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Study on the implementation of the TEN-T regulation – the Netherlands case

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Abstract

All Member States of the European Union have to contribute to the development of Trans-European Networks (TEN). This has been determined in the EU Treaty. National networks should be developed into one European network, supported by the TEN policy. For transport this policy has been laid down in Regulation (EU) No. 1315/20131 for the Trans-European transport network.

This paper will show the criteria to determine if and when sections of TEN-T network meet the requirements of the TEN-T Regulation with present policies. In the paper we will also address the process that has been ongoing since the beginning of 2014 in which member states, the Commission, consultants and different advisory boards have participated.

In this paper we deal with the opportunities and risk for member states and possible ways of enforcement to attain the goal of completion of the TEN-T.

The requirements across the EU, especially with regard to the core network, contribute to the quality of the transport infrastructure in the EU reaching a higher level. Modern, more efficient hinterland connections are important to the European economy. Furthermore the requirements aim at a higher percentage of sustainable transport.

It is also important that requirements are set for the comprehensive network in the long term. Because 2050 is set so far in the future, the risk is that not much progress will be made in that direction in the coming decennium. With differences in infrastructure planning schemes within the EU this risk is imminent.

On the one hand the Regulation offers Member States flexibility for implementation. On the other hand there is a risk that this will result in a system that is not interoperable. It is important to keep an eye on how EU countries deal with the requirements set by the Regulation on one and the same corridor. If infrastructure is not adapted to the requirements set by the Regulation, or not

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adapted in time, the European Commission can start up a procedure against Member States that can lead to a European Court case and to a conviction.

Finally, it is important to note that the network is not defined for all eternity. Adaptations are possible if, based on Eurostat, it appears that the required volumes have not been reached after a number of years. An evaluation will take place of the core network taking into consideration national implementation plans and future extensions.

For each corridor a Final report in the form of a work plan was produced. In the process with the member states that covered the whole year of 2014. The Final Report provides a summary of the results of the Corridor Analysis with the characteristics of multimodal transport infrastructure as well as the market-related transport flows, the corridor development objectives and the implementation schedule. It also comprises all project information provided and coordinated with the Member States. It provides a profound analysis of the projects regarding scope of measures, maturity/status of work as well as costs and funding.

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Keywords: TEN-T regulation; CEF; transport networks

1. Introduction

All Member States of the European Union have to contribute to the development of Trans-European Networks (TEN-T). This has been determined in the EU Treaty. National networks should be developed into one European network, supported by the TEN policy. For transport this policy has been laid down in Regulation (EU) No. 1315/2013 for the Trans-European transport network.

This paper will show the criteria to determine if and when sections of TEN-T network meet the requirements of the TEN-T Regulation with present policies, notably the Netherlands is carried forward as a case study. In the paper we will also address the process that has been ongoing since the beginning of 2014 in which member states, the Commission, consultants and different advisory boards from different groups of stakeholders have participated.

In this paper we deal amongst others with the opportunities and risk for member states and possible ways of enforcement to attain the goal of completion of the TEN-T. The process that took place is described and a synthesis will be given of nine TEN-T corridors.

The requirements across the EU, especially with regard to the core network, contribute to the quality of the transport infrastructure in the EU reaching a higher level. Modern, more efficient hinterland connections are important to the European economy. Furthermore the requirements aim at a higher share of sustainable transport.

It is also important that requirements are set for the comprehensive network in the long term. Because 2050 is set far in the future, the risk is that not much progress will be made in that direction in the coming decennium. With differences in infrastructure planning schemes within the EU this risk is imminent. For example, the Netherlands is one of the most forward looking Member States with a scheme up to 2028.

On the one hand the Regulation offers Member States flexibility for implementation. On the other hand there is a risk that this will result in a system that is not interoperable. It is important to keep an eye on how EU countries deal with the requirements set by the Regulation on one and the same corridor.

