



Jobs and growth

During the construction phase approximately 130.500 jobs will be directly created.

The project will generate approximately additional 272.500 jobs and an additional growth of approximately 124 billion EUR until 2030 (European Commission's estimate).

Konrad BERGMEISTER, CEO BBT SE



Over the past four years, more than 10,000 people have participated in open days at the BBT construction site. This is a great success and at the same time it proves that the promotion of the project and the accessibility of information about ongoing large-scale activities is essential.



© Galleria di Base del Brennero - Brenner Basistunnel BBTSE



Cross-Border Infrastructure Projects

High Speed Rail Vitoria / Bilbao - Bordeaux



Connectivity

The new HS rail links Y Basque and Bordeaux-Spain will provide a fast and interoperable connection for both passengers and freight. These projects constitute major development axes of the cross-border Euro-region (The Basque Country, Navarre and Aquitaine). Many trucks will be transferred from motorway to rail while the current freight rail share is less than 3%.

Decarbonisation

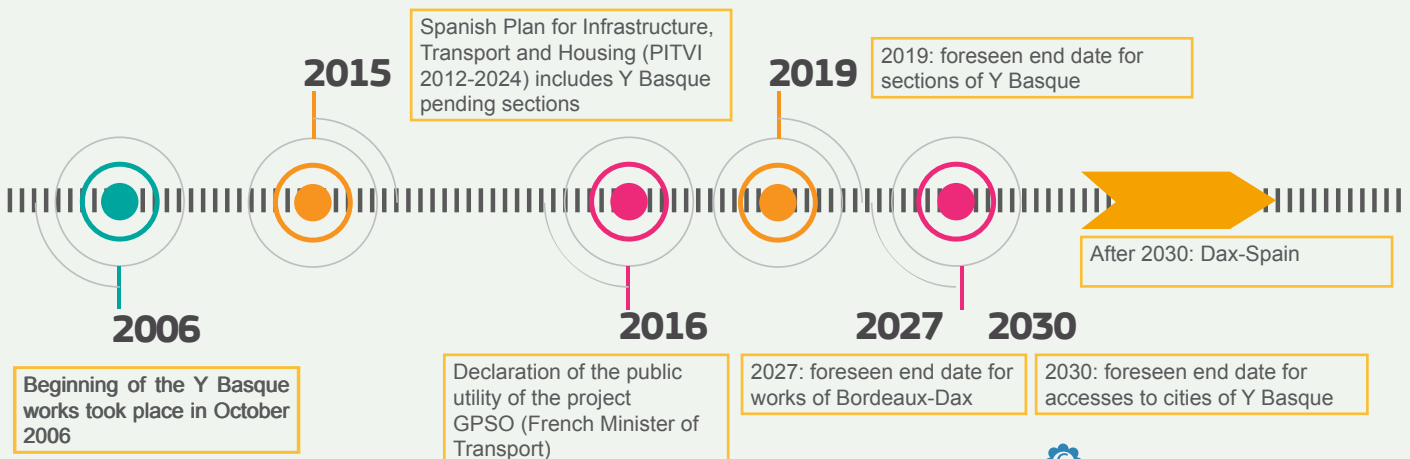
The improved rail connections will avoid the emission of hundreds of tons of CO₂. A High Speed train consumes 5 times less than a car and 27 times less than an airplane for passenger transport. As for freight traffic, a train consumes 3.6 times less than road transport per ton-km and 54 times less than an airplane. The energy consumption of a train is 26 times lower than the one of a car.

Timeframe

April 2006, the Spanish Ministry of Transport and the Department of Transport and Public Works of the Basque Government signed the financing agreement of the Y Basque



Viaduct over River Deba. Bergara (July 2015)
http://www.euskalyvasca.com/es/co_quees_faqs.html



Funding needs

Concerning Y Basque, the Spanish Ministry of Transport (Ministerio de Fomento) and the Department of Transport and Public Works of the Basque Government signed the financing agreement of the Y Basque, for an investment of 4,178 million euros in 2006, of which €3.6bn still to be invested. Remaining investments for pending sections, including Astigarraga-Irún/Hendaye section upgrade to UIC standard, are estimated at 2,000 million euros, from which 500 million are expected to come from CEF funds. Financing agreement for the GPSO is still work in progress; beginning of works could be delayed as a consequence.



€5.6 bn
 pending
 investments



Cross-Border Infrastructure Projects

High Speed Rail Vitoria / Bilbao - Bordeaux



Local-social-human factors

The High Speed rail in France as well as in Spain has generated development, improving the country's transport structure and the quality of people's lives. The experience and technological know-how achieved have significantly increased the competitiveness and internationalization of companies in the Spanish and French railway sector. The creation of the High-Speed network will have positive repercussions for the whole country, beyond the direct advantages for the people and the companies that use their services. An efficient rail system will mean the elimination of numerous vehicles from the roads, the reduction of connection times between cities, the consolidation of the public transport system and the structuring of the whole territory around sustainable mobility.



Jobs and growth

The improved rail sections will boost economic growth of Basque Country, Aquitaine and the rest of Spain and France. Direct employment is estimated at more than 10800 jobs. Moreover, in case of Y Basque, the creation of this new HS rail will provide an annual increase of 1.3% of GDP in the region. Apart from enhancing passenger mobility, these projects will also facilitate the functionality of freight transport, bringing rail closer to nodes with possibility of modal exchange.

Íñigo DE LA SERNA, Spanish Minister of Transport



From our department we are going to give a decisive impulse to the Y Basque railway project .



Sections of the Y Basque (March 2017):
 Black - Project phase
 Red - Works ongoing
 Green — Works finished



Sections of Grands Projets du Sud-Ouest, 2014



Cross-Border Infrastructure Projects

RAIL ALPINE CROSSINGS: KORALM LINE AND SEMMERING BASE TUNNEL



Connectivity

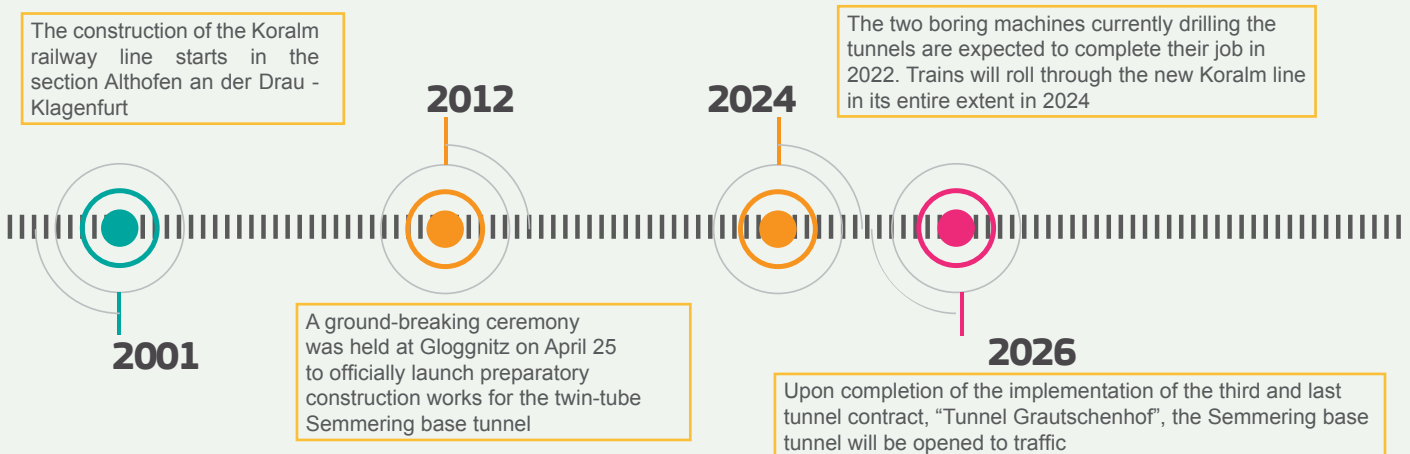
Two missing links hamper the full exploitation of the Baltic-Adriatic Core Network Corridor: the 27.3 km long Semmering base tunnel between Gloggnitz in Lower Austria and Mürzzuschlag in Styria and the new 127 km long Koralm railway line connecting Graz in Styria with Klagenfurt in Carinthia, also comprising a 32.9 km long tunnel, will remove these missing links and reduce travel time between Vienna and Venice by 120 minutes.

Decarbonisation

Transport investment in rail infrastructure are strategic to keep rail transport competitive in terms of modal share and support modal shift, which is beneficial for decarbonising transport: one ton of cargo moved by rail as opposed to being trucked results in 15 fold reduction of greenhouse gas emissions.

Particularly beneficial to freight traffic, the Alpine Crossings are expected to encourage modal shift for both passenger and cargo movements. The estimated annual greenhouse gas emissions - vehicular use, from existing and induced demand - have been estimated in the order of 25,000t per year from the use of the Semmering base tunnel alone. This amounts to a total of savings over a span of 34 years of 146,000t of CO² equivalent.

Timeframe

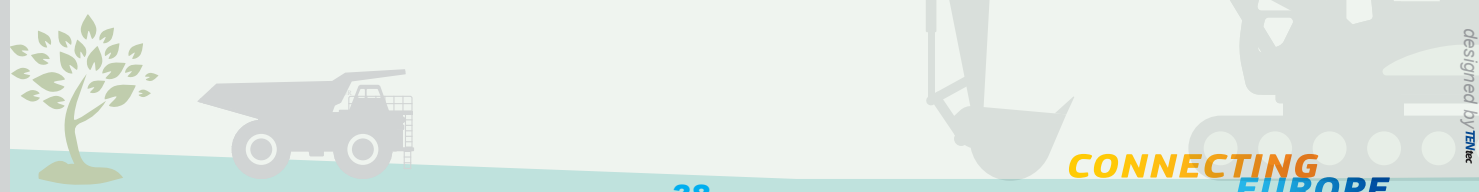


Funding needs

The global cost of the two Alpine crossings is estimated at 8.85 billion EUR. The two projects are mainly financed by the Austrian federal government and contributions from regional authorities, but also benefit from 58 million EUR TEN-T financial support for the Koralm. A 1.8 billion EUR senior loan was granted by the European Investment Bank for the implementation of the Semmering base tunnel.



€8.85 bn
investments



Cross-Border Infrastructure Projects

RAIL ALPINE CROSSINGS: KORALM LINE AND SEMMERING BASE TUNNEL

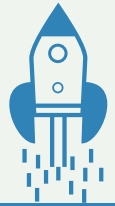
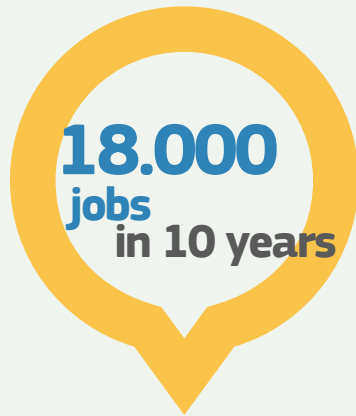


Local-social-human factors

The base tunnel will connect the regions of Lower Austria and Northern Styria with urban agglomerations in Austria and Europe. Such connections will be affordable, environmentally compatible as well as comfortable. Railway stations in the region will be upgraded and refurbished; installations to allow barrier free access (i.e. lifts, ramps) are also constructed.



Access to the Semmering Base Tunnel



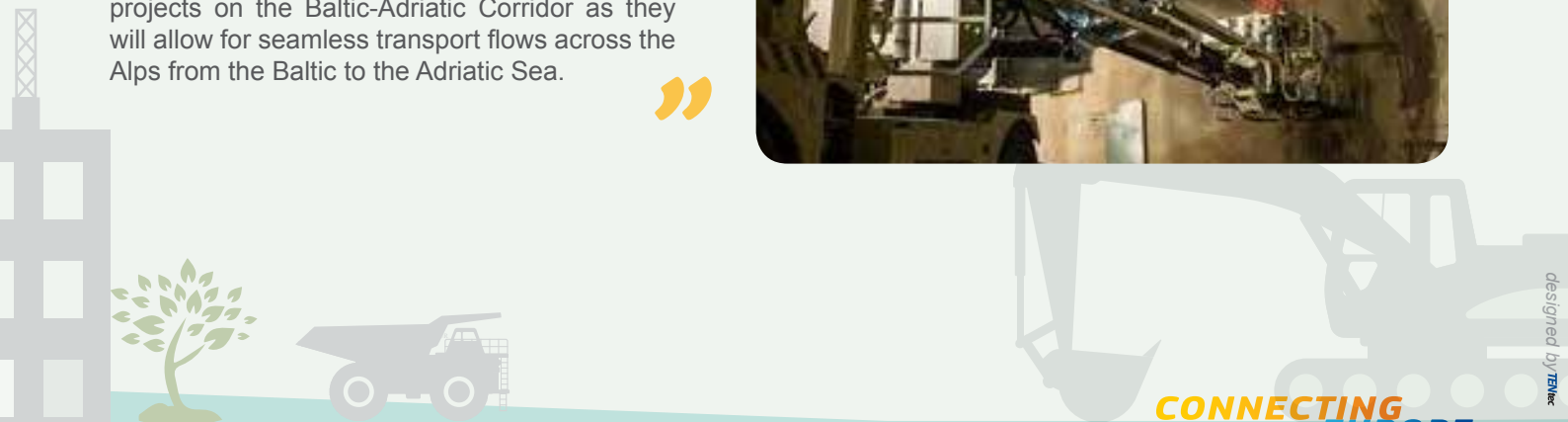
Jobs and growth

The Koralm line and Semmering base tunnel are expected to generate employment effects of respectively 98,200 and 46,000 (full-time equivalent jobs) over the entire duration of their construction. In the operational phase, the Semmering base tunnel will create approximately 12,000 permanent new jobs in Austria 10 years after its opening, whereas the Koralm project has been forecasted to generate an estimated number of 6,000 new jobs in the same time frame. National and regional GDP generated by the Semmering base tunnel at the rate of 337 million EUR per annum is expected to be recorded already after 10 years in operation. The same figure for the Koralm line has been calculated to be 200 million EUR.



