

# D. 4.1.2 Analysis of the Southern Adriatic Sea Port Authority for potential traffic flow analysis

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## Document Control Sheet

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## INTRODUCTION

CHARGE project capitalizes the results of IPA CBC Programme 2007-2013 CARICA project, aiming at promoting efficient and sustainable investments for infrastructural development of ports and logistics centers, through development of integrated action plans and financial roadmaps based on forecasted traffic flows.

The project will foster the intermodality and sustainable transport connectivity in the Area while supporting the decision-making process in the adoption of infrastructure investments and pilot activities

## TERRITORIAL ASPECTS

Apulia is a region in Southern Italy bordering the Adriatic Sea to the east, the Ionian Sea to the southeast, and the Strait of Otranto and Gulf of Taranto to the south. The region comprises 19,345 square kilometers (7,469 sq mi), and its population is about four million. Puglia is the easternmost region of Italy and one of those with the greatest coastal development with an extension of the coasts of about 865 km. Its territory is flat for 53%, hilly for 45% and mountainous only for 2%, which makes it the least mountainous region of Italy, and has a typically Mediterranean climate.

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This naturalistic context is also linked to the production and enhancement of agri-food products, including 39 DOP and 13 IGP (cheeses, oils, wines, fruit and vegetables and bakery products). A added value is represent to the presence of numerous presidium Slow Food and the presence of the "Plain of centennial olive trees", inscribed on the National Register of Historic Rural Landscapes of the National Rural Network.

The last ten years have seen a transformation of the shipping world and of the port SYSTEM absolutely not comparable with that which occurred in previous years, this certainly following the "frenzy" due to the evolution of technology and the speed with which changes have occurred to global level, both in political and economic and infrastructural terms. It was thus possible to witness the phenomenon that is called "dimensional, material and immaterial stopover".

As indicated in the PNSLP, "the different speed of growth of the geographic areas of the world has created new traffic opportunities, in fact well defined in terms of directions but by not simple quantification as well as not easy "capture " by Italian ports.

There is also an overlap of macroeconomic effects at different speeds of impact; for example, the trend of exchange ratios between currencies - which can trigger phenomena of export growth in fairly narrow time intervals - overlaps with substantial structural changes in the country's industrial fabric, with important closures and weakening of factories and production facilities, with more than long-term effects on traffic. In addition, the effects of industrial policy actions and support for internationalization, which can have positive effects on the flow of goods, must also be remembered.

At the infrastructural level the element that has most affected and is affecting traffic is the doubling of the Suez Canal and the Panama Canal with the consequence of the modification, in numerical terms, of the ships and the speeding up of the passage itself; this has meant that the

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Mediterranean Sea assumes even more its role of centrality in the exchange and global maritime traffic.

The second phenomenon that has strongly affected the mutation of the scenario is to be found in the so-called "Naval gigantism" which saw the setting up and entry of 18 / 20,000 TEUs with an increase in cargo hold of about 25-30% compared to previous-generation container carriers.

The Southern Italy, favors maritime traffic which is 60% of the entire transport chain, with a value significantly higher than the national average. The overall movement of solid (46%) and liquid (47%) bulk represents on average 43% of the entire national movement, with a positive impact on the presence of maritime enterprises equal to 33% of the national figure.

The productive system of Puglia and its positioning in the Italian economy.

The production equipment of Puglia have for many years taken on particular importance not only for the economy of southern Italy, but for the entire country. The overall dimensions of the total added value of economic and industrial activities in the region in 2015 were the following:

- Total economic activities (€ million) 64,665.3
- Value added industry (€ million) 11,253.3

The existence of a massive infrastructure system serving the movement of goods and passengers in the region - six major ports in Puglia (Bari, Brindisi, Manfredonia, Barletta, Monopoli, Taranto), four citizen airports in Bari, Brindisi, Grottaglie, Foggia and three military airports operating in Gioia del Colle (BA), Amendola (FG) and Galatina (LE), the Interporto of Bari, logistic platforms, railway networks of FS and Railways under concession, highways and state roads). This system needs completions, technological improvements, functional connections, 'last mile' interventions, but it is already endowed with a significant consistency,

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- Feeder, ro-ro and ro-ro pax connections for regional and extra-regional export imports;
- Transportation of cars and passengers to and from countries on the other Adriatic shore;
- Transit and embarkation of foreign tourists on cruise ships;
- Loading and unloading of raw materials and energy sources, as well as of various materials.