2. TEN-T process in 2014 and the period 2015–2017

The process for determining priority projects, that was initiated by the EC with the EU member states, covered the whole year of 2014. For each of the nine corridors (see figure below) a corridor report (work plan) was produced at the end of 2014. The report provides a summary of the results of the corridor analysis with the characteristics of multimodal transport infrastructure as well as the market-related transport flows, the corridor development objectives and the implementation schedule. It also comprises all project information provided by and coordinated with the member states.



Fig. 1. Nine TEN-T corridors. Source – European Commission.

1. Atlantic corridor
2. Baltic Adriatic Corridor
3. Mediterranean corridor
4. North Sea Baltic corridor
5. North Sea – Mediterranean corridor
6. Orient/East-Med corridor
7. Rhine-Alpine corridor
8. Rhine – Danube corridor
9. Scandinavian Mediterranean corridor

The work plan provides a profound analysis of the projects regarding scope of measures, maturity/status of work as well as costs and funding. Furthermore it has been checked if these projects are compliant with the identified critical issues. These results were finally checked and confirmed by the member states. The Final Report includes the comments and inputs given by the different groups of stakeholders, i.e. ministries of transport, local governments, ports, infrastructure managers, during and after the 2nd, 3rd and 4th Corridor Forum meetings. The final comments made by the members states representatives and stakeholders in the 4th Corridor Forum or received in writing until end of November 2014 have been appropriately considered by the consortia of consultants when producing the corridor report. The finalised report was sent by the study team on 5th December 2014 to the Technical Advisor of the Coordinator. Parts of the study report were used for the Corridor Work Plans, that a separate document issued by each of the nine Corridor Coordinators on the 17th of December 2014, a date that was fixed in the regulation of the TEN-T guidelines. The first phase has led to identification of projects totalling more than 700 billion Euro (see figure below).

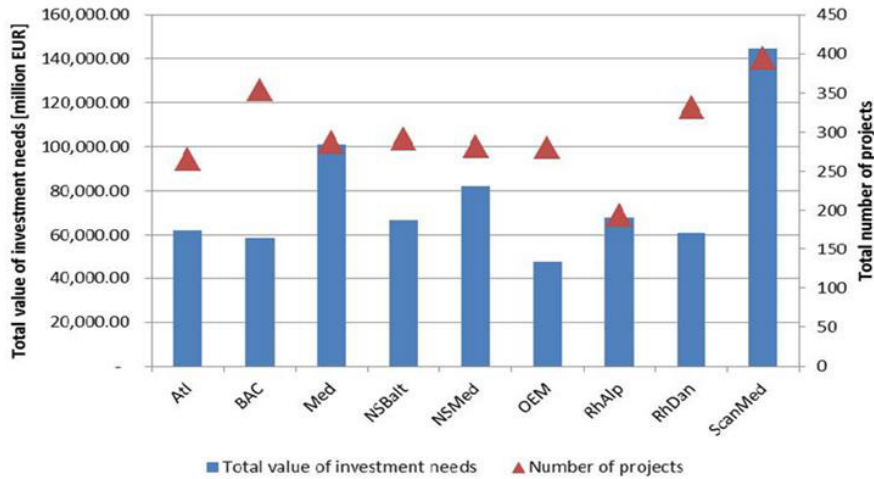


Fig. 2. Number of identified projects and value of investments for each of the nine corridors. Source – European Commission.

The second phase in the process started in 2015 and will last 24 months and will result in a refinement of the work plan; new projects will be analysed with more detail and again with the involvement of the stakeholders. This time a quick scan cost benefit analysis will be included which is estimated to comprise more than 1000 projects for all corridors and minimal 100 per corridor. A multi-criteria analysis framework will be developed that is to be used for prioritising projects. An example of the framework is given in the figure below.

