Briefing
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An overview of the Trans-European Transport Network

SUMMARY

Since 2013, the European Union's transport infrastructure policy has been based on a refocused systematic approach. It aims at transforming the patchwork of national transport infrastructures into a trans-European transport network (TEN-T) which will allow people and goods to move quickly and easily throughout the EU.

The development of the network is based on revised TEN-T infrastructure guidelines and the newly-created Connecting Europe Facility (CEF). It focuses primarily on the most strategic transport connections – the core network – which is composed of nine transport corridors. Each corridor is multimodal and includes at least three Member States and crosses at least two borders. Priority is given to eliminating missing links (mostly in cross-border sections) and building multimodal connections, removing existing bottlenecks and ensuring interoperability, while reducing greenhouse gas emissions from transport.

Even though the EU budget provides substantial funding for infrastructure in Europe, the largest part of financing for projects comes from the Member States. As public funds are limited, the EU offers several possibilities for assistance in financing infrastructure projects. Besides grants, different financial instruments have been developed, such as loan guarantees and project bonds, which are increasingly used both under the CEF and the newly created European Fund for Strategic Investments.

The European Parliament has been an active promoter of the TEN-T, shaping the legislation and securing sufficient financing. It also follows the TEN-T development closely, including in cooperation with the European coordinators.

In this briefing:

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Objectives of the trans-European transport policy

The EU has set up **trans-European networks** in the areas of transport, energy and telecommunications (TEN) in order to develop the internal market, reinforce economic and social cohesion and connect all regions. The **trans-European transport network** (TEN-T, Articles 170-172 TFEU) aims to develop an integrated multimodal network allowing people and goods to move quickly and easily across the EU. With forecasts expecting an 80% increase in freight transport and more than 50% increase in passenger transport by 2050, missing links and bottlenecks become a serious obstacle to traffic flows. Not only is efficient transport fundamental for the economy, but the completion of the TEN-T network is also expected to generate, up to 2030, a cumulative GDP increase of 1.8% and 10 million additional jobs.[1]

Even though responsibility for developing, financing and building transport infrastructure lies for the most part with the Member States, the EU contributes substantially to the development of infrastructure of common interest.

In the past, the TEN-T policy mainly supported the implementation of individual **priority projects**. Since 2013, the EU has a new TEN-T policy, whose main feature is a systematic EU-wide **network approach**, with a common set of rules for the network's construction and financing. The new approach is based on active involvement of regions, with a view to offering better cohesion and improved relative accessibility.

New legally binding TEN-T guidelines (Regulation 1315/2013/EU) outline the network to be developed, define technical requirements and establish priority areas for action as follows:

- **missing links**, in particular in **cross-border sections**;
- infrastructure disparities between EU Member States and inadequate **interoperability**;
- improving **multimodal connections** between different modes of transport;
- reducing levels of greenhouse gas **emissions** from transport.

The new policy also places increased attention on connections with third countries, such as Switzerland, Norway, Turkey and Western Balkan countries, opening up funding possibilities for projects of mutual interest. For the Western Balkans, an extension was recently agreed at political level.

The trans-European transport network

The network consists of two superimposed layers, the core network and the comprehensive network, which are to be completed by 2030 and 2050 respectively. Both layers incorporate all transport modes with their interconnections, and consist of transport infrastructure, telematic applications and accompanying measures.

The **comprehensive** network is the large basic layer, designed to ensure accessibility and connectivity of all regions in the EU. The **core network** consists of the strategically most important links and nodes of the comprehensive network, organised in **nine corridors** and **two horizontal priorities**, the European Rail Traffic Management System (ERTMS) and the Motorways of the Sea (MoS). (For further detail, see figure 2). This structure is meant to facilitate coherent investment and strengthen coordination between different actors.

The nine corridors are designed to cover the most important long-distance flows and improve cross-border links within the EU, with strong focus on interoperability and on

interconnections between the modes. Parts of the corridors already exist, but essential missing links still need to be built or significantly upgraded.