## THE PORT OF BARI

It is traditionally considered Europe's door to the Balkan Peninsula and the Middle East, and is a multipurpose port able to meet all operational requirements.

The port of Bari is located in the city center, covers about 260 thousand square meters, and is between the historic city center and the San Cataldo area. Historical port and rich in historical and cultural relevance including the Bourbon dock.



The main features of the port of Bari are the following:

- 285 hectares of basin.
- Docks equipped for all types of commercial traffic (dry and liquid bulks, containers, goods in packages, steel products, etc.)
- Docks serving ro-ro and ro-pax ferry boats (Albania, Greece, Croatia and Montenegro)
- Docks serving cargo (from/to Mediterranean Sea and Black Sea)
- Docks serving cruise ships and related accommodation
- Port Core along the Helsinki-Valletta corridor
- Services of mooring, pilotage, security, and other services related to passengers
- Port Community System (GAIA)
- PMIS - Port Management Information System
- Collection and disposal service for ship-generated waste and cargo residues

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## Infrastructural analysis

The port of Bari is located north-west of the old city and its boundaries are included to the west by the dock San Cataldo and to the east from the new Foraneo dock. Due to its location, in the south-east of Italy, it is traditionally considered the gateway to Europe to the Balkan Peninsula and the Middle East.

The current configuration of the Port of Bari is the result of a series of interventions that have followed over time as new needs arose or particular trends emerged in the sector maritime transport.

The port area extends for about 285 hectares with a total development of operational docks of approximately 3,800 ml, affected by different and heterogeneous types of traffic in transit, which have the exchange both of goods (conventional, black and white bulk, Ro-Ro and cars and steel products), both of

passengers (cruises and ferries), increased in recent years thanks to the new Terminal structure Cruises, and ferry traffic with Croatia, Montenegro, Albania and Greece.

The port area is separated from the rest of the city by a perimeter fence, which delimits the basin.

The stretch of water of the Port of Bari of approximately 209 hectares is artificially protected by the Molo Foraneo dam (breakwater), which opposes the actions generated by the marine weather climate of the neighborhood, and in particular by the waves coming from the main wind. In the Port of Bari the following docks are identified in Darsena di Levante, Darsena di Ponente, Darsena Interna and Darsena Vecchia.

It is possible to make a brief description of the port area starting from the Internal Dock with the " Molo S. Vito " which allows the mooring of ferries for extra-Schengen destinations and the

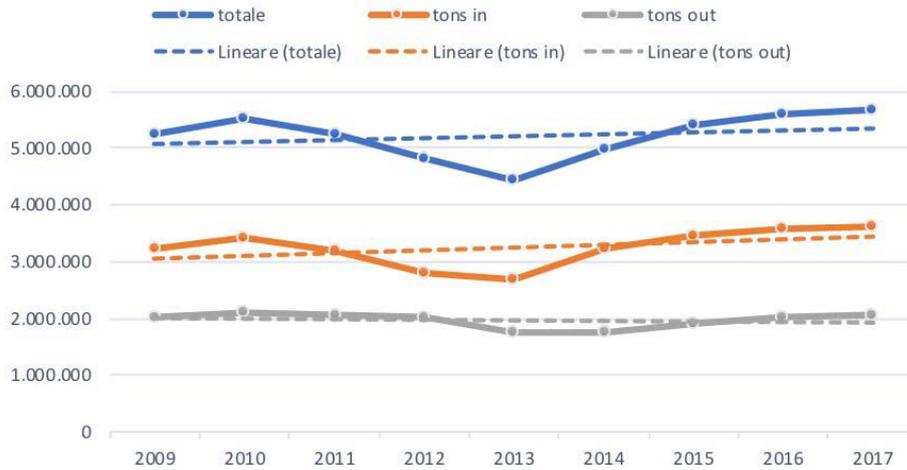
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" Vecchio Molo Foraneo " used for the mooring of nautical vessels, tug boats, moorers and firefighters (docks 1 to 9). Next is the Darsena di Ponente used for mooring ferries with Schengen destination and cruise ships (docks 10 and 11). Continuing in the Darsena di Levante, the docks "Deposito Franco" and "Molo di Ridosso" are used for the mooring of cruise ships and ferries to Schengen, while on the Mezzogiorno quay there are grain silos (docks 12 to 15). Also in the Darsena di Levante, close to the I and II arm of the new outer dock, there is an area divided into two areas, the first of which is rectangular in shape and the second towards the east in the shape of a "crescent" which houses the large part of the port's commercial activities (docks 16 to 23). Proceeding counter clockwise there is the third arm of the new breakwater which is used to stop no operational ships (docks from 24 to 31a) and the IV and V arm of the new breakwater which currently have the exclusive function of defending the port. The Marisabella area follows, where the fill provided by the Port Master Plan. partially built, it is currently used for parking vehicles awaiting boarding on ferries while work is in progress to complete the aprons of the entire Pizzoli-Marisabella area.