Kurt Bodewig, European Coordinator

“The Semmering base tunnel and the Koralm new railway Line are important high EU added value projects on the Baltic-Adriatic Corridor as they will allow for seamless transport flows across the Alps from the Baltic to the Adriatic Sea.”



Cross-Border Infrastructure Projects

CROSS BORDER SECTION OF THE NEW LYON-TURIN RAIL LINK MONT CENIS BASE TUNNEL



Connectivity

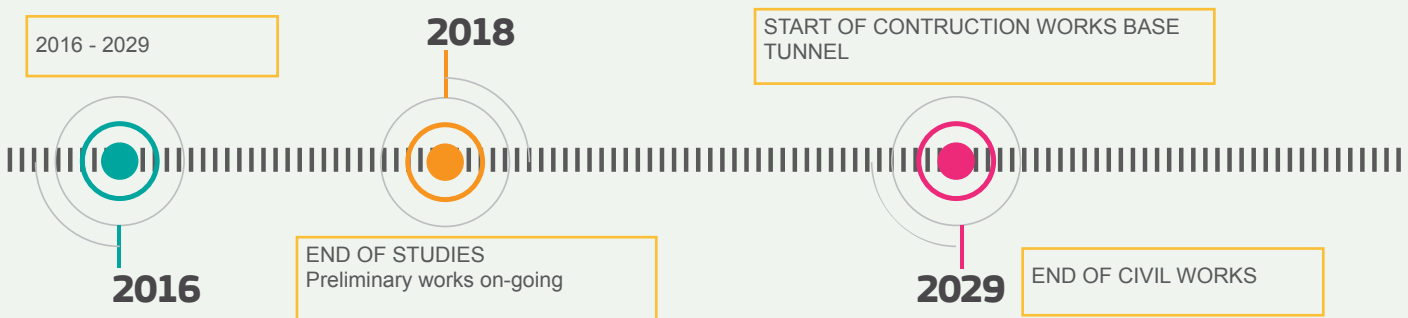
The new railway link Lyon-Turin, with the 57,5 km Mont Cenis base tunnel as its main part major component, is the main project of the whole Mediterranean corridor. It is highly strategic because it is the main missing link in the corridor which aims at connecting southwestern Europe with Central and Eastern European Countries. Failing this high-performance connection, transport relations would be hampered, especially for the trade between Spain, France and Italy and the trade between Spain, France and Italy and Central and Eastern Europe.

Decarbonisation

The project will also contribute to reducing the level of greenhouses gases by 20% by 2020 (based on 1990 level), as one of the European Union development objectives, in addition to improving energy efficiency by 20% and reaching 20% of renewable energy in overall consumption by 2020.

Moreover, the Mont Cenis base tunnel and its access lines will contribute to save nearly 3 million tons of equivalent CO₂, reducing traffic congestions and any other related risks on the intra-alpine and transalpine transport.

Timeframe

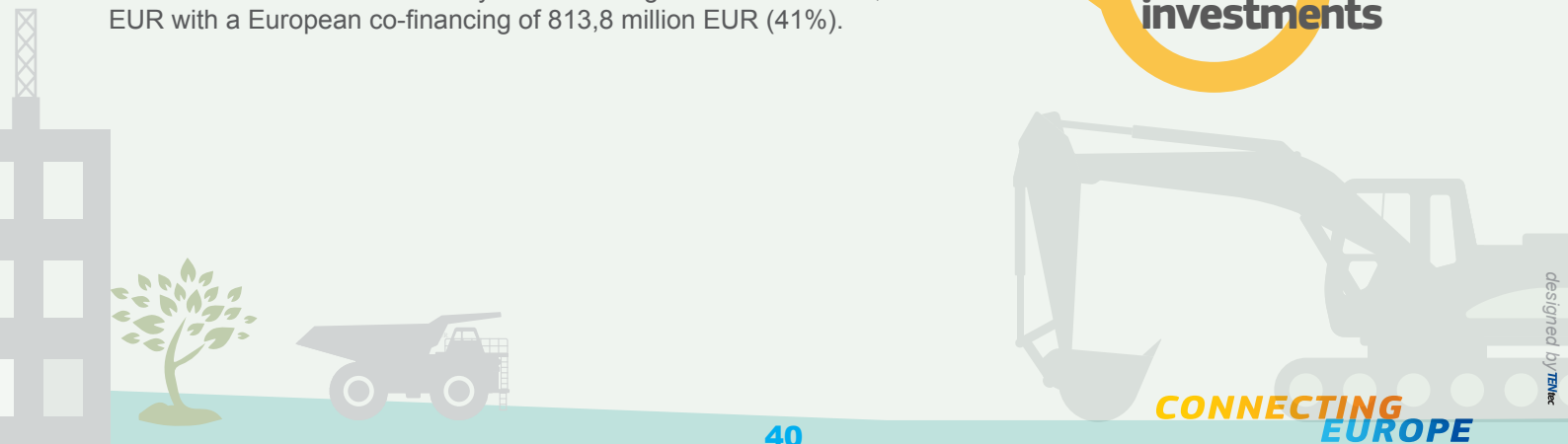


Funding needs

The global cost of the Lyon-Turin tunnel has been estimated at 8,6 billion EUR 2012. The costs covered by the current agreement is about 1,9 billion EUR with a European co-financing of 813,8 million EUR (41%).



€8.6 bn
investments



Cross-Border Infrastructure Projects

CROSS BORDER SECTION OF THE NEW LYON-TURIN RAIL LINK MONT CENIS BASE TUNNEL

Local-social-human factors



One of the biggest challenges in the Alpine area is to control the road traffic by promoting alternative transport systems in order to assure a quality of life for the local population and preserve the environment. Since only a few road passages are available through the Alps, the road traffic has grown exponentially, with a concentration of lorries in few border valleys. This situation is very difficult for the population to stand. Without a proactive strategy to support the railway, the road will continue to absorb most of the traffic between Italy and France.



The new train station at Susa, IT (simulation)



Jobs and growth

The large-scale project will **boost economic growth at both a local and regional level** with the creation of 15.000 direct and indirect jobs for subcontractors, businesses and tourism during the period 2018 - 2029.



Laurent WAUQUIEZ,
President of the Regional Council of
Auvergne-Rhône-Alpes

“ The Lyon-Turin link is an incredible opportunity for the region. This big construction project will bring us closer to our Italian neighbours placing our region into the heart of Europe. The Lyon-Turin link will usher in a new era of dynamism for the Maurienne valley, for its population, its enterprises and their work force.



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Cross-Border Infrastructure Projects

Rail Baltica



Connectivity

Rail Baltica will link the capital cities of Estonia, Latvia, Lithuania and Poland to each other and is currently one of the biggest investments improving the mobility and travel opportunities as well as developing business, trade, and tourism in the region.

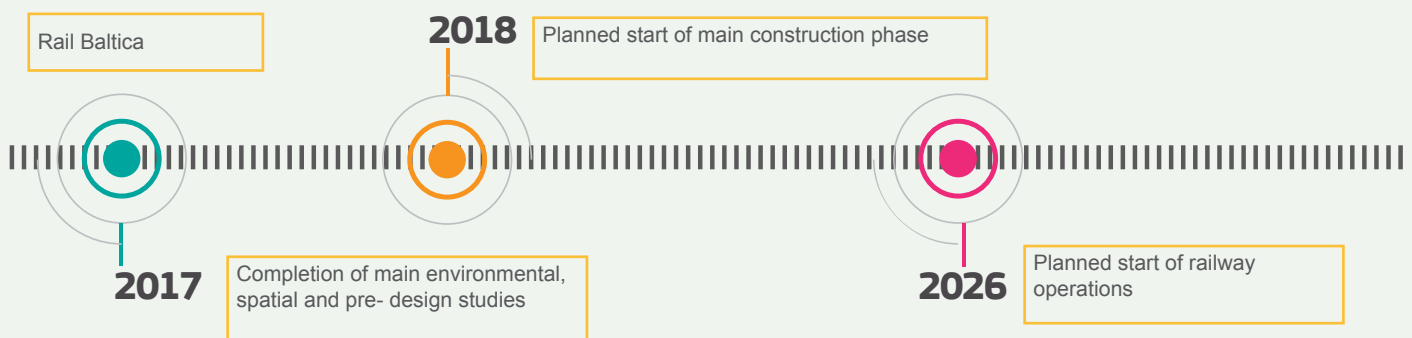
It is the largest railway infrastructure project to be constructed in the Baltic countries in the last 100 years.

By integrating the region's key transport infrastructure elements ranging from sea ports and inland logistics facilities to airports and city terminals into the Rail Baltica ecosystem, the project will pave the way for the development of new intermodal and multimodal logistics and passenger solutions.

Decarbonisation

The project aims to support innovation by implementing new advanced technologies, and reduce the ecological footprint of transport in the area by offering **environmentally friendly** services of electrified railway, where today fossil fuels are widely used. It is, therefore, fully in line with the ambition of the European Union to reduce carbon emissions in transport by 60% by 2050. Furthermore, by inducing a modal shift from road to rail – both for freight and passenger traffic – Rail Baltica will promote a significant reduction of the effects of climate change. In addition, with modal shift from road to rail there is **a potential to reduce the number of traffic accidents**.

Timeframe



Funding needs

Overall Rail Baltica capital expenditures are foreseen around 5.8 billion EUR in the Baltic States. The main investment categories are railway (2.4 billion Euro), stations (0.7 billion EUR), crossings and bridges (1 billion Euro). The investment for the upgrade of the existing railway line in Poland is expected to amount to around 2 billion EUR.



€5.8 bn
investments



Cross-Border Infrastructure Projects

Rail Baltica

Local impact

Rail Baltica will serve as an important catalyst of continued economic development in the region – both in the construction phase as well as in the operational phase. The physical infrastructure developed will serve as an enabler for the emergence of a whole new economic corridor. The project will contribute to the region’s GDP through market accessibility and trade competitiveness boosting foreign direct investment.



Projected railway tracks in a forest area. ©Eiropas Dzelzceļa līnijas



Jobs and growth

Rail Baltica is more than a railway. Rail Baltica will develop as an economic corridor in North-East Europe and boost growth and economic integration in the region. New, highly efficient transport infrastructure will significantly improve connectivity, accessibility and mobility, create new jobs and business development opportunities.

The investment during the construction phase will likely generate 13,000 direct jobs and 24,000 indirect jobs for the Baltic States.



Baiba Rubesa,
CEO and Chairperson of Management Board, JV RB Rail AS

“Rail Baltica is a key missing link in the European North Sea -Baltic Core Network corridor. Starting in Helsinki and heading south-west through the three Baltic States, Poland and Germany, all the way to the great port city of Rotterdam in the Netherlands. Rail Baltica customers will enjoy this network’s benefits: it will connect capital cities, ports, airports and other strategic objects in the European Union, it will connect with other EU TEN-T Corridors and it will irreversibly establish infrastructure for North-South freight and passenger flows as well as enhancing East-West flows.”



