

# OUTPUT FACT SHEET

## Pilot actions (including investment, if applicable)

Project index number and acronym	CE1410 REIF
Output number and title	O.T2.1 - Pilot actions
Investment number and title (if applicable)	n/a
Responsible partner (PP name and number)	Port Network Authority of the Eastern Adriatic Sea - PP5
Project website	<a href="http://interreg-central.eu/reif">interreg-central.eu/reif</a>
Delivery date	08.2021

### Summary description of the pilot action (including investment, if applicable) explaining its experimental nature, demonstration character and transnational added value

The pilot action aimed modelling bottlenecks in the Port of Trieste's railway infrastructure and to test planned rail network enhancement's potentials to enhance the rail freight capacities of the port.

Over the last few years, the railway traffic of the Port of Trieste has increased considerably, passing from 5.980 trains in 2015 to 9.770 trains in 2019 (+63.4%). The economic crisis due to the COVID19 pandemic caused a decline in 2020, which is currently being recovered - the number of trains increased by 19.5% during the 1<sup>st</sup> semester of 2021, if compared to the same period of the previous year. Moreover, modal shift from road to rail plays an important role in the environmental strategy of the Port Authority: it already shows remarkable results - 52% for TEUs and 27% of semi-trailers in 2020 - which will need to grow further in order to meet the decarbonization goals at local, national and EU level.

Yet, despite the increase in rail traffic flows, the railway infrastructures of the port of Trieste have remained the same. Therefore, the main challenge this pilot action aims to tackle is identifying the existing infrastructural bottlenecks, aiming to envisage the most suitable solutions as to further increase the modal share on rail.

Bottlenecks were analysed using a micro-simulation tool, in order to dynamically represent railway traffic in different possible scenarios with increasing freight train volumes over the network. The aim was to simulate train movements on the railway network, and then, through the analysis of results, to determine the relationship between capacity and reliability. Such a tool can be easily replicated in other territories (pls. see section here below).

NUTS region(s) concerned by the pilot action (relevant NUTS level)

*ITH4 - Friuli Venezia Giulia*

Investment costs (EUR), if applicable

Not relevant.

Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

The pilot action proved essential in the planning capacity of the Port of Trieste: identifying the bottlenecks was the first step as to envisage the necessary actions to tackle them. One of the main results is that a step-by-step increase in freight trains leads to different simulation scenarios, whose results have been analysed in terms of estimated delays and punctuality for passenger services.

Since passengers and freight trains use the same infrastructures, measures supporting modal shift from road to rail might have consequences on the overall efficiency and competitiveness of the railway sector. The pilot action has long lasting results, mainly benefiting the port community - terminal operators, railway undertaking, freight forwarders - and the local and regional economy at large. The identified actions were included in the list of infrastructures to be enhanced using the so called "Complementary Fund" the Italian Government created on top of the Recovery and Resilience Funds from the EU Commission.

## Sustainability of the pilot action results and transferability to other territories and stakeholders

The micro-simulation tool which was used for this analysis will continue to be used also after the project's end. Plans are already under way for further improving it, also thanks to other EU funds. A similar tool can be easily used also in other territories, and it can be considered as a backbone for the development of a railway "digital twin", i.e. a virtual representation that serves as the real-time digital counterpart of the railway processes in the ports or RRTs, allowing for real-time monitoring and simulation of different scenarios, benefitting internal as well as external port stakeholders. Such a tool proved to be powerful, the only prerequisite being that the concerned entity already has detailed information on the existing railway infrastructures, also in GIS format.

If applicable, contribution to/ compliance with:

- relevant regulatory requirements
- sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
- horizontal principles such as equal opportunities and non-discrimination

Not applicable.

