Port Network Authority
of the Ionian Sea

Port of Taranto

Three-year operational plan

PRESIDENT'S FOREWORD

*The **Three-Year Operational Plan (POT)** is the Port System Authority's strategic, organizational, and operational planning document, as required by Article 9, paragraph 5, letter b) of Law 84/94.*

This document embodies the new strategic and positioning direction of the Port of Taranto; it is the result of an intense period of work and observation that began with my appointment as Extraordinary Commissioner in June 2025, and continued and intensified with my subsequent appointment as President of the Ionian Sea Port System Authority (AdSP MI) in November last year. The document has been carried forward thanks to the positive synergy with the members of the Management Committee established in December 2025.

The POT is the result of fruitful collaboration across the entire structure of the Organization, coordinated and supervised by the Acting General Secretary and the Managers, with representatives from ILP Consulting srl, responsible for supporting the drafting of the strategic document, who in turn benefited from the contribution of an international team.

The editorial process highlighted the findings of stakeholder engagement activities addressed to the Port System Authority's top management, members of the Management Committee and the Sea Resource Partnership Body, the OIV, the public administrations operating in the port, and the entire port cluster. Such engagement highlighted a high level of involvement and participation in the process of identifying priorities for the 2026-2028 programming period.

*In a context marked by the crisis in the steel industry and the declining trade volumes, the strategic plan for the next three years focuses on sustainability, innovation, and trade diversification and has been translated into a set of ambitious yet concrete objectives that will guide the Authority's activities in the short and medium term: **green transition, trade development and promotion, digital transition, governance, and cooperation** .*

*These objectives converge in a **roadmap implementing strategic actions** aimed at attracting traffic and investment, not only to revitalize the port of Taranto's role in the Mediterranean, but also to consolidate the port system, with the hoped-for positive impact on the region in terms of innovation and employment.*

The strategic planning for the next three years prioritizes the completion and upgrading of infrastructure projects to support the development of the renewable energy sector and the planning of port areas dedicated to these purposes. This focuses on diversifying logistics and industrial activities to fully develop the potential of the port of Taranto, which government policies have identified as a national hub for renewable energy.

In sharing the POT 2026-2028 and the proposals contained therein, I wish a positive continuation of the work to the staff at all levels of the Authority, in line with the concrete cooperation initiated with the members of the Management Committee, the Sea Resource Partnership Body, with the representatives of the Public Administrations operating in the port and with the entire cluster.

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*The **Three-Year Operational Plan (POT) 2026-2028** of the Ionian Sea Port System Authority was submitted to the Management Committee – following the positive opinion of the Sea Resource Partnership Body – on March 17, 2026 and approved with Resolution no. 01/2026.*

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Taranto, March 17, 2026

The President
Attorney Giovanni Francesco Gugliotti

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Acronyms and abbreviations

ACN	National Cybersecurity Agency
AdI	Acciaierie di Italia (company name)
AdSP	Port System Authority
AdSP MI	Port System Authority of the Ionian Sea
AGID	Agency for Digital Italy
AU	Single Authorization
BIM	Building Information Modelling
CERP	Port Renewable Energy Communities
CGCP	General Command of the Port Authorities
CSIRT	Computer Security Incident Response Team Italy
DEASP	Energy and Environmental Planning Document
DPSS	Strategic Programming Document of the Port System
ESG	Environment, Social, Governance
FOW	Floating Offshore Wind
ICT	Information and Communication Technology
LOA	Length Overall
KPI	Key Performance Indicator
MACSE	Electric Storage Capacity Procurement Mechanism
MASE	Ministry of the Environment and Energy Security
MEF	Ministry of Economy and Finance
MIC	Ministry of Culture
MIMS	Ministry of Infrastructure and Sustainable Mobility
MIT	Ministry of Infrastructure and Transport
OPRM	Sea Reserve Partnership Body
OPS	On - shore Power Supply
OSP	Public Service Charges
PIAO	Integrated Plan of Activities and Organization
PIR	Network Information Prospectus
PLSCI	Port Liner Shipping Connectivity Index
PNIEC	National Integrated Plan for Energy and Climate
PNRR	National Recovery and Resilience Plan
POT	Three-Year Operational Plan
PRP	Port Master Plan
PSN	National Strategic Pole
PSNPL	National Strategic Plan for Ports and Logistics
RFI	Italian Railway Network
SLO	Social License to Operate
SNIT	National Integrated Transport and Logistics System
SSS	Short Sea Shipping
SUA	Single Administrative Desk
SWOT	Strength Weaknesses Opportunities Threats
ULCV	Ultra Large Container Vessels
UNCTAD	UN Trade and Development
SEA	Strategic Environmental Assessment
ZES	Special Economic Zone

1 General Framework and Strategic Vision

1.1 Vision of the Port System Authority

In continuity with the previous editions adopted by the Authority, the drafting process of the present **Three-Year Operational Plan 2026–2028 (POT)** is based on the analysis of the current planning document and is structured into sections whose contents, in addition to providing an assessment of the reference context, focus on the development of a renewed strategic direction and positioning of the **Port of Taranto**, ensuring consistency with the results achieved to date, while incorporating the strategic directives of the President and the governing bodies of the Authority, as well as the alignment with the main national and European plans and programmes (including those related to the **National Recovery and Resilience Plan – NRRP**, of which the Authority is a beneficiary).