Map of Rail Baltica within the North Sea-Baltic Core Network Corridor. ©RB RAIL AS



Cross-Border Infrastructure Projects

SEINE-NORD EUROPE CANAL IN THE SEINE-SCHELDT PROJECT

Seine-Scheldt: the greatest European Inland waterway project

The Seine-Scheldt network project is a major European cross-border project, between France, Flanders and Wallonia and co-financed by the European Commission. Based on large-gauge waterway network development connecting the Seine/Oise to the Scheldt/Meuse basins, the Seine-Scheldt project will optimize the multimodal transport connections and logistics between the agglomerations and ports of the two major economic and demographic clusters on the North Sea - Mediterranean Corridor: the Normandy and Paris regions in the south, and the Hauts-de-France, Flemish and Walloon regions in the north, extending via the Benelux waterway network to the Rhine delta and all major seaports of the northern range. The overall costs of the Seine-Scheldt project is estimated at 8,9 billion EUR (France: 6,7 billion EUR, Flanders: 1,5 billion EUR and Wallonia: 0,7 billion EUR).

Connectivity

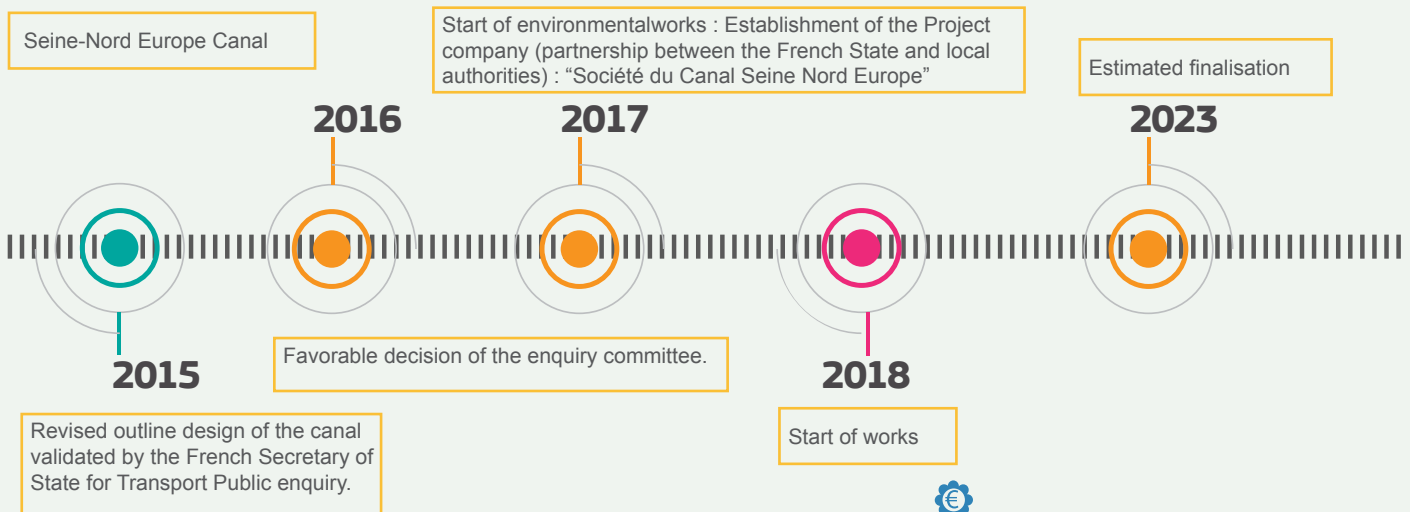
The Seine Nord Europe canal (106 Kilometres in length, containing 6 locks) is the French part of the European Seine-Scheldt priority project, involving the construction of a wide-gauge inland waterway link between France, Belgium and the Netherlands in order to connect the Seine/Oise waterways in France to the Scheldt and Meuse rivers in Belgium, with onward connections via the Dutch waterway network towards the Rhine, and direct connections to major seaports along the northern range.

It will remove a major bottleneck for inland waterway transport along the North Sea Mediterranean core network corridor.

Decarbonisation

The purpose of the Seine Nord Europe canal is to increase barge capacity from 650 to 4,400 tonnes. The project will contribute to climate action and energy transition objectives by consolidating the flow of goods and stimulating a modal shift towards waterway transport thanks to the development of a network of inland ports.

Timeframe



Funding needs

The global cost of the Seine Nord Europe canal is estimated at 4.5 billion EUR with a European co-financing of 40%. The remaining funding needs is shared between the French State and the local authorities involved in the project .

€4.5 bn investments



Cross-Border Infrastructure Projects

SEINE-NORD EUROPE CANAL IN THE SEINE-SCHELDT PROJECT

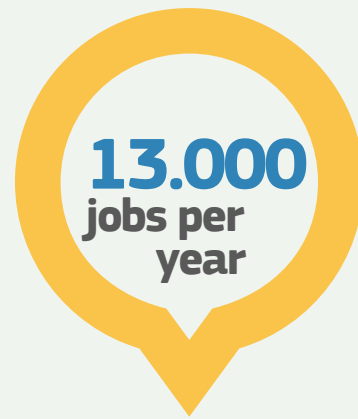
Local - social - human factors



The project is not only an infrastructure project but also an economic and land development project. It will encourage sustainable growth for the inland waterway transport sector in Europe as well as improve the industrial and logistical competitiveness of a number of business sectors thanks to the benefits of inland waterway transport. Environmental works are starting, allowing the project to be fully integrated in the landscape.



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Jobs and growth

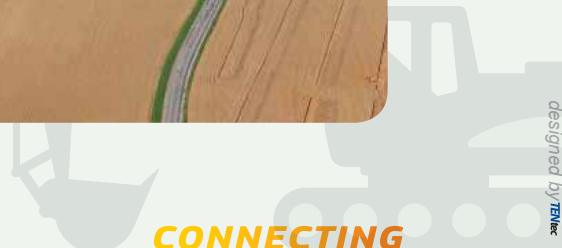
The Seine-Nord Europe project will have positive effects on employment in France. During the 6-years construction phase of the canal, around 10-13,000 jobs per year will be created, and during the operational phase, it is expected that 6,000 direct jobs and between 10,000 and 15,000 indirect jobs will also be created in sectors such as transport, logistics and tourism. In the long term, the number of permanent jobs is estimated to reach 20-25000.



Xavier BERTRAND,
President of the Regional Council
of Hauts-de-France



As a major infrastructure construction project for the transportation of goods during this century, the Seine Nord Europe Canal fully participates in the objectives of energy transition and sustainable development.



Cross-Border Infrastructure Projects

FAIRway Danube



Connectivity

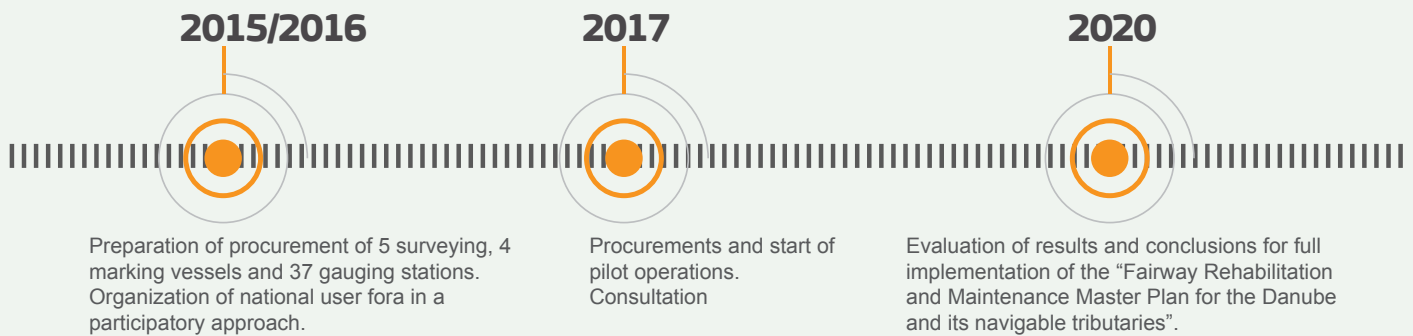
The Danube crosses ten different countries and is the backbone of the Rhine-Danube Core Network Corridor. The project FAIRway Danube is carried out jointly in six countries: Austria, Slovakia, Hungary, Croatia, Bulgaria and Romania. The project is co-funded by the Connecting Europe Facility (CEF) programme of the European Union.

Decarbonisation

The project partners will make the riverbed and precise water level measurements in real time available to the waterway users, thus improving the planning accuracy of transports. Vessel and fleet operators will therefore be able to optimize the loading of vessels accordingly, thus reducing the carbon footprint.

Timeframe

FAIRway Danube

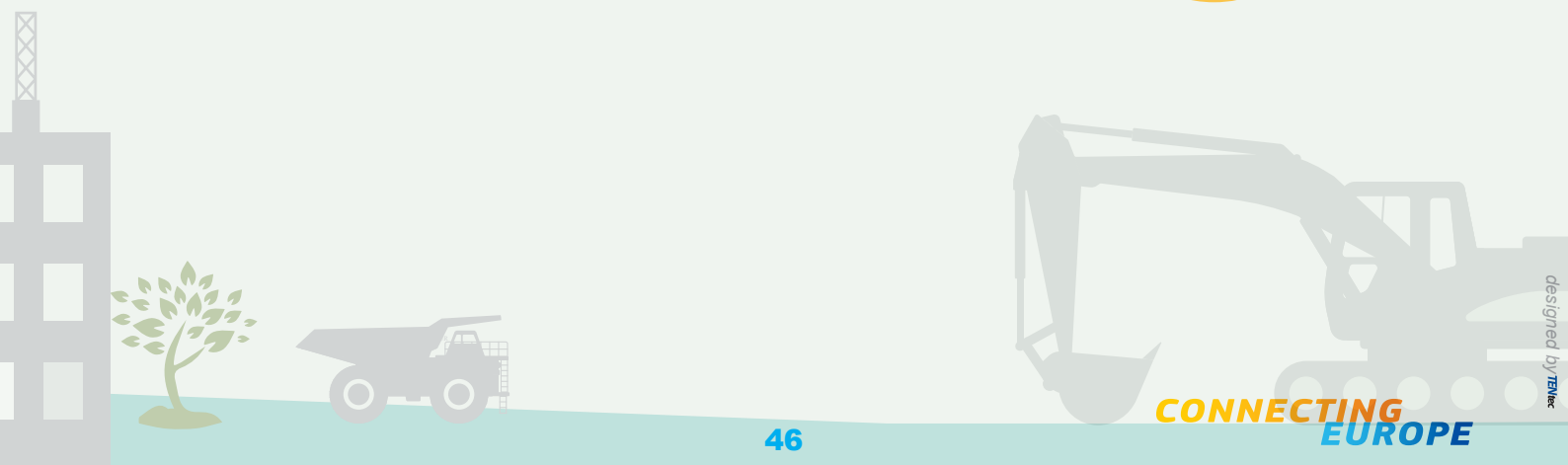


Funding needs

Total investments costs amount to approx. EUR 23,5 Mn, out of which approx. EUR 19,5 Mn are grants from the Connecting Europe Facility.



€23.5 mn



Cross-Border Infrastructure Projects

FAIRway Danube

Local - social - human factors

Inland waterway transport is characterised by its low transport costs, its low environmental impact, its high energy efficiency, its high safety levels and its major capacity for increased exploitation. It thereby strongly contributes to reaching the EU 2020 targets – establishing a smart, sustainable and inclusive economy by 2020.



Surveying vessel on the river Danube
© 24.09.2012, viadonau / Andi Bruckner

Jobs and growth

The FAIRWAY Danube project will have a positive effect on employment. Directly, through the investment of more than EUR 13 Mn in equipment, jobs will be created in shipyards and technology companies. Indirectly, all industries in the vicinity of the Danube benefit from a better waterway infrastructure and can this way improve their competitiveness.



Karla PEIJS,
TEN-T Coordinator



Exchange of views in the European Parliament on 11 April 2017:
FAIRway Danube prepares for the full deployment of the Fairway Rehabilitation and Maintenance Master Plan by providing the foundation for supplementary and additional projects.