Developing the core network

For each corridor and horizontal priority, the Commission has appointed a **European coordinator**, from a country not directly affected by the corridor concerned. On behalf of the Commission, they lead corridor activities and report annually to the European Parliament, Council, Commission and the Member States concerned on the progress achieved.

On the request of the Commission, external teams of consultants have elaborated individual **corridor studies**, analysing the features and actions needed to bring them up to required quality and capacity standards. All relevant data is encoded in the information system for the trans-European transport network (TENtec).

TEN-T development up to 2013

The TEN-T guidelines were set by Decision 1692/96/EC, modified in 2001, 2004 and 2010, and rules were added for a rail freight network. The last guidelines listed 30 priority projects, with emphasis on environmentally friendly modes, in particular rail.

Some problems were experienced in implementation, inter alia related to the strategic planning and the underpinning studies of the projects. After TEN-T audits in 1993, 2006 and 2010, the European Court of Auditors decried the unclear project selection criteria and asked for improved project monitoring and for economic viability to be set as a condition for EU funding.

Broad public support and the involvement of **stakeholders** are seen as important to the successful development of the network. Consequently, a **corridor forum** has been established for each corridor, bringing together representatives of the Member States, infrastructure managers, authorities and regions. The positions of infrastructure users and civil society as well as of macro-regions, European Groupings of Territorial Cooperation and various other stakeholders are taken into account.

Based on the corridor studies and in cooperation with corridor fora, each European coordinator prepared a **corridor work plan.** With detailed corridor definition, agreed by stakeholders, each plan addresses specific challenges, sets development objectives, includes a market analysis forecasting transport trends and outlines a preliminary list of projects. Work plans have also been prepared for the two horizontal priorities. Approved by the Member States concerned, they are the basis for action until 2030 and will be further consolidated.

Financing the TEN-T

The development of the TEN-T during the period 2014-20 has been estimated to require investment of about €500 billion, of which €250 billion would be needed for the core network alone. Moreover, some existing transport infrastructure is nearing the end of its lifecycle and needs rehabilitation, estimated at a further €20 billion per year.

With the high investment needs for the TEN-T adding to existing pressure on national budgets, the EU has increased volumes and broadened means of support. Besides the assistance potentially available via the Cohesion Fund and the European Regional Development Fund, the EU's main funding source for the TENs is the Connecting Europe Facility, a new instrument created in 2013. In addition, in 2015, the new European Fund for Strategic Investments was established, opening up new possibilities for financing TEN-T projects (see below).