In light of the current transitional phase affecting the port system, and particularly the potential forthcoming reform, it has also been deemed appropriate to define a portfolio of flagship projects for the 2026–2028 period, based on investment priorities and their potential impact not only on the local and regional economy but also on the national port system.

Within this framework, the POT is conceived not only as a planning instrument, but also as a **strategic communication tool of the institutional mission** of the Port System Authority (AdSP) at territorial, national and international level, capable of enhancing the positioning of the Port of Taranto as a **logistics node and energy hub in the Mediterranean basin**.

Given the growing centrality of **energy transition and sustainability**, the Authority has ensured that the new POT includes a specific focus on renewable energy sources, offshore developments and, more broadly, on the "green" strategic trajectories already outlined in the DEASP and in previous planning instruments of the Authority.

The drafting of this POT has therefore been structured as a **linear and rigorous process**, aimed at ensuring consistency between the identified needs and the proposed infrastructural, digital and environmental responses.

The starting point was the consolidation of a comprehensive knowledge framework. This phase involved mapping the port's current facilities, its competitive characteristics within the local and market context, analysing freight and passenger traffic flows, and the port's valuable infrastructure and structural elements, examining their gaps and the level of digital maturity of the related processes.

The strategy was not imposed from above but rather constructed through a process of active participation. As with the drafting of previous POTs, participatory and inclusive actions were conducted in this case too , targeting the institution′s internal and external stakeholders, to actively contribute to identifying and evaluating the priorities for the next programming period.

Through *stakeholder engagement sessions* (interviews, technical roundtables, and workshops), the input of terminal operators, shipping agencies, local institutions, and the port community was gathered. The findings provided the elements of the SWOT analysis:

- **Strengths:** *assets to* be enhanced.
- **Weaknesses:** internal critical issues to *be* resolved.
- **Opportunities:** market trends and financing (e.g. PNRR).
- **Threats:** external factors (geopolitical crises, climate change).

Strategic pillars (general objectives) were identified from the SWOT and subsequently translated into concrete actions. Each action addresses a specific need identified during the analytical phase, effectively transforming the strategic "vision" into "operational implementation".

Among the various lines of intervention, the Plan identifies the so-called **flagship projects**. These are high-impact projects with systemic relevance, characterized by:

- high technical and economic feasibility.
- ability to generate a ″driving force″ for the development of the entire port.
- strong visibility and symbolic value for port-city integration.

To ensure transparency and effectiveness, a **dynamic monitoring framework** has been established. A set of **Key Performance Indicators (KPIs)** has been defined to measure the progress of selected strategic actions, as well as their impacts in terms of benefits generated for the port community.

The POT concludes with two roadmaps: the first regards the implementation of strategic actions, and the second regards a dedicated roadmap concerning the potential development of the **offshore wind sector**.

1.2 Purpose of the POT and consistency with national planning

The POT constitutes the instrument through which the Ionian Sea Port System Authority (AdSP MI) defines, within a medium-term perspective, the actions and interventions to be implemented over the

reference three-year period, ensuring consistency between system-level strategic guidelines and their operational implementation within port and logistics activities. The POT is embedded within a multi-level planning framework and acts as a **linking instrument between strategic planning and administrative action**, operating in coherence with the Port System Strategic Planning Document (DPSS) and the Port Master Plan (PRP).

The POT 2026–2028 is based on an assessment of the implementation status of the previous programming cycle and is grounded in an analysis of the macroeconomic, geopolitical and environmental context in which the Ionian port system operates. This context is characterized by a phase of transformation of the global economy, which has affected international trade dynamics, maritime traffic flows and the organization of logistics chains. The increasing volatility of trade and the uneven development trajectories across different geographical areas require a planning approach based on an integrated interpretation of the reference scenarios.

Analyses conducted by major international institutions indicate global economic growth at levels below the pre-pandemic historical average, within a framework marked by persistent uncertainty. Prospects are influenced by the evolution of geopolitical tensions and the resurgence of restrictive trade policies, with direct effects on trade volumes and the predictability of supply chains. In this context, the growth of international trade appears moderate and uneven across different economic regions, with implications for the organization of maritime transport flows.

Ongoing geopolitical tensions, particularly in Eastern Europe and the Middle East, are impacting energy markets, the safety of maritime routes, and the operation of transport infrastructure. Critical issues affecting some strategic international shipping routes have led to a lengthening of routes and an increase in distances travelled, impacting logistics costs and times. In this scenario, the geographic dimension of traffic becomes increasingly important for the competitiveness of port systems.

