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Development prospects of the Greek Railway Network

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Key points

In the context of achieving Objective 7 of the Cohesion Policy for the period 2014-2020, "Promoting sustainable transport and improving network infrastructures", it is necessary to develop broad infrastructure networks in the Member States and to maintain and upgrading existing ones, giving priority to integration of the Trans-European Transport Networks. Greece has made enough progress in achieving this Objective, but is lagging behind in the railway infrastructure sector, where the size of the Greek rail network and the orientation of the railway projects to upgrade it rather than to enlarge it, make it difficult to achieve the Objective.

In order to achieve this objective, and on the occasion of the establishment of the EU's New Cohesion Policy Framework for the period 2021-2027, it is proposed to secure funding from European Structural and Investment Funds for:

- a. the conduct of studies for the creation of the Ionian Railway (Ioannina - Arta - Agrinio - Messologgi - Rio)
- b. the conduct of studies for the creation of the Railway of Crete (Chania - Rethymnon - Heraklion - Ag.Nikolaos)
- c. the standardization (the conversion of rail gauge from metric to standard) and upgrading of the existing single-track metric gauge railway line Patra - Pirgos - Kalamata
- d. motivating private sector companies by taking advantage from the extension of the network to co-operate with the State in the financing of studies and projects (SDIT method).

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Introduction

As part of the implementation of the Cohesion Policy, which aims to promote sustainable territorial development and convergence between EU regions, 11 Thematic Objectives have been set for 2014-2020, supported by the European Structural and Cohesion Funds.

Objective 7, supported by the Cohesion Fund, is "Promoting sustainable transport and improving network infrastructures"ⁱ. In order to achieve the Objective, it is necessary to develop broad infrastructure networks in the Member States and to maintain and upgrade existing ones, with priority being given to the completion of the Trans-European Transport Networks (TEN-T)ⁱⁱ.

Greece has made enough progress in achieving this Objective as it has a largely integrated network of motorways which is constantly expanding, ports and airports infrastructures are being upgraded while several infrastructure projects have been completed or are under construction, funded by the European Structural and Investment Funds.

However, there is a lag in the railway sector, where despite the implementation of projects to upgrade and modernize the railway infrastructure, both the non-extension of the network and the suspension of operation of a large part of the existing railway network make it difficult to achieve the Objective.

Greek Railway Network

Introduction

The Greek railway network amounts to 2.265 km (lines in operation)ⁱⁱⁱ, covering 43% of the country's regional units (32/74) and 64% of the mainland regional units (including Crete) (32/50)^{iv}. The owner and manager of the railway infrastructure is the public company Hellenic Railways Organization (OSE)^v.

Network modernization

Over the last few decades, OSE has been modernizing the railway network with the construction of a dual standard gauge electrified line connecting Athens, Piraeus and Athens International Airport with Thessaloniki and Patra, and a single line to Eidomeni and Promahonas, which has been largely completed. Also, projects have been implemented, are being implemented or will be implemented:

- a. upgrading the existing network
- b. electrification installation on parts of the existing network
- c. signalling resetting (restoration) and installation of the Trans-European signaling and telecommanding system ERTMS (European Rail Traffic Management System), which



enhances traffic safety and ensures the interoperability of the Greek rail network with the rest of the EU rail network^{vi}.

d. linking cargo ports and industries to the railway network (linking the cargo ports of Neo Ikonio^{vii} and Alexandroupoli^{viii} with the existing network) and the construction of freight centers (Freight Center of Thriassio Pedio^{ix}) to promote and increase freight rail transport.

The size of the network as an obstacle to the realization of the Object

All of the above-mentioned projects have contributed to improving the railway infrastructure (improving network infrastructures - the second part of the Objective), but not to its extension (promoting sustainable transport - the first part of the Objective).

The Greek railway network remains small for the area of the country (131.990 km²)^x and covers only 64% of the mainland, which does not contribute to the promotion of sustainable transport, as several areas of the countries have no access to the railway. The situation is further exacerbated by the suspension of operation of the Peloponnese metric gauge single line -in 2011^{xi}, action that not only extends but also reduces the existing active network, making it even more difficult to achieve the Objective.

At the same time, EU Member States of similar area to Greece, such as Bulgaria and Hungary, have a much larger railway network covering a much larger part of their territory.

More specifically, according to the National Railway Infrastructure Company of Bulgaria (БДЖ), the country's railway network amounts to 6.475 km^{xii}. The area of the country is slightly smaller than that of Greece (110.994 km²)^{xiii}, but the length of the network is almost twice as much as Greek, and covers much more areas.

In the case of Hungary, things are even better. Although the country is 40,000 km² less than Greece (93.030 km²)^{xiv}, the railway network covers the country along its entire length and is even too dense. The length of the country's network is, according to Hungarian Railways (MÁV Zrt.) 7.275 km.^{xv}

Future plans and prospects

Several projects relating to the completion of the dual electrified railway corridor (Patra – Athens/Piraeus/Airport – Thessaloniki – Eidomeni/Promahonas) and, more generally, the upgrading of the existing railway infrastructure have been planned, or have been prepared for auctioning. Unfortunately, however, these projects do not contribute to the expansion of the network. Regions such as Epirus, Crete, Western Greece and the Peloponnese (after the metric gauge single line is suspended) and a large part of the regions of Western Macedonia and Central Greece remain cut off from the railway.



The development of railway in these areas will contribute to their overall development.

More specifically, the development of the railway network:

- a. will enable their residents to move by train (promoting sustainable transport)
- b. will connect the ports of these regions (Igoumenitsa, Patra, Astakos, Katakolo, Kalamata, Chania, Rethymno, Heraklion) - which are the gateways for both tourists and goods in the country - enabling both passenger and freight rail transport to be carried out and contributing to their further development
- c. will lead to the existence of a single rail network covering all parts of the country,
- d. The connection of both the ports and the airports of these regions (Ioannina, Aktio, Araxos, Kalamata, Chania, Heraklion, Sitia) will create a single combined transport network (multi-modal transport), contributing even more to achieving the Objective.

Recommendations

In the context of the preparation of the New Cohesion Policy for the period 2021-2027, and of the Greek design of the projects to be funded by the European Structural and Cohesion Funds during this period, and taking into account the positive impact it will have on the above-mentioned areas the development of the railway network, it is recommended:

- a. securing funding from European Structural and Investment Funds, for the conduct of studies for the creation of the Ionian Railway (Ioannina - Arta - Agrinio - Messolongi - Rio), which will connect Epirus, Western Greece, their ports and airports with the main railway axis of Patra - Athens
- b. securing funding from European Structural and Investment Funds, for the conduct of studies for the creation of the Railway of Crete (Chania - Rethymnon - Heraklion - Ag.Nikolaos), which will establish rail transport in Crete, and will be particularly competitive in the absence of a motorway on the island
- c. securing funding from European Structural and Investment Funds, for the standardization (the conversion of rail gauge from metric to standard) and upgrading (improvement of geometrical characteristics, when feasible) of the existing single-track metric gauge railway line Patra - Pirgos - Kalamata, for which studies have been completed, financed by the Trans - European Transport Network ^{xvi}
- d. motivating private sector companies, by taking advantage from the extension of the network, to co-operate with the State in the financing of studies and projects (SDIT method).



Conclusion

The implementation of the above-mentioned projects will enable rail and freight transport to be carried out, will create a single combined transport network in these areas, contributing to their further development and will lead to a single rail network covering all parts of the country.



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