## Multimodal transport: supply and demand analysis

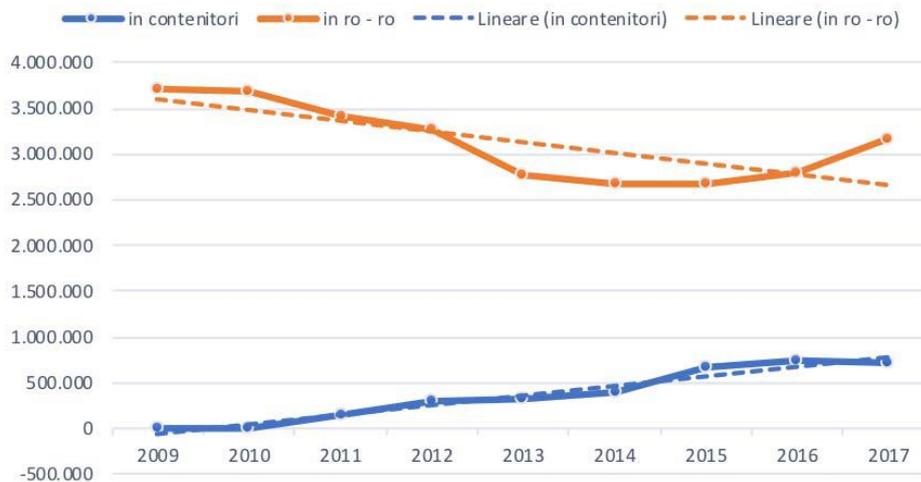
From 2009 to 2017, the Port of Bari handled approximately 5,218,000 tons of cargo

GOODS - BARI \*



it is interesting to read its further decomposition according to the their carrier.

#### PASSENGERS RO-PAX AND CRUISE\*



\*Data extrapolated data from the PCS Gaia (source: ADSP MAM).

The Port of Bari is not connected to the national railway network, so its modal share is represented by 100% of road transport

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Yet, the Port of Bari is located close to the RRT of Apulia (Interporto Regionale della Puglia), which is situated less than 5 km from the nearest highway exit, the port of Bari and the international airport of Bari Palese.

To encourage rail transport, the Interporto Regionale della Puglia offers to logistics companies and freight forwarders the opportunity to use its intermodal terminal. This comprises of 4 tracks used to organize trains to transport all types of containers, swap bodies and semi-trailers on national and international routes. The terminal also offers a storage area for containers and other facilities (groupage, maintenance, etc.).

The Interporto is directly accessible from the Bari highway ring road (exit n°5 Bari San Paolo/ Interporto) and is connected to the central railway station through the subway line Bari-San Paolo.