Inland waterway transport on the Danube
© 17.09.2012, viadonau / Andi Bruckner

TRANS EUROPEAN TRANSPORT NETWORK



Smart Clean Innovative Projects

Disclaimer:

Data reported for respective smart clean innovative projects has been collected by individual project promoters or consultants and can be different from the aggregated ones

Smart Clean Innovative Projects

EUROPEAN RAIL TRAFFIC MANAGEMENT SYSTEM - ERTMS



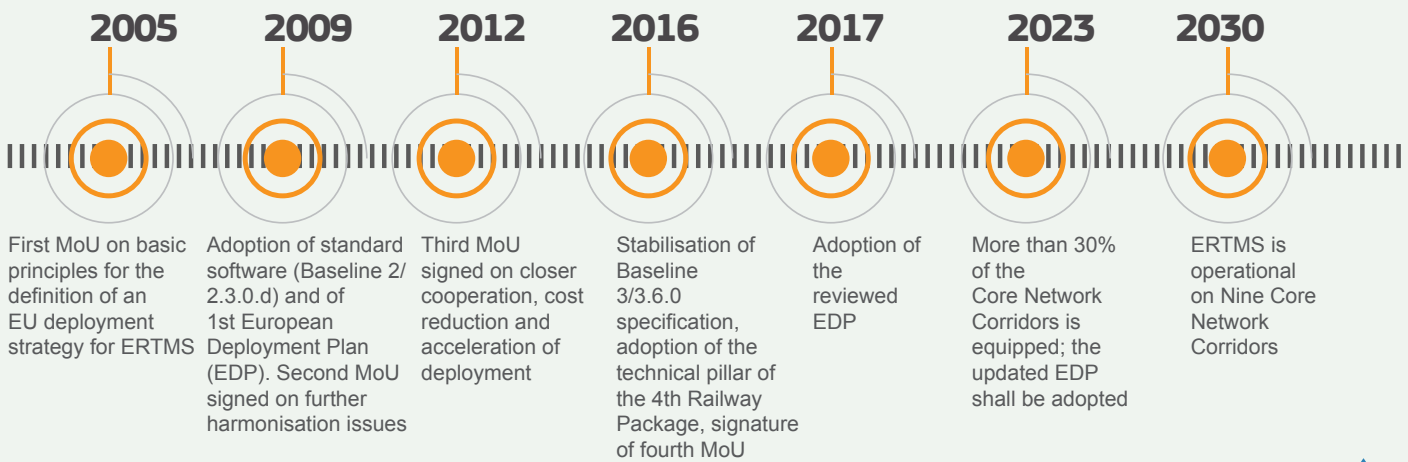
Connectivity

ERTMS is a control, command, signaling and communication system. It is a software based system for railway traffic management and safe regulation. It continuously ensures that the train does not exceed the maximum allowed speed, and can reduce the minimum distance between trains. This standardized European signaling system will replace more than 30 different national signaling systems and become the key enabler for safety, interoperability and competitiveness of rail.

Innovation and Decarbonisation

Looking at the longer-term perspective, ERTMS will play an eminent role in digitalization of European rail transport: it is the backbone of digitalized rail network and basis for automatic train operation. The ERTMS version adopted in 2016 aims at providing a compatible basis for future evolutions. The ERTMS specifications should allow the plug-in of innovative solutions (modular approach) in the coming years, in particular those realised through research and innovation within the Shift2Rail Joint Undertaking.

Timeframe



Funding needs

The investments required for ERTMS are considerable. Trackside of Core Network Corridors (including associated investments) and on-board requirements to 2030 are likely more than EUR 20 bn. EU support should be focused on fully compliant projects and on bottlenecks to wider deployment, for example cross border infrastructure and retrofitting of the fleet of international railway undertakings.



Jobs and growth

ERTMS deployment increases capacity and therefore enlarges the use of rail for long distance freight and passenger traffic. ERTMS allows a more competitive rail sector, and this means that a gradual shift to rail is expected from other transport modes. This will contribute to reach our environmental objectives set out in the White Paper for Transport, in particular the decarbonization objective.



Local-social-human factors

ERTMS has higher safety level compared with most of the existing national systems; consequently ERTMS is the benchmark system for rail safety worldwide. This is mainly achieved through its continuous supervision of the train speed. Beside its higher safety performance it increases punctuality of both freight and passenger services, since failures and delays are more unlikely. ERTMS is a symbol of European excellence giving great market opportunities to the European suppliers.



2017 CEF Blending call project

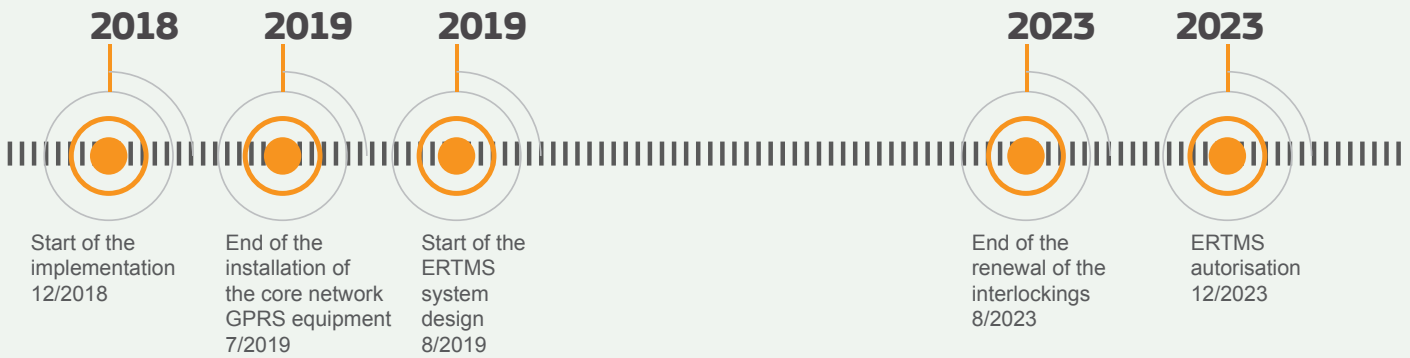
TRACK-SIDE DEPLOYMENT OF ERTMS LEVEL 2 BASELINE 3 ON THE PARIS-LYON HSL

Connectivity

The Paris–Lyon high-speed railway line (HSL) is part of the TEN-T core network. It is one of the most congested lines in Europe, handling one-third of all high-speed traffic in France.

The Action is part of the Global Project for the deployment of ERTMS on the line. The total length of the sections to be equipped with ERTMS is 483 km double-track line equivalent. The purpose of the Global Project is to increase the line’s capacity under equivalent and even improved service conditions to those of today and to make the rail services more attractive to the passengers.

Timeframe



Innovation and Digitalisation

The Action will deploy ERTMS Level 2, Baseline 3 on the Paris-Lyon HSL1 and on the northern section of the Lyon bypass HSL4, including the 13 short lines connecting the HSL to the conventional network. In addition, it also covers accompanying infrastructure works on the renewal of the 26 interlockings, and installation of the Radio Block Centres (RBC) and the General Packet Radio Service (GPRS) equipment, necessary for the functioning of the ERTMS.

The implementation of the Action will speed up the ERTMS deployment on the TEN-T rail infrastructure and will contribute to increase the capacity of the line from 13 to 14 train paths per hour by 2025 and from 14 to 16 train paths per hour by 2030.

Funding needs

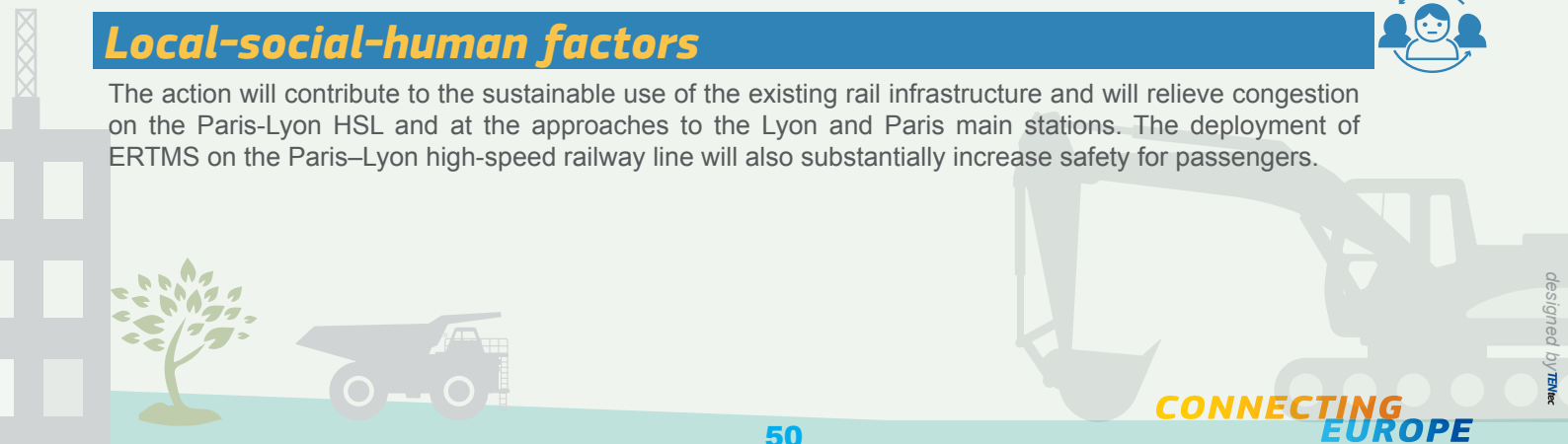
The total costs of the track-side deployment of ERTMS on the Paris-Lyon high-speed line are estimated at 292 million EUR blended public-private investment. The European co-financing amounts to 40%. The remaining funding needs will be ensured by a bank loan (40%) and own resources of the infrastructure manager SNCF Réseau (20%), as the result of the blending approach.

Jobs and growth

The action will have positive effects on jobs and contribute to the growth of the rail transport sector in one of the busiest and most dynamic rail connection in France and in the EU.

Local-social-human factors

The action will contribute to the sustainable use of the existing rail infrastructure and will relieve congestion on the Paris-Lyon HSL and at the approaches to the Lyon and Paris main stations. The deployment of ERTMS on the Paris–Lyon high-speed railway line will also substantially increase safety for passengers.



Smart Clean Innovative Projects MOTORWAYS OF THE SEA (MoS)



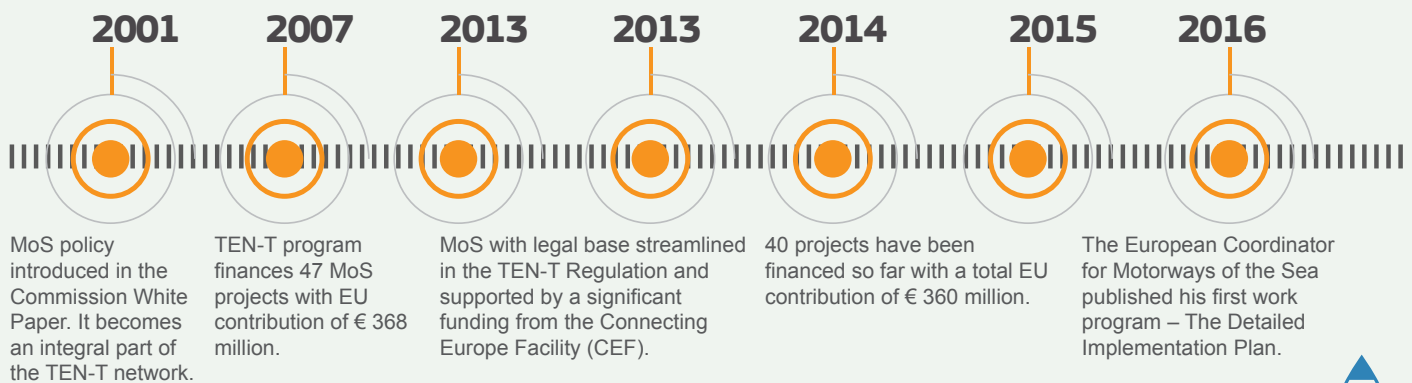
Connectivity

Motorways of the Sea (MoS) is a key building block of the TEN-T Network. It aims at reviving Short Sea Shipping in Europe. It complements and extends the 9 Core Network Corridors, increasing connectivity between core and comprehensive ports of the European Union.

Expected benefits

The policy and the funding help to set up and upgrade maritime links. It promotes modal shift towards the maritime, especially Short Sea Shipping. It fosters the multi-modality and effective last mile connection. It helps the industry to comply with applicable legislation (environment, e.g.). It improves security and safety both at sea and port side.

Timeframe



Funding needs

CEF allocated to MoS so far € 690 million. MoS could absorb more resources as its scope is ambitious. It covers 104 core ports and 225 comprehensive ports in Europe.



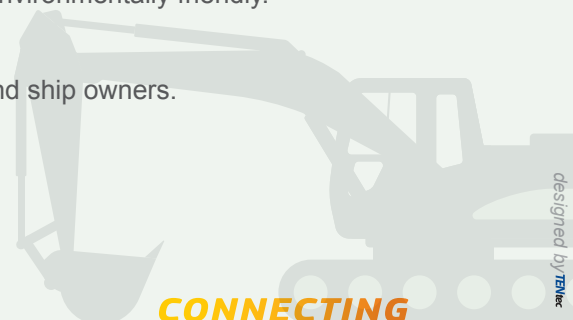
Jobs and growth

MoS help maritime transport to comply with applicable environmental legislation. It supports industrial solutions that limits CO₂, NO_x, SO_x and PM emissions of maritime transport, in line with Sulphur Emission Control Areas as well as current and future obligations imposed by the UN International Maritime Organisation. It favours the deployment of alternative fuels and related infrastructure leading to a decarbonized transport. It serves wider benefits improving security both at sea and port side.