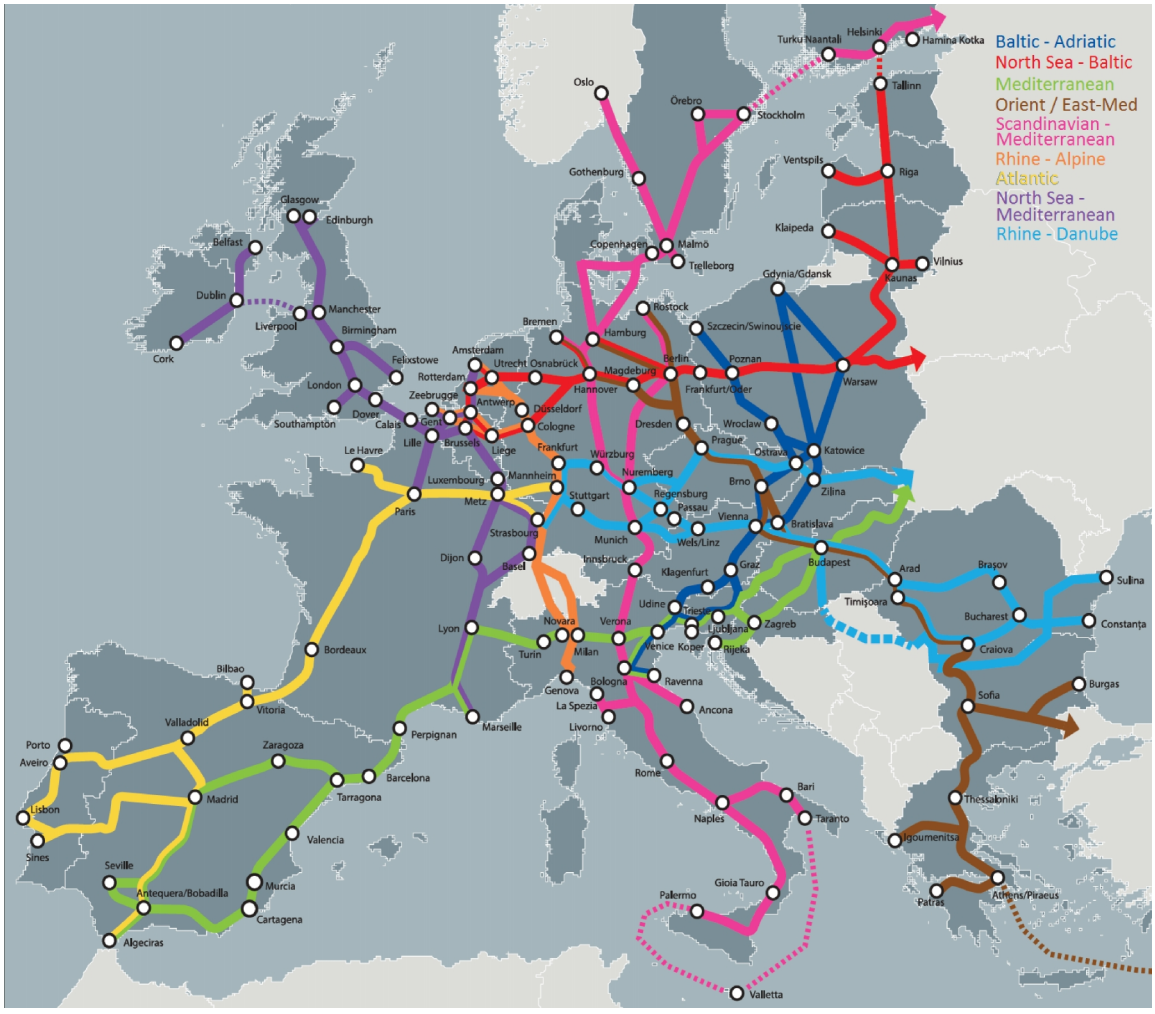
The Connecting Europe Facility

The Connecting Europe Facility (CEF) supports the development of trans-European networks up to 2020 by providing EU financial assistance to projects of common interest in the area of transport, telecommunications and energy infrastructure. Targeting the construction of new, or the upgrading of existing, infrastructure, the CEF Regulation 1316/2013 sets out the rules for awarding EU financial support, priority projects and maximum EU co-financing rates. It also includes a list of pre-identified projects that could receive funding.

The CEF focuses on cross-border missing links, removing bottlenecks, improving interoperability and making the network smarter. Along with the European added value and societal benefits, the CEF aims at sustainability and efficiency in the systems to be built. Financial assistance is distributed mainly in the form of grants or through financial instruments (in cooperation with the European Investment Bank) and through a number of programme support actions. To maximise the effect of EU funding, several forms of financial assistance may be combined, notably grants and financial instruments (blending).

The CEF has **a transport budget of €24 billion**, which is an almost threefold increase compared to the funding of the previous TEN-T programme (2007-13). **€11.3 billion** will be spent exclusively in Member States eligible for funding under the Cohesion Fund.

Figure 1 – Indicative map of the core network corridors



Source: European Commission, 2013.