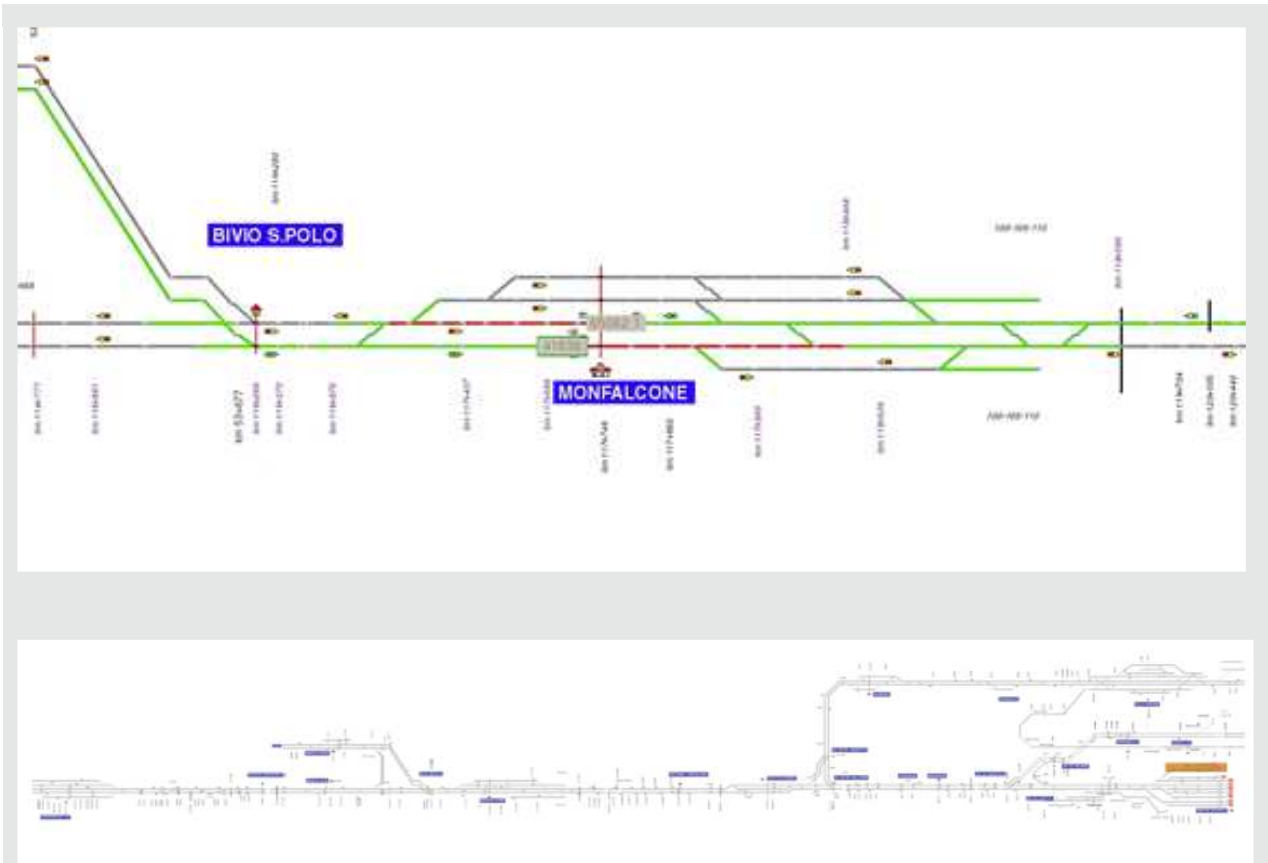
References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links

If applicable, additional documentation, pictures or images to be provided as annex

The output is based on the following deliverables\*:

- D.T2.2.1 Pilot action launch report
- D.T2.2.4 Establishment of Market player working group for pilot action no. 3
- D.T2.2.7 Pilot evaluation report
- <https://www.interreg-central.eu/Content.Node/REIF/Pilot-action--3---Port-of-Trieste---Bottleneck-analysis.zip>

A video summarizing the pilot action outcomes is to be published on the REIF website.



Graphs 1 and 2 show the Port of Trieste's railway network.