Local-social-human factor

Better connectivity between land corridors (EU core network) and EU ports. Improves ports' infrastructure by investing in solutions that are cleaner and environmentally friendly. Investments in alternative fuels equal to fewer emissions in ports. Improved safety of ports and sea operations. Facilitate a better cooperation between port authorities, local communities and ship owners.



Smart Clean Innovative Projects Sea Traffic Management (STM)



Connectivity

STM project establishes standardized information sharing leading to a more efficient routing of ships, adjusting arrivals to ports and taking steps towards just-in-time processes. The project is inspired by the Air Traffic Management (SESAR) and it provides the four basic services: voyage management, flow management, port collaborative decision making, system wide information management. A common technical protocol for route exchange has been developed and was approved as an international standard in August 2015.

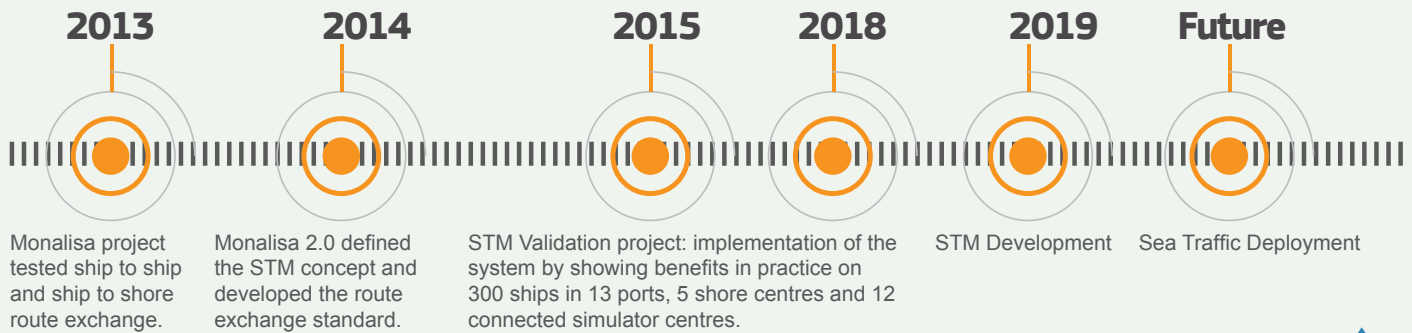
Digitalisation and Innovation

The whole logistic chain would benefit from better transport resource management, reduction of gates time, reduced traffic congestion around ports, optimisation of rail traffic.

Instead of having every company involved in the maritime transport chain building their own software and processes, STM could provide common services available to all operators.

STM is a key component in keeping the EU ahead of competition in the maritime industry, while improving market conditions for European industries involved in foreign trade.

Timeframe



Funding needs

Involvement of 12 Member States under the leadership of the Swedish Maritime Authority. Total costs of the project equal to € 42 million with 50% of EU funding. STM development and deployment phases would require further resources.



Jobs and growth

Emission reduction through fuel saving reduced distance of voyage per ship and a slow steaming related to just-in-time arrivals. Full STM equals to 10-15% save in planning and operational costs both for voyage and port operation optimisation. Reduced anchoring time due to just-in-time arrivals. Accurate estimated time of arrival benefitting ports and hinterland.



Local-social-human factor

Reduction of human-error related groundings and collision by more than 60%, which corresponds to € 100 million savings per year in EU waters. Fully-implemented STM would make it possible to save 10-15% of planning and operational costs both for voyage optimisation and for port operation optimisation. STM services can help ships take the most fuel-efficient route and save distance. Studies indicate that for each percentage point that Baltic Sea traffic can save in distance, the ship-owner saving is around € 50 million per year.

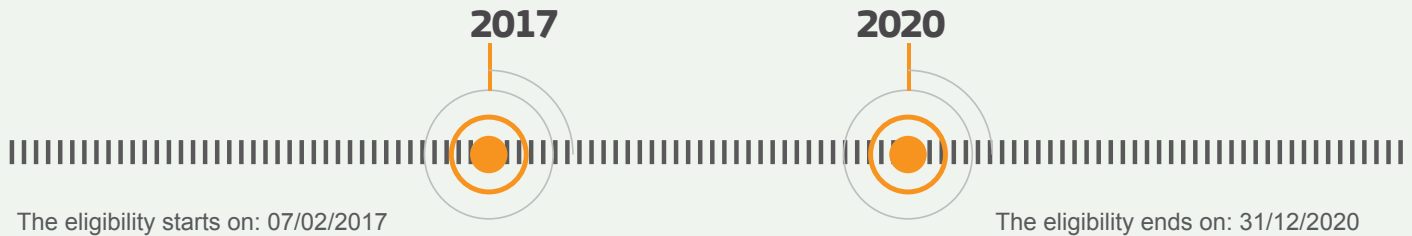


Smart Clean Innovative Projects ITS Roads

Connectivity

This cooperation between different road infrastructure operators is aiming at deploying ITS services on several TEN-T roads that specifically support international freight traffic. The project includes real life pilots, which will implement innovative solutions in order to test feasibility, suitability and added value prior to a potential large scale deployment.

Timeframe



Funding needs

The total costs are around 149 million EUR.
The requested EU support is around 32 million EUR.



Jobs and growth

UMneo will

- support the market penetration of advanced mobility services for truck drivers and freight transport companies
- enhance the leading role of the European ITS industry, promoting design and deployment of advanced equipment and services
- create better goods transport conditions and consequent competitiveness of products costs.



Local-social-human factor

The majority of goods are still transported by road. Reducing congestion and thus pollution is a key element of EU policies. The new systems introduced by this project will assist lorry drivers in finding parking space, help them avoid congestion and thus enable them to better plan their trips. Unnecessary trips and idle times in traffic jams are cut and thus also emissions of pollutants as well as noise. This in term not only ensures more fluid traffic flows on the major road axes but also improves the living conditions of the population living in the vicinity.



Cross-Border Infrastructure Projects

MULTIMODAL LNG TERMINAL IN THE PORT OF VENICE



Connectivity

A new LNG port storage will be located in the north shore of the south industrial canal basin. It will include a berth for up to 30.000 m3 capacity gas carriers and a berth for 2000 m3 capacity gas barges, a truck loading section with five loading aisles for LNG tank trucks, a LNG rail tank loading/unloading section and dedicated railway and road connections.

Four retail stations belonging to the terminal operator will be reconverted in LNG refueling points for road transport use and will ensure the development of a LNG supply chain along the Mediterranean and Baltic-Adriatic Corridors.

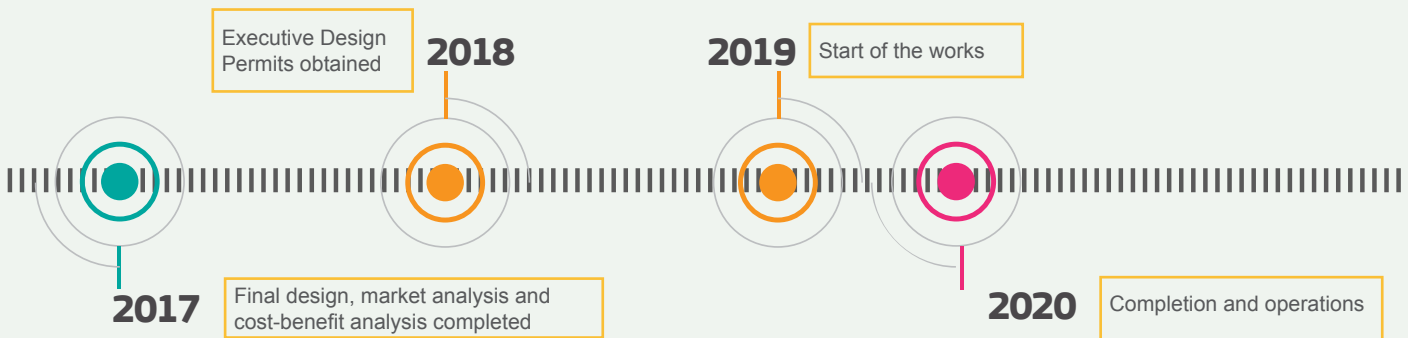
Innovation and Decarbonisation

The project will be the first LNG multi-modal terminal in the north Adriatic area to support the development of a LNG network supplying road, maritime and inland waterways transport.

The new LNG Terminal will allow for a total LNG storage capacity of 32.000 m3. The terminal maximum capacity will be 900.000 m3/years of LNG.

It will have a wide impact not only serving the port of Venice but also the North Adriatic area, including the North Adriatic ports (Trieste, Ravenna) and the Italian inland waterways system (ports of Mantua and Cremona).

Timeframe



Funding needs

The overall investment cost is approx. EUR 105 million, partly covered by CEF grants and an EIB loan.



Jobs and growth

This new LNG port infrastructure will boost economic growth and a wide range of jobs and create new market opportunities for European industry.



Local-social-human factors

The impact in the local transport system will be important in terms of reduced pollution and emissions since both an LNG storage and LNG retail gas station network are missing in the area. The main stakeholders are the transport and logistics companies operating in the port of Venice and North-Eastern Italy, in particular logistics and maritime operators (road operators, cruise ships, tugboat company, local public transport company etc.).

Information campaigns and demonstrations are foreseen to improve social acceptance of this new technology concept.





European Commission

Smart Clean Innovative Projects TWIN-PORT 2



Connectivity

Twin-Port2 is the second stage of a global project aiming at fostering greater cross-border cooperation between Finland and Estonia through developing and upgrading the Motorways of the Sea link between the ports of Helsinki and Tallinn and thus connecting the North Sea–Baltic to the Scandinavian-Mediterranean core network corridor.

Digitalisation and Innovation

Tallink's new Ro-Pax vessel Megastar will bring significant improvements in energy efficiency and total capacity, while the investments into innovations and technical solutions decrease the environmental and other noise based externalities.

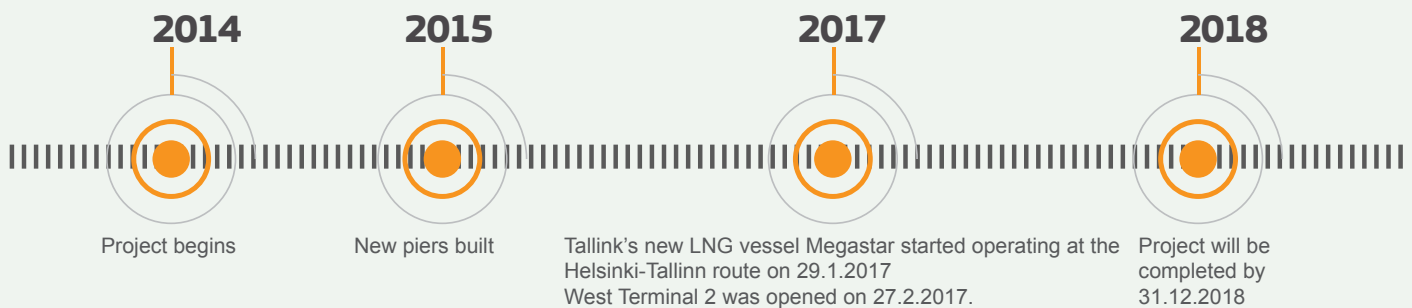
Timeframe



© Port of Helsinki



© Port of Helsinki



Funding needs

The total cost of the TWIN-PORT 2 project is estimated to be 97.6 million euros with a European co-funding rate of 30% equaling to a maximum of 29.3 million EU-contribution.



Jobs and growth

The Global Project aims at resolving the bottlenecks through investments in upgrading the multimodal Motorways of the Sea link. This will facilitate greater growth for the local industry, increase cross-border mobility and stimulate the trade in goods and services. Moreover, the project aims at reducing environmental externalities through investments into LNG.



Local-social-human factor

The Twin-Port projects enable Helsinki and Tallinn to run their passenger harbours more smoothly. Well-functioning ship traffic is an essential part of the Helsinki–Tallinn twin city project, idea that emerged after Estonia gained independence in the early 1990s. A total of two million people live in the Helsinki and Tallinn metropolitan areas combined, which together form a mid-size European metropolis. The harbours have created an entirely new dimension and passenger numbers have increased at an incredible rate. Many Estonians are working in Helsinki, and many Finns have started a company in Tallinn or expanded their network of subcontractors there. In a way, Helsinki and Tallinn have merged.



Smart Clean Innovative Projects

SMARTER PORT LOGISTICS BY DATA EXCHANGE IN HAMBURG AND ROSTOCK



Connectivity

The port of Hamburg is a major inland waterways and maritime port. It handles 138 million tons/year and 200 inbound and outbound trains with 5,000 wagons daily, but faces capacity constraints.