Figure 2 – Core network corridors and horizontal priorities

Corridor Indicative length	Member States	European Coordinator	Description	Main missing elements
Baltic - Adriatic Total: 1 800 km Rail: 4 200 km Road: 3 600 km	PL, SK, CZ, AT, SI, IT	Kurt Bodewig (DE)	Connects Baltic ports of Gdynia/Gdańsk and Szczecin/Świnoujście with the Adriatic ports of Trieste, Venice, Ravenna and Koper.	- Koralm railway line and tunnel (Graz - Klagenfurt) - Semmering base tunnel
North Sea - Baltic Total: 3 200 km Rail: 5 930 km	NL, BE, DE, PL, LT, LV, EE, FI	Catherine Trautmann (FR)	Connects the Baltic Sea region with western ports of Rotterdam, Antwerp, Hamburg and Amsterdam.	- rail Baltic (Warsaw - Tallinn)
Mediterranean Total: 3 000 km Road: 5 500 km	ES, FR, IT, SI, HR, HU	Laurens Jan Brinkhorst (NL)	From the south-west of Spain along the coastlines of Spain and France, it crosses the Alps to Italy, Slovenia and Croatia, runs through Hungary up to the border with Ukraine.	- rail Lyon -Turin - rail Trieste - Divača
Orient -East Med Rail: 5 900 km Road: 5 600 km IWW: 1 600 km	DE, CZ, SK, AT, HU, RO, BG, EL, CY	Mathieu Grosch (BE)	Connects the ports of the North, Baltic, Black and Mediterranean Seas. Includes the Elbe inland waterway. Links across the sea to Cyprus.	- multimodal connections between Hungary, Bulgaria, Romania and Greece - the Elbe navigability
Scandinavian - Mediterranean Rail: 9 300 km Road: 6 300 km	FI, SE, DK, DE, AT, IT, MT	Pat Cox (IE)	From Finland crosses the Baltic Sea to Sweden, passes through Germany, the Alps and to Italian ports. Links across the sea to Malta.	- Brenner base tunnel - Fehmarn Belt fixed link (road and rail) and access routes
Rhine - Alpine Rail: 3 225 km Road: 1 720 km IWW: 1 600 km	NL, BE, DE, FR, IT	Paweł Wojciechowski (PL)	Connects Rotterdam and Antwerp to the Mediterranean basin in Genoa. Passes through Switzerland and includes the Rhine inland waterway.	- base tunnels (partly completed) in Switzerland and their access routes in Germany and Italy
Atlantic Rail: 6 520 km Road: 4 535 km	PT, ES, FR, DE	Carlo Secchi (IT)	Links the west of the Iberian Peninsula and the ports of Le Havre and Rouen to Paris and to Mannheim/Strasbourg. Includes the Seine as inland waterway.	- rail Lisbon - Madrid
North Sea - Mediterranean	IE, UK, FR, NL, BE	Péter Balázs (HU)	Links Ireland and the north of UK through the Netherlands, Belgium and Luxembourg to the Mediterranean Sea in the south of France. Includes inland waterways in Benelux and France.	- IWW Seine - Scheldt - IWW: Rhine - Rhone - rail Belfast - Dublin - rail Dublin - Cork
Rhine - Danube Rail: 3 450 km Road: 4 470 km IWW: 4 200 km	FR, DE, AT, CZ, SK, HU, HR, RO, BG	Karla Peijs (NL)	Connects ports on the Rhine with ports on the Danube, links to the Black Sea. Includes Rhine-Main-Danube inland waterway.	- cross-border rail Germany - France/ Austria/Czech Rep. - Danube navigability
ERTMS	All MS with railways	Karel Vinck (BE)	Train signalling and traffic management system for Europe, enabling interoperability throughout the European Rail Network.	A vehicle with on-board equipment compliant with ETCS Baseline 3 able to run in all EU countries.
Motorways of the Sea	All maritime MS	Brian Simpson (UK)	Regular sea transport, integrated in logistic chains, for all types of maritime freight. Links to insular MS and shortcuts to or between peninsulas.	Synergies to be developed with the core network corridors.

Data source: Corridor Work Plans, European Commission, 2015.

Grants

The CEF co-finances transport projects mainly through direct non-refundable financial support grants. On the basis of annual and multiannual work programmes, the Commission launches calls for proposals for project applications for EU grant support. Then, on the basis of a competitive selection process, it chooses the projects to which financial support will be allocated.