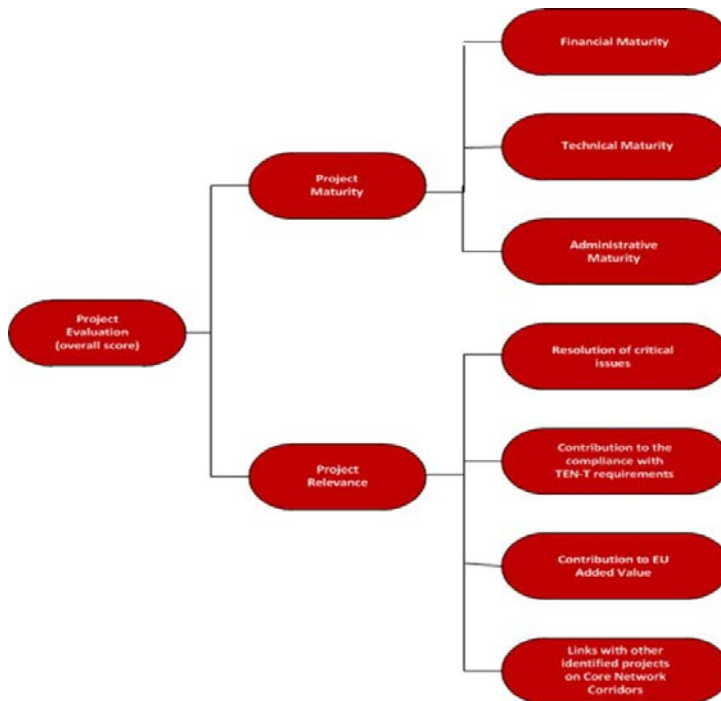


Fig. 3. Approach Second phase prioritizing. Source – Panteia.

The second stage foresees in further development of the nine corridor studies and for gaining the technical support necessary for the refinement of the corridor work plans which were presented in December 2014 by the European Coordinators. An update of the corridor work plan is foreseen. Now over a span of two years new sessions with stakeholders (7 in total) are to be held to be extended with meetings with expert groups (8 in total). This time also wider elements of the work plan for the corridors, as stipulated in the TEN-T Regulation, should be included:

1. an analysis of the corridor's potential of innovation deployment and its impact on the corridor's overall performance;
2. an identification of possible impact of climate change on the existing infrastructure and possible measures to enhance the resilience to climate change;
3. an identification of possible impact of the corridor deployment on the greenhouse gases emissions and noise and possibly other negative impacts on the environment proposed measures to mitigate them.

Besides these new wider elements also the wider impact of each corridor on other corridors has to be included.

The regulation requires that by 2030 the core network is to be operable and complies with the requirements as set in the Regulation. For some of the more advanced corridors such as the Rhine Alpine corridor, this is an attainable goal. For example, the performance indicator related to the ERTMS implementation and maximum speed on the railway network are already well developed in the Rhine Alpine corridor. In order to investigate the level of compliance the Netherlands Ministry of Infrastructure and the Environment launched a study concerning the fulfilment of the implementation of the TEN-T guidelines, in order to test how far TEN-T guidelines are met. In the next sections the results of this study will be described.

3. The Netherlands

Trans-European Networks are national networks that are joined with each other, for example railroads or energy nets. National networks should be developed into one European network, supported by the TEN-T policy. For transport this policy has been laid down in Regulation (EU) No. 1315/2013 for the Trans-European transport network (TEN-T). This transport network consists of the following elements:

- Rail;
- Inland Waterways and Ports;
- Roads;
- Maritime Infrastructure and Ports;
- Air Transport Infrastructure and Airports and
- Multimodal Transport Infrastructure.

Regulation 1315/2013 divides the trans-European network into two 'layers', a comprehensive network and a core network. The Regulation sets requirements for the infrastructure of these networks. The requirements that are set for the comprehensive network must be met by 2050. The, more extensive, requirements for the core network must be met by 2030.