The port of Rostock is Germany's 4th biggest port (28.6 million tons/year) and forms the junction between Orient/ East- Mediterranean and Scandinavian – Mediterranean corridors.

The hinterland of the two ports extends beyond Germany and the Czech Republic. Projects are designed for software applications; enhance acquisition of train-related data to improve the traffic flows between the logistical hubs. The project aims at efficient use of existing infrastructure, optimisation of traffic flows and improving efficiency of intermodal operations between ports and hinterland terminals.

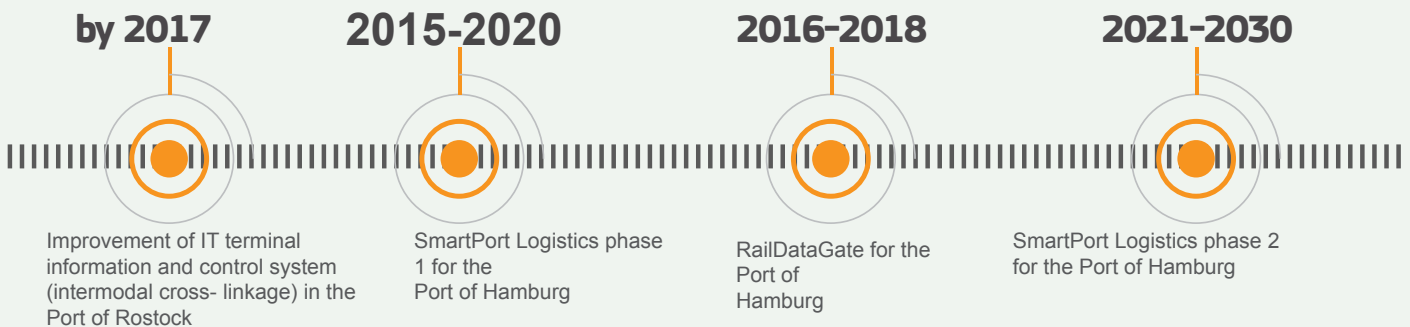
Digitalisation and Innovation

The expected benefits will provide results for transport sustainability due to shift of freight from road to rail and/ or IWW.



View to Rostock Port –Basin C © Photo by Norbert Kaiser., CC BY-SA 3.0

Timeframe



Funding needs

The Ports' own contribution is estimated at some €45 million and remaining €19 million will be potentially sought from EU funding programmes (CEF).



Growth

Creation of 165.000 new jobs during the 15 years and an annual increase of the GDP by € 75 million.



Local-social-human factor

An improved logistics between the ports is expected to generate

- Increase port capacity,
- foster modal shift, and
- reduce impacts on the environment and GHG emissions.





European Commission

Smart Clean Innovative Projects WATERTRUCK+ PROJECT



Connectivity

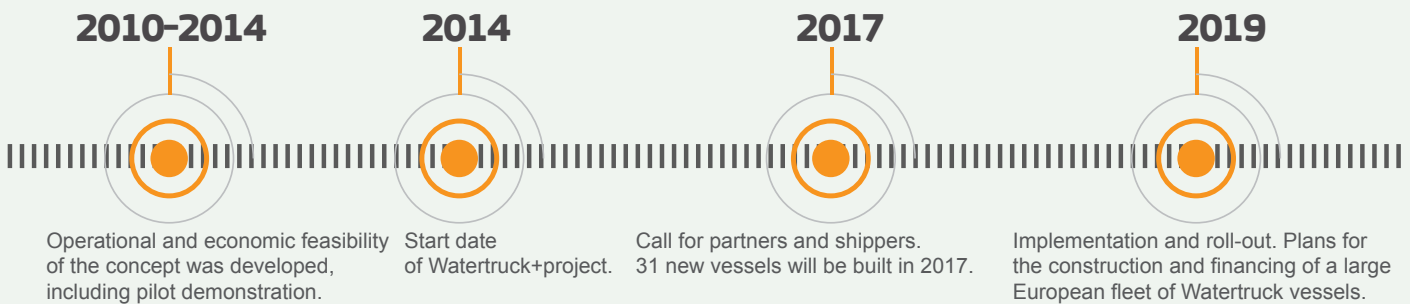
Watertruck is a freight transport concept for inland shipping, based on transport units (barges and pushers) that can be coupled and decoupled in a fast and flexible way. The objective of Watertruck is to enhance the interconnectivity and interoperability between the TEN-T core waterways and the capillary network of smaller waterways using small, propelled and self-propelled standardised barges. Accessibility of the core network is increased for shippers located on or nearby the smaller waterways.

Digitalisation and Innovation

Watertruck will stimulate interregional inland waterway transport by lowering costs (e.g. the standard Watertruck design is optimized in terms of loading capacity) and contribute to the reduction of congestion, greenhouse gases and noxious emissions. It will be operating between various inland waterway locations mainly in Belgium, but also in the Netherlands and France.

Combined with large or small environmentally friendly barges, used for convoy transport, the concept ensures maximum flexibility of operations and targets a reduction of CO₂ emission by at least 25% in comparison to the emissions of the existing inland waterways fleet, and to achieve a harmful substances emission level that at least satisfies the emission criteria of EURO VI standards for road transport, or equivalent.

Timeframe



Funding needs

Total funding for the project amounts to €23 million, including €11.5 million of EU funding, €0.2 million of State funding, and €11.3 million of private sector funding.



Growth

Watertruck can help unlock the economic potential of a region. Indeed, numerous industrial shippers are located nearby smaller waterways or have limited storage capacity and can only be supplied by small vessels.



Local-social-human factor

In recent decades, the European fleet of smaller inland vessels has been in decline. Young barge-skippers aspire to work on larger vessels because they generate more cash flow and higher operating margins, thus attracting financing more easily. Watertruck aims to stimulate an extra inflow of young skippers into the profession by introducing an eight-hour shift system, allowing them to go home after their day's work. Removing the requirement for the skipper to live on the vessel helps to reduce a barrier to recruitment. Compared to a traditional ship, working with barges and pushers offers more flexibility and is cheaper for the shippers as loading and unloading can be done whenever they want. Barges can remain at the quayside for a while, whereas with traditional ships the cargo has to be loaded/unloaded as soon as possible as the skipper remains present during loading.



Smart Clean Innovative Projects

REDUCING RAIL FREIGHT TRAINS' BORDER WAITING TIME – the Two-Hour Goal

Connectivity

Freight trains, operating along the OEM corridor from Greece to Germany have to go through 6 border crossing points. At each, a time-consuming technical and logistical procedure by Infra managers, railway undertakings and authorities is required, resulting in prolonged border crossing waiting time and significantly decreasing average train O/D speed below 15 km/h.

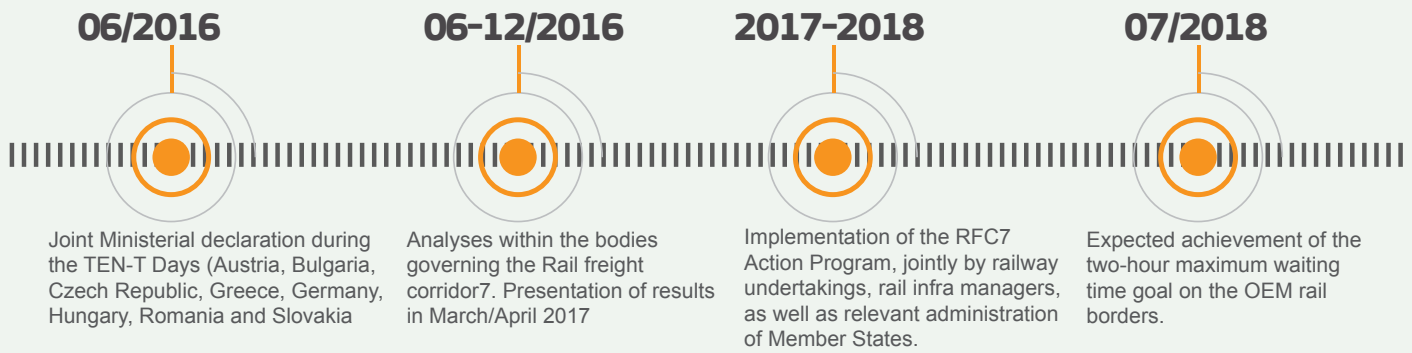
Digitalisation and Innovation

On the 21st June 2016, 8 EU Member States committed officially to reduce each border transit time to max. 2 hours by mid-2018.

The related Action Program includes more than 20 activities, such as:

- Cross border technical and administrative operations, coordination of Infrastructure works, capacity and Path arrangements and improved Governance and communication.

Timeframe



Funding needs

The action does not require any specific funding but rather logistic and administrative efforts, improvement of IT systems as well as skilled man-power.

Growth

The initiative could result in the increase of rail freight volumes transported along the OEM corridor thanks to its improved efficiency.

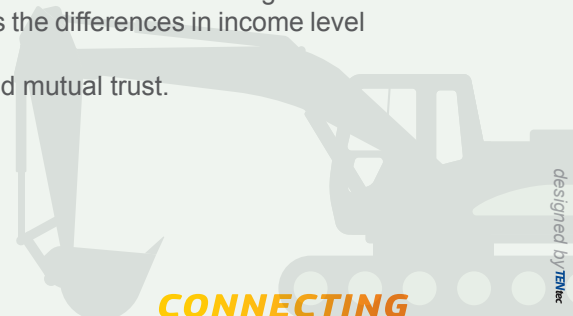
It will generate indirectly hundreds of new transport and commerce related jobs and additional millions of € in GDP along the corridor countries and the entire EU. This is related to the facilitation of cross-border transport, reduction of transport times, and increase of international trade as well as the improved accessibility of market and supply areas.

Local-social-human factor

The increase of rail traffic on the OEM corridor is expected to trigger the influx of investments, know-how, experience, modern technologies and innovations into the cities and regions along the corridor. It will have a large positive effect on local development, particularly in HU, SK, CZ, BU, RO and GR.

The costs for improvement of language skills, professional and legal competence of staff working across countries; (incl. keeping knowledge up-to-date with changing rules), as well as the differences in income level will remain a challenge.

The two hours goal will be reached if all involved parties show willingness and mutual trust.



Smart Clean Innovative Projects

UPPER RHINE TRAFFIC MANAGEMENT SYSTEM



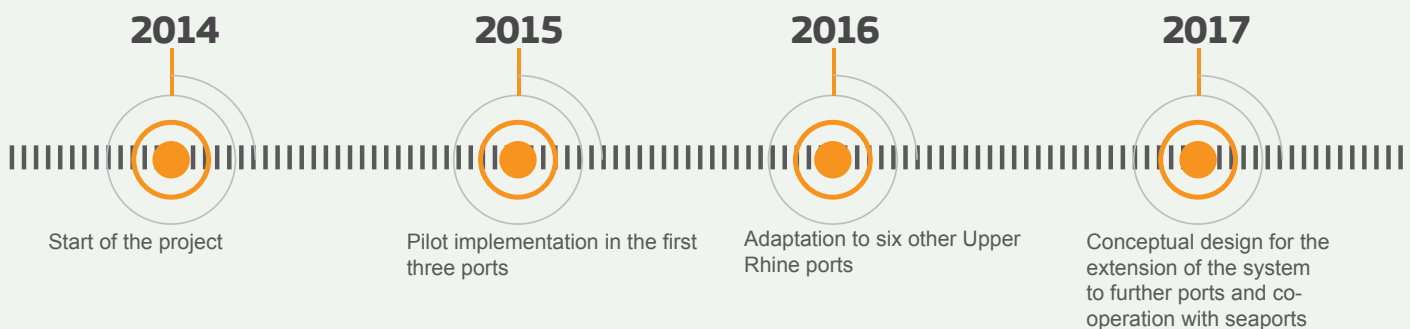
Connectivity

This cross-border project implemented an innovative ICT traffic management platform for inland waterway transport at the three Upper Rhine inland ports in France, Germany and Switzerland. The feasibility of the platform's roll-out to six other ports was analysed. The strategic goal is the deeper interconnection of all actors involved in the inland waterway transport chain. Consequently, in the future a further geographical extension and a co-operation with the seaports is foreseen.

Digitalisation and Innovation

Competitive transport logistics chains need transparent information flows and data availability for all involved actors e.g. ports, barge operators, terminal operators, forwarders. The Upper Rhine traffic management system is an important step towards innovation and digitalisation of inland waterway transport and will lead to a higher efficiency in the logistic processes.

Timeframe



Funding needs

The total costs were close to 2 million EUR. The project received a grant of 1 million EUR from the Connecting Europe Facility.