### 3. FUTURE SCENARIOS

The port of Bari constitutes regular feeder connections with the ports of Gioia Tauro, Piraeus, Damietta / Port Said while the Port of Brindisi has developed a strong specialization in ro-ro and ro-pax ferries connections in the segment of the Motorways of the sea on the north route - south linking the Upper Adriatic to Sicily.

As well as for ro-pax connections with Albania, thanks to the lines with Durres and Vlora, as well as with Greece and its Ionian islands especially in the summer to support cross-border tourist flows

The geographical positioning of the port, the presence of a lively economic system, the drive for innovation and higher education carried out by the Apulian universities are elements that can constitute a significant starting point for the attraction of investors, especially foreigners,

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oriented to stabilize production aimed at expanding markets in the southern and eastern Mediterranean.

The essential strength is linked to its barycentric position and the better productivity of its catchment area which, already at present, saturates the port structures, which are actually very modest. On the other hand, the port does not have direct rail connections and suitable port spaces.

The first weakness is difficult to overcome, even if an efficient "last mile" connection with the nearby interport that should include the Ferruccio airport could mitigate this criticality.

As for the second aspect, the focus on the port of Bari shown below identifies the possible and partial solution to the problem in a fill outside the outer pier. In any case, the impossibility of finding adequate spaces that guarantee high standards of safety and working efficiency, makes it necessary to find important retroport areas that allow the development of the port.

As already mentioned, the port of Bari has sufficiently adequate loading / unloading and storage facilities, even if the mooring dock is too short for the ships currently in operation.

On the other hand, while proceeding with a better optimization of the use of sylos, the airport does not allow to significantly increase traffic in this sector. Among other things, we must reflect, with the current configuration of the port, on the possible conflict between the grain traffic and the necessary adaptation of the structures intended for cruises and on the lack of a real agri-food center, capable of allowing the movement of perishable goods

From an infrastructural point of view, the main weakness of the port of Bari is made up of more than modest spaces both for loading and unloading operations and for customs controls. This slows down the boarding / disembarking operations considerably. Furthermore, the lack of

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dedicated and fast connections with the road / railway network creates many conflicts with city traffic and makes access to the port extremely slow. In contrast, the port has adequate reception facilities for passengers.

In the context of the detailed analysis of the individual ports, the POT, especially with reference to the priorities to be given to the infrastructure investment policy, has been able to grasp some specificities / critical issues that are intended to be presented below, albeit in addition.

For Bari:

- Lack of dedicated berths for container ships.
- Insufficient state-owned areas for temporary custody of containers.
- Impossibility of handling containerized dangerous goods.
- Critical issues in the simultaneous management of traffic flows, lengthening of control times on passengers (extra schengen), insufficiency and inadequacy of the pre - boarding areas, insufficient reception facilities for cruise passengers.

## Roadway and Railway



## Rail transport

The priority objectives of the investments of the fundamental railway structure, contained in the PON Infrastructures and Networks (Priority Axis I, with 1.094 billion Euros by 2023) or in the MIT-RFI Program Contract, contribute directly and primarily to the improvement of the Area Integrated Logistics Puglia Basilicata, as they represent the main corridors of communication of the ALI for exchanges outside the region. The priority investments are for:

1. Strengthening and improvement of the High Speed / High Capacity of the Naples-Bari ridge (TEN-T network and main hub for the Tyrrhenian ridge);
2. Efficiency of the Adriatic backbone aimed at increasing capacity and overcoming the limitations of shape and module for freight transport

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## Road transport

Particular attention must be paid to terrestrial integration with the railway network in order to intercept long-distance traffic that currently mainly uses the road system consisting of the Adriatic highway backbone linking Lecce, Brindisi, Bari, Foggia with northern Italy but also that towards Naples, Rome, Florence.



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## Higher-level planning. Port planning and its implementation status

As regards the structural adjustments, AdSP inherited from the former Port Authority numerous projects e contracts in progress which, due to administrative continuity and contractual commitments undertaken, were managed in continuity. From the needs analysis already carried out, possible structural adjustments have already been defined which require the modification of existing regulatory plans.

the final choice of the necessary adjustments and the feasibility and sustainability study of the same will be carried out downstream of the discussion with stakeholders and with local authorities, in order to metabolize and share the choices and development objectives.