In 2011 and 2012 the Dutch infrastructure managers ProRail and Rijkswaterstaat carried out a first exploration as to how the Dutch rail, road and waterway infrastructure compared to the requirements that were set in the, then draft, version of the Regulation. The most important point of focus that arose was the deployment of the European Rail Traffic Management System (ERTMS) on the comprehensive network. Since then both the text of the Regulation and the Dutch national programme for infrastructure investments have been adapted significantly. This 'Study on the Implementation of the TEN-T Regulation in the Netherlands' has been carried out by Panteia for Netherlands Institute for Transport Policy Analysis (KiM, part of Dutch Ministry of Infrastructure and Environment) to determine if and when sections of the core and comprehensive TEN-T network in the Netherlands meet the requirements of the TEN-T Regulation with present policies. The study also provides an overview of both the flexibility of those requirements and the opportunities and risks that the requirements bring along with them.

In addition to the technical and administrative requirements that are explicitly described in the Regulation, the network must also adhere to already existing European rules for which the scope is set by the Regulation. These

rules must be implemented well before 2030. Furthermore, this study has also looked into the Directive Clean Power for Transport which became in force shortly after the study was finalised. The Directive Clean Power for Transport sets requirements for the availability of clean fuels.

4. Methodology

The approach to the study on the implementation of the TEN-T Regulation in the Netherlands follows a number of steps. These are described briefly below.

Define the requirements for infrastructure based on the Regulation (EU) No. 1315/20131 for the Trans-European transport network

The requirements for different types of infrastructure are described in the TEN-T regulation, both for the core network and for the extended network. Beside this, the existing rules and regulations that have to be adhered to have been mapped, for instance in the area of road safety. A list of requirements is made per infrastructure type. This is attuned to developments in Europe.

Identification of Stakeholders

Different modes need to be studied. In the Netherlands Rijkswaterstaat, which is part of the Ministry of Infrastructure and the Environment, is responsible for the larger part of the roads and waterways in the TEN-T network. For rail this is the infra manager Prorail. For ports, airports and terminals an inventory is currently being made to determine the organisations and contacts responsible for the infrastructure within the core and extended networks.

Gathering data on the extended network

The most efficient manner of gathering data is chosen for each of the administrators of the various networks, such as rail, road, inland waterways, ports, airports and Multimodal Platforms (MMPs). For rail and inland waterways it is necessary to update and supplement the information based on the definitive requirements, as set by the regulation. Prorail and Rijkswaterstaat are the infrastructure administrators that need to be approached for rail, roads and inland waterways. For airports and ports the data is often publicly available. In those cases the responsible organisations were be asked to validate a series of selected data. Use was made of existing databases, and the organization in charge was asked to carry out a validation check to see whether 'white spots' can be filled in.

Input core network data from EU Corridor Projects

Data on the various infrastructure types on the core network has been collected in the EU corridor projects, parallel to the study on the implementation of the TEN-T Regulation in the Netherlands. The data that has been gathered has also been utilized for this study. In practice both ways of gathering data were combined as much as possible, to avoid administrators being confronted with additional administrative burden. This proved an efficient way of working. Furthermore, it increased the response rate and the willingness to participate.

Combining data and comparing with the Multi-annual Programme for Infrastructure, Spatial Development and Transport (MIRT) in the Netherlands

The data from the EU corridor projects and the data for the extended network were combined. The data has also been supplemented with input from the Multi-annual Programme for Infrastructure, Spatial Development and Transport, so that the developments in the longer term were also clear. The investment plans in the Multi-annual Programme for Infrastructure, Spatial Development and Transport reach up to 2028 at the time of the survey. For developments beyond this timeframe other information sources were needed, including expert opinions gathered from interviews. This especially influenced the study on the extended network, for which the requirements in the regulation will only be valid from 2050 onwards.

Risk Analysis

On the basis of the literature that is available, such as the (draft) regulations, feasibility studies and the current policy in the Netherlands a first draft has been made of all the possible risks that can occur if the regulation is implemented in time, or not. Emphasis lies on the period up to 2030 as the investment plans according to the Multi-

-annual Programme for Infrastructure, Spatial Development and Transport do not reach beyond 2028. The analysis that has been carried out in this segment was a Quick Scan (see Figure 4).