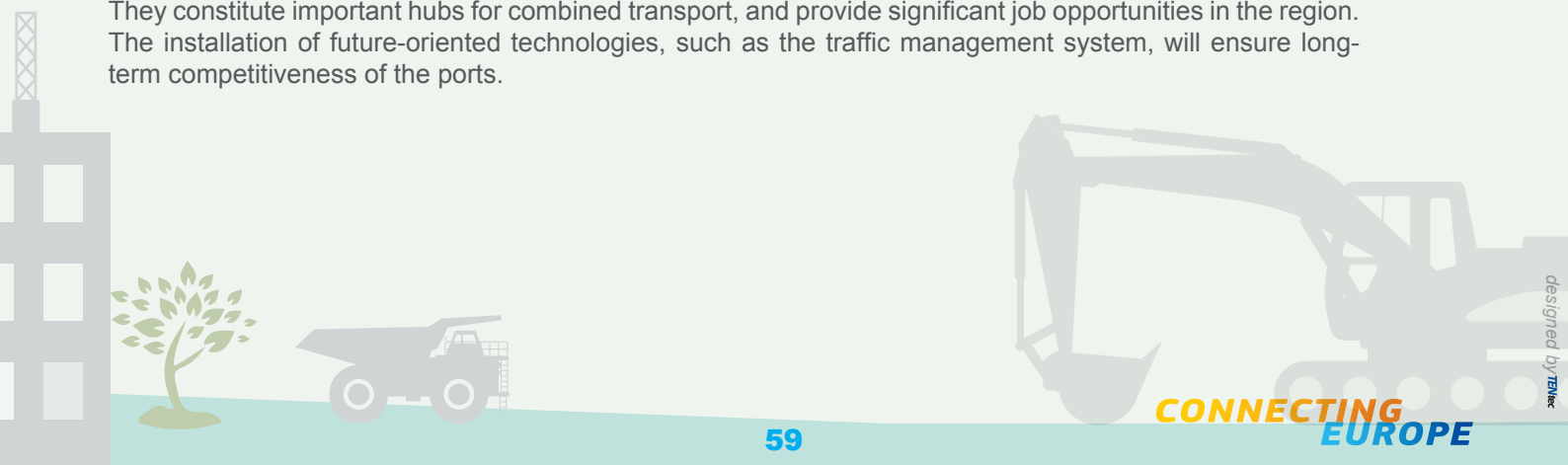
Growth

The Upper Rhine traffic management system supports the competitiveness of inland ports and the inland waterway transport system in the Rhine-Alpine Corridor. It is a necessary module for the securing of jobs and the further increase of freight volumes for this transport mode.



Local-social-human factor

The Ports in the Upper Rhine such as Basel, Strasbourg or Mannheim, have a high economic importance. They offer transport and transshipment services for the producing and processing industry in the entire region. They constitute important hubs for combined transport, and provide significant job opportunities in the region. The installation of future-oriented technologies, such as the traffic management system, will ensure long-term competitiveness of the ports.



Smart Clean Innovative Projects

RIS COMEX: towards European-wide River Information Services



Connectivity

Harmonised implementation of River Information Services made considerable progress during the last years but actual cross-border interworking is still limited, especially concerning (inter-)national data exchange. Therefore 15 partners from 13 different European countries joined their forces under the coordination of the Austrian Waterway Administration with the common goal to realise Corridor RIS Services.

Digitalisation and Innovation

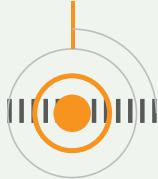
Corridor Management is the next step in the development of River Information Services adopted in the EU RIS Guidelines to improve safety, efficiency and reliability of inland navigation including positive effects on the protection of the environment.

In that respect “RIS Corridor Management” is defined as mutualised information services amongst waterway authorities and waterway users and related logistic partners, in order to optimise the use of inland navigation corridors.

Corridor Management as a concept aims at improving and linking existing RIS services on a route or network in order to supply RIS not just locally, but on Corridor-, or even on European level. Therefore, RIS COMEX will realise support for route planning, voyage planning, transport management and traffic management by the seamless exchange and provision of relevant fairway-, traffic- and other specific information.

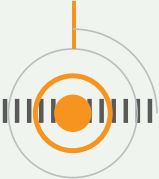
Timeframe

2014/2015



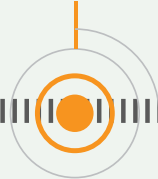
Within the TEN-T project CoRISMa, the next level in the development of River Information Services was defined: RIS enabled Corridor Management.

2016



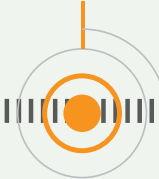
Successful submission of the RIS COMEX project application within the CEF Call followed by the immediate project start phase

2020



Realised RIS Corridor Services are transferred into sustainable operation by the end of the project (December 2020).

2021/...



Necessary follow-up activities, as identified within the RIS Corridor Master Plan elaborated within RIS COMEX, have to be realised in the upcoming years to ensure further harmonised development of RIS in Europe.

Funding needs

Estimated total cost: € 26,501,195
Maximum EU contribution: € 15,605,7340



Growth

The project will indirectly generate jobs and contribute to the growth of the Inland Waterway Transport sector.



Local-social-human factor

RIS Corridor Management has also positive effects for the national RIS systems. It helps reducing maintenance and developments costs and results in better, easier way to find and use services for the end users.



Smart Clean Innovative Projects

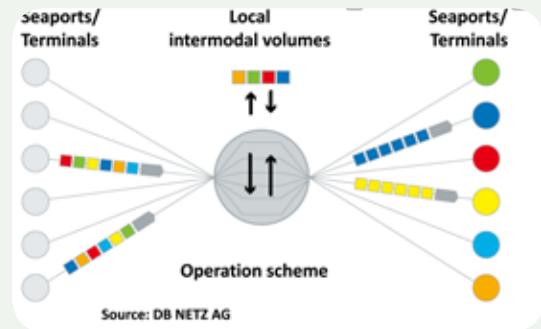
INTERMODAL HUB RHINE-RUHR

Connectivity

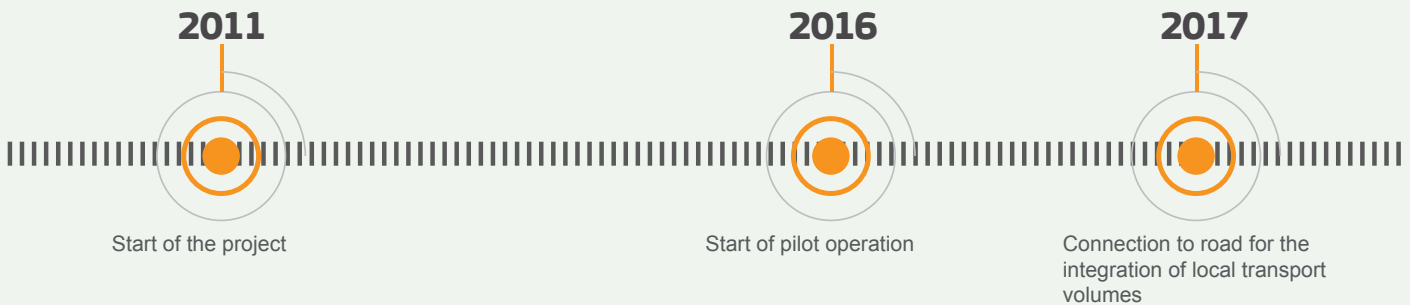
The Intermodal Hub Rhine-Ruhr represents a new generation of gateway terminals. Duisburg was chosen as a location because it offers excellent connections to the main rail axis in Europe – the Rhine-Alpine Corridor. The main function of the Intermodal Hub Rhine-Ruhr is the transshipment of loading units between intermodal trains focussing on the bundling, sorting and distribution of these units between the seaports and the European hinterland for trade lanes under full trainload.

Digitalisation and Innovation

The operation scheme of the terminal allows for the efficient and economic transport of intermodal transport volumes serving trade lanes with less-than-trainload lanes also in medium range distances at a road-competitive schedule. Terminal management is secured by a sophisticated terminal operation system.



Timeframe



Funding needs

The total costs were around 44 million EUR and were covered by the German state.



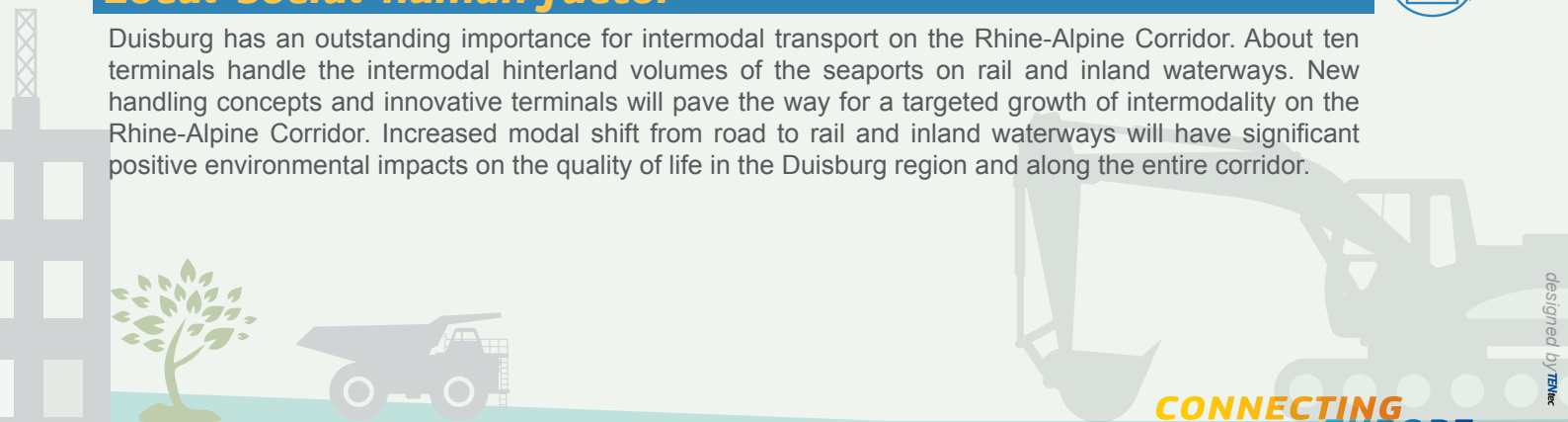
Growth

Altogether, 75 jobs p.a. were directly related to the building phase of the Rhine-Ruhr Intermodal Hub. The new hub concept based on rail-rail transshipment will be transferred to other locations such as on the Scan- Med Corridor, where the Lehrte Intermodal Hub is currently under construction.



Local-social-human factor

Duisburg has an outstanding importance for intermodal transport on the Rhine-Alpine Corridor. About ten terminals handle the intermodal hinterland volumes of the seaports on rail and inland waterways. New handling concepts and innovative terminals will pave the way for a targeted growth of intermodality on the Rhine-Alpine Corridor. Increased modal shift from road to rail and inland waterways will have significant positive environmental impacts on the quality of life in the Duisburg region and along the entire corridor.



Smart Clean Innovative Projects

EVA+ ELECTRIC VEHICLES ARTERIES IN ITALY AND AUSTRIA



Connectivity

Electric Vehicles Arteries (EVA+) is an electric mobility project in which 200 multi-standard fast charging stations are being installed on key roads and motorways in Italy and Austria, covering parts of the Scandinavian-Mediterranean, Rhine-Alpine, Baltic-Adriatic and Mediterranean core network corridors and thus allowing electric vehicles charging for both commuter and longer distance cross border journeys.

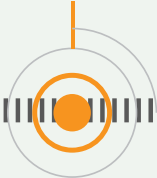
Digitalisation and Innovation

The multi-standard fast charging station is capable of offering all the fast charging standards (CCS Combo 2, CHAdeMO or AC charging). The 180 Fast Recharge Plus columns to be installed in Italy will enable two vehicles to be contemporaneously charged in 20 minutes. The remaining 20 stations are installed in Austria and offer fast charging standards as well.

The connection to roaming platform(s) will allow the e-mobility providers to offer cross-border services for their customers.

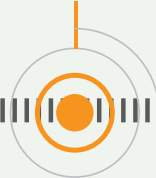
Timeframe

07/2016



Start of the current implementing project

12/2018



200 Fast Charging stations installed.

Funding needs

The EVA+ project has a cost budget of 8.5 million EUR and is co-funded by the EU according with a CEF grant agreement worth 4.2 million EUR.

The remaining share is financed from the project partners who seek to obtain a payback when selling the energy to the users.



Growth

The EVA+ project will generate approximately 329 jobs (38.700 jobs per 1 billion EUR investments according to the Commission's cost estimate). Its additional contribution to the European GDP until 2030 is expected to be 150 million EUR.