Maximum CEF co-financing

- 50% EU co-financing for studies,
- 20% for works, up to 40% for cross-border rail and inland waterways,
- 10% for road cross-border sections,
- 50% for certain ITS projects, such as ERTMS,
- projects in Member States eligible under the Cohesion Fund can be co-funded up to 85%.

The first wave of transport calls under the CEF was launched in 2014. It comprised four calls under the multiannual work programme – one reserved for the countries eligible under cohesion funding – and one call under the annual work programme. While an overall **indicative budget of €11.93 billion** has been made available, the funding requested was nearly three times higher. After evaluation by external experts, 276 proposals were **recommended for co-funding with €13.1 billion**, surpassing the indicative budget for the calls by more than €1 billion. This was made possible by bringing forward additional funding from future years of the CEF programme (maximum 20% flexibility allowed) as well as from transfers between under- and oversubscribed funding objectives. The selected proposals cover both studies and works, and most of the funding (over €12 billion) goes to the core network corridors. With the selection approved by the representatives of the 28 Member States, the individual grant agreements will be managed by the Innovation and Networks Executive Agency (INEA).

Financial instruments

To attract public and private funding to infrastructure projects, the EU and the EIB jointly set up and developed several innovative financial instruments during the period of the 2007-13 financial framework. These instruments transform EU resources into financial products such as loans, guarantees and other risk-bearing mechanisms, which are then used to support economically viable projects promoting EU policy objectives.

In transport, their use is restricted to projects with significant European added value which are in line with the TEN-T objectives. Using financial instruments makes sense only for potentially profitable projects, while projects with low or no revenue that are of great public interest will continue to need grants. Financial instruments are meant to complement, not to replace other sources of financing (grants), nor to intervene in stages prior to financing (feasibility studies, assessment or procurement). They aim to create a leverage (or multiplier) effect for the EU funds which far exceeds the actual financial contribution.

The project-financing instruments most relevant for the transport sector have been the Europe 2020 Project Bond Initiative and the Loan Guarantee Instrument for TEN-T projects. They continue under the CEF and may be combined with grants from the European Regional Development Fund and the Cohesion Fund. The overall EU budget contribution to the financial instruments should not exceed 8.4% of the CEF financial envelope,[2] though the Commission can nevertheless raise this ceiling to 10%. A delegation agreement was signed with the EIB, committing over €2 billion of the EU's budget to innovative financial instruments under the CEF.

The Europe 2020 Project Bond Initiative (PBI)

Accessible to all TENs, this risk-sharing initiative was established by Regulation (EU) 670/2012 and aims to use the EIB's expertise to attract capital market investors. Project bonds are private debt, issued by the project company. The debt is split into senior and subordinate tranches. The EIB finances the subordinate tranche (by a loan or contingent credit line), which enhances the credit standing of the project to a level where institutional investors such as insurance companies or pension funds are willing to buy the bonds. EIB support (up to 20% of the senior debt) covers the whole project lifetime.

To gain some experience before the 2014-20 multi-annual financial framework and the CEF coming into force, the project bonds concept was tested in a **pilot phase** (2012-13) with a budget allocation of €230 million for all TENs. An audit of the pilot phase was carried out in 2013, when the EIB had approved eight projects, four of them motorways. The audit affirms that the instrument indeed brought debt investors to projects perceived as risky, and was viewed positively by nearly all stakeholders.

The Loan Guarantee Instrument for TEN-T Projects (LGTT)

Established in 2008 and limited to TEN-T, this debt instrument was designed to attract private-sector funding to infrastructure projects, by lowering traffic-related risks in the project's initial operating period and consequently improving the project's financial viability. The EIB provides a guarantee, which may be used in the first five to seven years of project operation if the revenues from traffic flows fall below the forecasted level and cannot cover the repayment of the senior debt. The LGTT covers up to 10% (exceptionally 20%) of the senior debt, with a maximum ceiling of €200 million per project. During the period 2008-12, the LGTT was used by five motorway projects, one maritime project and one high-speed rail project. An ex-post evaluation carried out in 2013 concluded that the instrument had a positive impact, but the effect was insufficient to achieve its broader objectives.