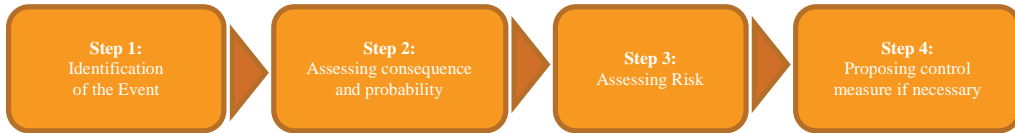


Fig. 4. Steps of the Quick Scan Analysis. Source – Panteia.

Both Prorail and Rijkswaterstaat have mentioned risks in earlier performance tests. However, both performance tests only covered the main rail network, the main road network and the main inland waterway network, and did not include the other links and nodes such as seaports, airports and other terminals for transport of people and/or goods. The Quick Scan analysis focused on the margin between, on the one hand, the moment in time that is planned for the implementation of the regulation and for the elements of the core network, latest 2030. This is shown schematically in the following figure. Three cases can be recognized (see Figure 5). The first case is when there is sufficient time between implementation and the deadline. Even if there were to be some delays, for whatever reason (for instance delays during building or budgetary measures) there is a good chance that the measure will be implemented on time. When the margin is insufficient however, as is the case in the second scenario, then extra attention must be paid with regard to the situation. In the third instance there is clearly a transgression. Action must be taken eventually.

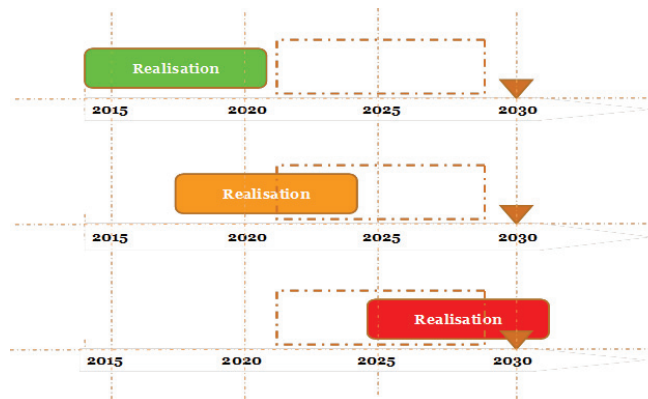


Fig. 5. Realisation of measures as opposed to the deadline as prescribed in the regulation. Source – Panteia.

Final check with regard to implementation

The check to see whether is adhered to the Regulation, has been carried out for both the core network (now and in 2030) and for the extended network (now and in 2050). The results have been tested on the responsible infrastructure managers.

5. Main findings per transport mode in the Netherlands

Rail. The core network fulfils the requirements for ERTMS and the electrification of line tracks. The additional requirements for the core network with regard to minimal axle loads, speeds and train lengths are also met. The only exception is the Rotterdam Port Railway (Havenspoorlijn) in the Rotterdam port area which does not adhere to the speed requirement of at least 100 km/h. The Rotterdam Port Railway was constructed in the time that 80 km/h was the standard and there was no intention of raising it to 100 km/h. There is a considerable amount of local traffic that does not travel above 60 km/h and is short distance traffic. Increasing the speed to 100 km/h could even lead to

a decrease in line track capacity. Taking action is required here, the most logical form of action being a request for exemption from the Regulation. The Dutch network fulfils the requirements with regard to the existing Regulation on Technical Specifications for Interoperability and European Rail Systems. The ERTMS deployment and electrification for the comprehensive network has not been planned yet.