Local-social-human factor

The project is implemented by Enel, as coordinator, and Austria's main utility company Verbund in collaboration with the world's largest electric vehicle carmakers like Renault, Nissan, BMW and Volkswagen Group. As part of the implementation Enel is signing agreements with motorway concession holders with the aim to enhancing the project's technological innovation. The charging stations enable electric vehicle owners to travel longer distances and cross border in Austria in Italy in a sustainable manner. "E-mobility has the potential to be a game changer," explains Simone Mori, Executive Vice President for European Affairs at Enel.



EIB lending on transport, execution of EFSI and CEF-Debt Instrument

- **EIB financing in transport sector 2014-2017 & investment mobilised in the EU.**

In the period 2014-2017 (4 years), the total contract amount signed by EIB in the transport sector in the EU was EUR 45.85 billion. By years, this was as follows:

- **2014** – EUR **12.96 billion**
- **2015** – EUR **12.42 billion**
- **2016** – EUR **10.66 billion**
- **2017** – EUR **9.81 billion**

For the EIB transport sector projects signed in the EU, the related investment mobilised (project investment cost) during the period (2014-2017) was 168.41 billion on an EIB contribution of EUR 45.85 billion – a multiplier of 3.7. By years, this was as follows:

- **2014** – EUR **50.10 billion**
- **2015** – EUR **46.09 billion**
- **2016** – EUR **31.40 billion**
- **2017** – EUR **40.82 billion**

- **Execution of the EFSI**

From its launch in 2015 until March 2018, EFSI approved 57 operations contributing to transport objectives triggering a total €23.58 billion in related investment. This represents around 13% of the overall investment from the Infrastructure and Innovation Window (IIW) of the EFSI.

In addition, 4 programmes have been preapproved, including the 2 green shipping programmes with potential to mobilise additional €3.5 billion of investment.

EFSI IIW as of 15 March 2018:

EFSI Objectives	EFSI Financing Approved EURm - estimates at approval	Related Total EFSI Investment EURm - estimates at approval
Transport	7,708	23,583
Total	41,321	176,9



EFSI TRANSPORT APPROVED PROJECTS

No	Project Name	Country	EFSI Objective (as per Regulation) (% as defined at approval)
1	D4R7 SLOVAKIA PPP5	Slovakia	Transport - 100%
2	GRAND CONTOURNEMENT OUEST DE STRASBOURG (A355)	France	Transport - 100%
3	TRENITALIA REGIONAL ROLLING STOCK	Italy	Transport - 100%
4	ACCESSIBILITY PORTS INFRASTRUCTURE	Spain	Transport - 100%
5	BALEARIA GREEN FLEET RENEWAL	Spain	Transport - 100%
6	EUROMED RORO	Italy	Transport - 100%
7	A6 WIESLOCH-RAUENBERG TO WEINSBERG PPP	Germany	Transport - 100%
8	AUTOBAHN A10 A24 PPP NEURUPPIN – PANKOW	Germany	Transport – 100%
9	A6 ALMERE MOTORWAY PPP	Netherlands	Transport - 100%
10	ICO INFRASTRUCTURE RISK SHARING LOAN	Spain	Energy - 20% Transport - 50% Social Infrastructure - 30%
11	QUAERO EUROPEAN INFRASTRUCTURE FUND	Regional - EU countries	Digital - 20% Energy - 30% Transport - 20% Environment and resource efficiency - 10% Social Infrastructure - 20%
12	INFRACAPITAL GREENFIELD INFRASTRUCTURE FUND	United Kingdom, Regional - EU countries	Digital - 8% Energy - 47% Transport - 24% Environment and resource efficiency - 17% Social Infrastructure - 4%
13	LITHUANIAN AIRPORTS	Lithuania	Transport - 100%
14	MIROVA BTP IMPACT LOCAL FUND	France	Digital - 20% Transport - 38% Social Infrastructure - 42%
15	CUBE INFRASTRUCTURE FUND II	Switzerland, Regional - EU countries, Norway	Digital - 22% Energy - 21% Transport - 26% Environment and resource efficiency - 31%
16	GREEK REGIONAL AIRPORTS PPP	Greece	Transport - 100%
17	FRENCH OVERSEAS TERRITORIES ECONOMIC DEVELOPMENT	France	Digital - 10.7% Energy - 5.31% Transport - 9.6% Environment and resource efficiency - 46.56% Smaller Companies - 4.18% Social Infrastructure - 23.65%
18	PRZEWOZY REGIONALNE ROLLING STOCK MODERNISATION	Poland	Transport - 100%
19	LISBON URBAN RENEWAL HOUSING CLIMATE FL	Portugal	Transport - 4% Environment and resource efficiency - 68% Social Infrastructure - 28%

No	Project Name	Country	EFSI Objective (as per Regulation) (% as defined at approval)
20	ROCK RAIL EAST ANGLIA	United Kingdom	Transport - 100%
21	A14 VILNIUS - UTENA HIGHWAY PPP	Lithuania	Transport - 100%
22	RIGA TRANSPORT COMPANY	Latvia	Transport - 100%
23	TALLINN AIRPORT UPGRADE	Estonia	Transport - 100%
24	CPH AIRPORT EXPANSION TEN-T	Denmark	Transport - 100%
25	TIIC TRANSPORT AND SOCIAL INFRASTRUCTURE FUND	Regional - EU countries	Transport - 75% Social Infrastructure - 25%
26	AUTOVIE VENETE A4 WIDENING	Italy	Transport - 100%
27	SMT ARTOIS GOHELLE - PROJET BHNS BULLES	France	Transport - 100%
28	KRAKOW BY-PASS - LAGIEWNICKA ROUTE	Poland	Transport - 100%
29	CILSA WAREHOUSING EXPANSION	Spain	Transport - 100%
30	LAS PALMAS BUS RAPID TRANSIT	Spain	Transport - 100%
31	LSCT NEW DEVELOPMENT PLAN	Italy	Transport - 100%
32	LOWER SILESIA REGIONAL ROADS PPP	Poland	Transport - 100%
33	PALMA DE MALLORCA URBAN BUS FLEET RENEWAL	Spain	Transport - 100%
34	BLANKENBURG TUNNEL PPP	Netherlands	Transport - 100%
35	INFRANODE	Sweden, Finland, Denmark	ICT 13.6% Energy - 65% Transport - 0.9% Environment and resource efficiency - 13.2% RDI - 7.3%
36	BALTCAP INFRASTRUCTURE FUND	Regional - EU countries, Lithuania, Latvia, Estonia	Energy - 45% Transport - 45% Social Infrastructure - 10%
37	MARGUERITE FUND II	Pan-European Infrastructure Fund	Digital - 13%, Energy - 57%, Transport - 21%, Environment - 9%
38	CITYJET REGIONAL ROLLING STOCK	Austria	Transport - 100%
39	AENA SECURITY INVESTMENT PLAN	Spain	Transport - 100%
40	LIMBURGS ENERGIE FONDS	Netherlands	Energy, Transport - 15%, Environment
41	IRISH CONTINENTAL GROUP FERRY PROJECT	Ireland	Transport - 100%
42	E67 A7 KEKAVA BY-PASS PPP TEN-T	Latvia	Transport - 100%



No	Project Name	Country	EFSI Objective (as per Regulation) (% as defined at approval)
43	S-BAHN HANNOVER ROLLING STOCK	Germany	Transport - 100%
44	A16 ROTTERDAM PPP	Netherlands	Transport - 100%
45	AUTOBAHN A3 BIEBELRIED - FURTH ERLANGEN	Germany	Transport - 100%
46	DARS - FREE FLOW TOLLING SYSTEM	Slovenia	Transport - 100%
47	TRAM DE LIEGE	Belgium	Transport - 100%
48	NETHERLANDS FLOOD DEFENCE PPP	Netherlands	Transport, Environment
49	ROUTE CENTRE EUROPE ATLANTIQUE	France	Transport – 100%
50	METRO DE MADRID INFRASTRUCTURE UPGRADE	Spain	Transport – 100%
51	ULM ROLLING STOCK	Germany	Transport – 100%
52	DIF CORE INFRASTRUCTURE FUND I	Austria, Belgium, Finland, France, Germany, Ireland, Netherlands, Spain	Digital, Energy, Transport
53	PKP LHS RAILWAY IMPROVEMENT PROJECT	Poland	Transport – 100%
54	FNM NEW REGIONAL ROLLING STOCK	Italy	Transport – 100%
55	ROLAND GARROS AIRPORT - REUNION	France	Transport – 100%
56	PORTUGUESE PORTS PRIVATE INVESTMENT PLAN 2017-19	Portugal	Transport – 100%
57	ARCUS EUROPEAN INFRASTRUCTURE FUND 2	Regional – EU countries	Digital - 20%,Energy - 50%,Transport - 30%,

PRE-APPROVALS (NOT COUNTED TOWARDS INVESTMENT MOBILISED UNTIL UNDERLYING PROJECTS ARE APPROVED)

No	Project Name	Country	EFSI Objective (as per Regulation)
1	GREEN SHIPPING GUARANTEE PROGRAMME	Regional - EU countries	Transport - 100%
2	GREEN SHIPPING PROGRAMME LOAN	Spain, Regional - EU countries	Transport - 100%
3	EIB CO-INVESTMENT PROGRAMME	Multi-country	Energy - 40% Transport - 15% Environment and resource efficiency - 35% Smaller Companies - 5% RDI - 5%
4	PF TO SMES AND MIDCAPS GUARANTEE PROGRAMME SPAIN	Spain	Smaller Companies - 27% Transport - 22% Energy - 51%

- **Execution of the CEF Debt Instrument**

By the end of 2017, the CEF Debt Instrument and its legacy instruments LGTT (the Loan Guarantee Instrument for TEN-T) and PBI (Project Bonds Initiative) mobilised more than €14 billion of additional investment in TEN-T, out of which around €5.5 billion since 2014.

No	Project Name	Country
1	AUTOBAHN A5*	Germany
2	EIX TRANSVERSAL C-25 PPP*	Spain
3	LGV SUD EUROPE ATLANTIQUE (LGV SEA)*	France
4	A11 BRUGES PPP	Belgium
5	AUTOBAHN A-7 PPP TEN	Germany
6	CALAIS PORT 2015	France
7	N25 NEW ROSS BYPASS PPP	Ireland
8	PASSANTE AUTOSTRADALE DI MESTRE	Italy
9	AUTOBAHN A-8 AUGSBURG-ULM	Germany
10	HAFEN LINZ	Austria

* Projects signed prior to 2014 are included in CEF DI portfolio through a merger of PBI, LGTT and CEF DI.

- **CLEANER TRANSPORT FACILITY**

The EIB and the Commission launched in December 2016 the Cleaner Transport Facility (“CTF”), to expand financing for the decarbonisation of the transport sector, with a main focus on the deployment of alternative fuels.

The CTF is a new initiative targeting the deployment of alternative fuels in the transport sector.

Currently there are 4 EFSI projects within the scope of the Cleaner Transport Facility¹:

- Riga Transport Company (175 m€) - CEF and EFSI;
- SMT Artois Gohelle - Project BHNS Bulles (450 m€);
- Palma de Mallorca urban bus fleet renewal (60 m€) - CEF and EFSI;
- Las Palmas bus rapid transit (120 m€).

- **GREEN SHIPPING GUARANTEE PROGRAMME**

This new financial product for sustainable transport approved in June 2016, is a 3-year EUR 750 million Programme aims at mobilising EUR 3 billion of investment in equipping vessels with clean technologies.

The pilot phase of the Programme, expected to be in an amount of up to EUR 250 million, will be supported by the CEF Debt Instrument while the balance of the Programme of up to EUR 500 million be supported by EFSI.

To date, under the Green Shipping Guarantee Programme², 2 framework agreements with commercial banks have been signed end of 2016³ and beginning of 2017 and the first financing under the EIB’s Green Shipping Guarantee Programme was signed in December 2017⁴.

1 http://www.eib.org/attachments/thematic/cleaner_transport_facility_en.pdf

2 <http://www.eib.org/projects/pipelines/pipeline/20150334>

3 <http://www.eib.org/infocentre/press/releases/all/2016/2016-271-la-france-pionniere-pour-le-verdissement-du-secteur-maritime.htm>

4 <http://www.eib.org/infocentre/press/releases/all/2017/2017-106-investment-plan-for-europe-eur-150-million-to-finance-green-shipping>





Contact details:

European Commission – Directorate General for Mobility and Transport
Directorate B – Investment, Innovative & Sustainable Transport
Unit B1 – Transport Networks
http://ec.europa.eu/transport/index_en.htm
email: move-b1-communication@ec.europa.eu

Offices:

Rue Demot 28
1049 Brussels Belgium