The European Fund for Strategic Investments

To mobilise private and public investment in the EU, the Commission put forward an Investment Plan for Europe ('the Juncker plan'). A key element of the plan is the European Fund for Strategic Investments (EFSI), set up within the EIB by Regulation (EU) 2015/1017. To establish the EFSI, the EIB commits €5 billion and a €16 billion guarantee is created under the EU budget, which gives EFSI a risk-bearing capacity of €21 billion. Half of the guarantee is backed by a guarantee fund of €8 billion, newly created in the EU budget. The EFSI is expected to reach a multiplier effect of 1:15 and mobilise at least €315 billion of investment. The EFSI has a Steering Board to provide general policy guidance and an Investment Committee, to take individual investment decisions based on the general policy.

Unlike the CEF, the EFSI does not provide grants, working only with financial instruments. While EFSI-supported projects must be consistent with EU policies, they are selected on their capacity to attract investment, irrespective of their geographic location. The EFSI prioritises short to medium-term projects with a quick return on investment.

In September 2014, the Presidency of the Council asked former Commission Vice-President, Henning Christophersen, and the European Coordinators, Kurt Bodewig and Carlo Secchi to identify, in consultation with the EIB, projects along the core corridors which would be suited for new financial schemes under the EFSI. In June 2015, they presented their action plan (see box) with an indicative list of projects for all corridors and a list of recommendations.

Shortly after the EFSI was jointly launched by the EIB and the Commission, the EIB approved **loans to the first five schemes under the EFSI**, one of them being an upgrade of inland waterways in the Netherlands.

The European Parliament and the TEN-T

The European Parliament (EP) plays a fundamental role in the development of the TEN-T. As a co-legislator, it helped to shape the legal framework and to secure appropriate financing through the CEF. When the initially agreed CEF amounts were to be cut down to feed the EFSI, the EP feared TEN-T implementation setbacks and pushed to scale down the amounts transferred. Furthermore, in its September 2015 resolution on the implementation of the 2011 White Paper on Transport, the EP calls, among other things, for a drastic increase in the funds allocated to the CEF. The TEN-T features regularly on the agenda of the EP Committee on Transport and Tourism, which meets periodically with all the European coordinators and closely follows progress achieved on the core network. The EP will be involved in monitoring the EFSI both through annual EIB reports and by organising hearings.

Action plan 2015 'Making the best use of new financial schemes for European transport infrastructure projects': main recommendations

- ensure access to a **stable pipeline of mature projects** and technical assistance with project preparation;
- apply **life-cycle approach** to projects, covering infrastructure construction, maintenance and transfer;
- **simplify procurement and permit procedures**;
- clarify **compatibility** of financial instruments **with state aid** rules;
- **earmarking** of revenues (de-coupling between state budget and infrastructure financing), **cross-financing** (such as the use of road charges for the funding of rail projects), **blending** (combining grants with financial instruments);
- mitigation of the unintended impacts of the regulations on financial markets;
- **on/off balance-sheet treatment** of privately developed projects;
- wide consultation, informing the public.

Main references

Common Progress Report of the European Coordinators On the first year of implementation of the Core Network Corridors, European Commission, April 2015.

Action plan – Making the best use of new financial schemes for European transport infrastructure projects, Christophersen H., Bogewig K., Secchi C., European Commission, June 2015.

TRANSPORT 2014 Calls for Proposals, Proposal for the selection of projects, European Commission, July 2015.

Endnotes

1 Cost of non-completion of the TEN-T, a study carried out on behalf of the European Commission.

2 The percentage originally set up by the CEF Regulation (10%) has been reduced to 8.4% as a result of the negotiations on the EFSI Regulation (EU) 2015/1017.

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