Inland waterways and inland ports. The core network and the comprehensive network of inland waterways are identical. The requirements with regard to the minimum draught and the minimum height under bridges are adhered to, or will be adhered to shortly. An exemption is the entrance to the first chamber of the Eefde Lock. This will, however, be dealt with well before 2030. The requirements that are set in the current regulations are complied with. For instance, the Netherlands has implemented the River Information Services (RIS) Directive on time. There are inland ports in the network that comply with the volume criteria but which do not handle international, European goods transport, such as the coal transshipment for the Amercentrale (coal-fired power plant) in Geertruidenberg and the sand extraction pits in, among others, Grave and Maasdriel. The availability of alternative clean fuels for inland shipping is regulated in the anticipated Directive Clean Power for Transport and concentrates on the availability of shore-side electricity and LNG. Implementation of the Directive will be described in a National Plan.

Roads. There are currently a number of roads under construction that are part of the core network. The opening of these roads will take place long before 2030. The requirement for the core network with regard to the provision of appropriate parking space for commercial users offering an appropriate level of safety and security is also met. The relevant current rules in this regard concern the management of road safety, requirements for road tunnel safety, interoperability of electronic toll collection systems and the deployment of Intelligent Transport Systems (ITS) for road transport. All these regulations have been implemented.

Maritime transport infrastructure and maritime ports. The Netherlands has implemented the One Stop Shop. A connection to the port management systems of the Dutch Sea Ports is also under development. Furthermore, all the requirements from the Directive Port Reception Facilities for Ship-generated Waste and Cargo Residues have been implemented. The Directive Clean Power for Transport states that the construction of LNG bunker stations in maritime and inland shipping ports is mandatory, its goal is to create a LNG navigable TEN-T network. For this, ports will be appointed in a National Plan. This infrastructure must comply with regulations and standards that will be released in 2014.

Air transport infrastructure and airports. There are recent developments near Lelystad Airport and Enschede Airfield Twente that have not been included in the Regulation. The Regulation offers the possibility to include these changes in a review of the TEN-T network. There are no points of focus with regard to aviation infrastructure requirements.

Multimodal transport infrastructure. There is a requirement that there must be an adequate connection at intermodal transport nodes, but this is not elaborated explicitly. There are nodes where a rail connection can be found at a short distance, but that are not interconnected to the infrastructure of the inland port. Besides the multimodal transport infrastructure consisting of inland ports and maritime ports, there is also a category of multimodal transport infrastructure that only connects road and rail with each other. The Regulation mentions Rotterdam and Amsterdam on the core network in this respect and Venlo on the comprehensive network. According to the Regulation, accessibility via water is not a requirement if it is not already available. In principle, the road-rail terminals therefore comply with the Regulation. The Regulation furthermore requires that airports, maritime ports and inland ports dispose over at least one terminal that is accessible to the public and has transparent tariffs. Usually the public accessibility aspect is not a problem, transparent tariffs can be a problem however, and are, furthermore, not enforceable. It is recommended that the requirements in the area of multimodal infrastructure are clarified.

6. The core network in the Netherlands

Many of the requirements set in the Regulation are currently adhered to on the core network. Where it concerns measures that must ensure that the requirements are adhered to in the future, these have often already been or are in the process of being implemented. It is therefore expected that the sections of the core network will comply with the requirements of the Regulation by 2030. An example of this is the national deployment of ERTMS, for which the requirements from the TEN-T core network have been taken as a starting point.

All in all, just one point has been discerned in the core network where there is a discrepancy between the requirements in the Regulation and where no current measures are planned. This concerns the line speeds for the Rotterdam Port Railway that are not in accordance with the Regulation (Havenspoorlijn, the Rotterdam Port Railway stretches from the Kijfhoek rail yard to the Maasvlakte area, with a length of about 40 kilometers).

The Regulation offers some room for such deviations if there is sufficient motivation presented, on the basis of a Cost Benefit Analysis (CBA). Furthermore there is room for adaptations to the network on the basis of new insights into transport flows. In 2023 at the latest, a general evaluation of the core network will take place which could lead to adaptations thereof.

In most cases the implementation of other relevant rules is also on schedule. It must be taken into consideration that the core network in 2030 could differ from the current network. Interim adaptations to the network are a possibility.