- infrastructure adaptation to keep pace with the rapid evolution of the needs of the carriers (dredging of the backdrops, strengthening of the docks, rearrangement of rear - dock spaces, improvement reception of passengers, raising of intermodality.
- integration, development and accessibility of support services through the use of new technologies.
- strategic and operational marketing for the cruise and sea highways sectors.
- joining with energy and environmental planning

The road interventions, in correspondence with the access to the port in the Marisabella area, for the connection to the "Camionale di Bari", a strategic work on infrastructure and transport, in order to connect the port to the retroport areas, to the intermodal logistic nodes as well as to the main road system by facilitating the movement of passengers and vehicles and

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eliminating the critical issues currently existing in some, albeit limited areas of the city, for the transit of heavy vehicles in large quantities.



The activation of the Special Economic Zones in areas close to the port that could be made available, such as, in particular, infrastructure, financial and services, as well as administrative and simplifications. The themes of innovation must then be central to the intangible infrastructure policy. All the are highlighted aspects related to the diffusion of the Intelligent Transport Systems for the best management of port operations. The planned evolution of the GAIA platform to support interoperability with the regional, national and global logistics system takes on significant importance. The intervention is premised on the activation of the Single Administrative Desk and the extension to all the ports administered by the AdSP MAM of the services offered by the PCS GAIA already operating in the port of Bari.

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It contemplates:

- full extension to the ports of Brindisi and Manfredonia through hardware sizing of the server equipment present in the Bari port data center.
- completion of the physical infrastructure of all the customs and Port Facilities gates on all the ports belonging to the relevant jurisdiction, conforming to the architecture developed in the port of Bari.
- interoperability with other territorial information systems, such as those of Municipalities and Provinces / Metropolitan Cities, for the provision of services to passengers.
- development of the Single Administrative Desk with the aim of simplifying and speeding up the administrative procedures resulting from the operators' requests for carrying out port operations.

Given the multi-port nature of PCS GAIA, the extension of these digital procedures, also to the ports of Brindisi, Manfredonia, Barletta and Monopoli, will allow more fluid passage of goods in port logistics nodes and real-time management of the addressing of freight flows in the port itself, eliminating / reducing the inefficiencies / criticalities of the port and customs cycle, strengthening internal efficiency but also the image of an integrated and synergistic system. Another essential aspect for the growth of the system is undoubtedly to be found in the best implementation of transparent communication systems that refer to all the aspects that characterize the life of the ports.

Taking note of the scenarios present in the infrastructure system of the Puglia Region, and on the basis of the guide lines outlined by the national transport and logistics planning tool, the future objectives of the Regional Transport Plan through the implementation of implementation plans, move in two directions

complementary:

- the specialization of the port realities integrated with their "logistic districts"
- overcoming punctual infrastructure bottlenecks.

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On the freight side, the role of the Apulian port system requires a series of priorities actions:

- business coordination to intercept increasing market share in traffic
- containers linked to cabotage and multimodality towards the Balkans on the one hand and in the Mediterranean central east on the other.
- the strengthening of the offer of RO-RO routes capable of constituting competitive alternatives also towards some ports of the northern Adriatic.
- the logistics organization capable of optimizing the use of intermodal traffic capacity on railway and to offer complementary services to road transport operators passing through Apulian ports and finally
- the implementation of the use of technologies to support freight traffic.

#### 4. Cooperation in the Programme Area

In the Adriatic Area, connectivity between the two sides of the Adriatic sea is not sufficient and not only they cannot contribute to stronger cooperation in economic activities, cargo supply and mobility of citizens, but can be considered the main bottleneck to the full deployment of a balanced and sustainable development.

Therefore it is important to improve accessibility to the main ports of the area by developing ICT applications for better data sharing (better exploiting devices that are already available or upgrading the network with pilot actions) and coordination for all transport operations (cargo and passengers).

Significant improvements are still needed on the harmonization of procedures/operations, data exchange and on establishing mechanism to enable maritime traffic information exchange between national IT systems and between national and local IT systems.

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