A number of points need clarification with regard the interpretation of the requirements. It is not clear how the terms 'rail accessible' or 'road accessible' should be interpreted where it concerns terminals: how far apart are transport services allowed to be and still be considered a node? Moreover, attention is necessary for the requirement of transparent charges for at least one terminal per inland port.

Based on the current information it does not appear that there are any situations where the deadline of 2030 will not be met. Nevertheless, it is recommended that sufficient leeway is built into the planning for large projects such as the deployment of ERTMS on the core network (set to be finalised in 2028, deadline 2030). Or the realisation of an infrastructure for clean fuels (measures are not yet planned, the deadline for maritime ports is 2025 and for inland ports it is 2030).

7. The comprehensive network in the Netherlands

The comprehensive network often already complies with the requirements of the Regulation, but sometimes clear differences can be seen. The measures required to solve these differences are seldom planned, for instance the deployment of ERTMS and electrification. This has to do with the fact that the Netherlands has until 2050 to ensure that the comprehensive network fulfils the requirements. From interviews, it appears that the time till 2050 is considered to be quite long. Current priorities lie with the core network.

8. Enforcing the requirement

If infrastructure is not adapted to the requirements set by the Regulation, or not adapted in time, the European Commission can start up a procedure against Member States that can lead to a European Court case and to a conviction; third parties can also turn to the European Commission or to the Court directly.

Member States can apply for exemptions to the Regulation's requirements in cases where investment in infrastructure cannot be justified in socio-economic cost-benefit terms.

Finally, it is important to note that the network is not defined for eternity. Adaptations are possible if, based on Eurostat, it appears that the required volumes have not been reached after a number of years. An evaluation will take place of the core network, no later than 2023, taking into consideration national implementation plans and future extensions.

9. Opportunities and risks

The requirements across the EU, especially with regard to the core network, contribute to the quality of the transport infrastructure in the EU reaching a higher level. Modern, more efficient hinterland connections are important for the Dutch economy. Furthermore the requirements aim at a higher percentage of sustainable transport.

It is also important that requirements are set for the comprehensive network in the long term. Because 2050 is set so far in the future, the risk is that not much progress will be made in that direction the coming decennium. With their infrastructure planning up till 2028, the Netherlands is one of the most forward looking Member States.

On the one hand the Regulation offers Member States flexibility for implementation. On the other hand there is a risk that this will result in a system that is not interoperable. It is important to keep an eye on how neighbouring and other countries on a corridor deal with the requirements set by the Regulation.

One of the elements found in the study carried out is that stakeholders, mainly terminals, are not well informed about the TEN-T process. Moreover this leads to a refrain by these stakeholders from applying for CEF funds (CEF Connecting Europe Facility Transport, infrastructure funds).

10. Other EU countries

Similar studies, as carried out in the Netherlands, have been found in other EU countries such as Slovenia and France. This is obtained through a quick search of the web. Nevertheless it doesn't seem to be European wide practice. However more thorough research has to be carried out. Nevertheless, it should be kept in mind that the TEN-T process, as initiated by the European Commission, also results in a prioritization in which member states actively participate.

11. Conclusion

The Netherlands is prepared for the TEN-T implementation according to the EU Regulation. With the study carried out by Panteia it is shown that the goals are attainable for the Netherlands. The nature of the TEN-T legislation requires that the implementation is carried out in all member states; that of the core network before 2030 and the comprehensive network before 2050.

It is the question to which extent the regulation is going to be enforced if a country is not compliant. The Dutch Ministry acts pro-actively and has checked before the TEN-T process to which extent it complies to the regulation. The TEN-T regulation has as ultimate goal to provide a competitive and sustainable transport network connecting the EU member states, so it is essential that all member states comply. Therefore it is important for a member state to constantly check and exchange with neighbouring countries about interpretation and execution. We will research to which extent EU member states have started a similar process as is started by the Dutch Ministry.

Other important risks are notably the time slack, 2050 seems still far away for the comprehensive network, and some stakeholders within the Netherlands are still not well informed about the TEN-T process and refrain from applying for funds.

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