At the same time, a reconfiguration of global value chains is underway, with greater attention to risk diversification and the resilience of supply systems. These processes reinforce the role of logistics nodes capable of ensuring reliability, operational flexibility and intermodal integration. Ports are therefore assuming an increasingly strategic role not only as transit nodes for goods, but as **critical infrastructure supporting economic and energy security**.

Within the European context, these dynamics are embedded in a framework of moderate growth, accompanied by increased investment in infrastructure and policies supporting green and digital transition. The European Union has placed the strengthening of the Trans-European Transport Network (TEN-T), the development of intermodality and the sustainability of transport systems at the

core of its strategies, recognizing the role of ports in enhancing the competitiveness of the internal market and the resilience of supply chains.

On 13 June 2024, the Council of the European Union gave final approval to the revision of the TEN-T Regulation. The revision introduces several significant innovations. In addition to the Core Network, to be completed by 2030, and the Comprehensive Network, to be developed particularly across non-core nodes by 2050, a new category—the **Extended Core Network**, to be completed by 2040—has been introduced. This new category is aimed at accelerating the completion of projects of key European relevance, particularly regarding missing cross-border rail connections.

These guidelines are reflected in national planning. The **2025 Public Finance Planning Document**[1], in the Annex dedicated to infrastructure, mobility, and logistics strategies, confirms the centrality of developing the National Integrated Transport and Logistics System (SNIT), also considering the 2026 deadline for completing the projects financed by the PNRR and the Supplementary Fund. In this context, the enhancement of existing infrastructure assets, technological innovation, and digital transition for optimizing traffic flows, as well as strengthening infrastructure safety and resilience, are key.

The national planning framework also calls for strengthening railway networks, improving interconnections between ports and logistics hubs, and strengthening maritime transport and the functionality of the port system. These guidelines are consistent with the **National Strategic Plan for Ports and Logistics** (PSNPL) [2]and are implemented through investments supported by the PNRR, the Complementary Plan, and the most recent budget laws.

Also noteworthy is the document *"Sustainable Mobility and Logistics. Analysis and Strategic Directions for the Future"*[3] published by the Ministry of Infrastructure and Sustainable Mobility (MIMS) on October 21, 2022, which proposes a planning approach as a dynamic process, capable of adapting to evolving external conditions and updating itself based on periodic reviews, with the aim of strengthening the sustainability and resilience of the transport and logistics system.

The outlined framework is further developed in the Interministerial Decree No. 167 of July 4, 2025, issued by the Ministry of Infrastructure and Transport (MIT), the Ministry of Economy and Finance (MEF), and the Ministry of the Environment and Energy Security (MASE). This Decree identifies measures aimed at achieving national energy self-sufficiency and supporting investments in Southern

[1] https://www.mef.gov.it/export/sites/MEF/documenti-pubblicazioni/doc-finanza-pubblica/doc/DPFP/DPFP_2025.pdf
[2] https://www.assoporti.it/media/1373/psnpl.pdf
[3] https://www.mit.gov.it/nfsmitgov/files/media/notizia/2022-10/Mobilit%C3%A0%20e%20logistica%20sostenibili_Appendice_20221021.pdf

Italy through the development of a national strategic hub in the shipbuilding sector to produce offshore wind energy. In this context, state-owned areas of the port of Taranto are also identified, with reference to the modernization of the Molo Polisettoriale [4].

Considering the above, the Port of Taranto and the Ionian port system assume strategic importance in the national and European context. The macroeconomic and geopolitical context outlined above therefore requires coherent, flexible, and implementation-oriented planning, capable of combining a medium- to long-term vision with the operational needs arising from a constantly evolving scenario. From this perspective, the 2026–2028 POT represents an essential tool for guiding the action of the Port Authority, ensuring the consistency of the planned actions with national and European priorities for mobility, transport, logistics, and sustainable development.

[4] https://port.taranto.it/index.php/it/news-it/2704-news-del-31-01-2026-il-porto-come-hub-energetico-e-del-cambiamento-da-taranto-una-visione-condivisa-per-lo-sviluppo-sostenibile-dalla-viceministra-gava-l-impegno-fondi-e-semplificazioni-per-creare-economia-salvaguardando-salute-e-territorio

1.3 Regulatory framework

The POT constitutes the planning instrument through which, over the reference three-year period, the development strategies of port and logistics activities, traffic objectives, infrastructure investment priorities and accompanying measures supporting the evolution of the port system are defined. Its regulatory framework is established by Law No. 84 of 28 January 1994, as amended and supplemented by Legislative Decree No. 169 of 4 August 2016, which reformed the governance structure of the national port system.

Article 9, paragraph 5, letter b) of Law No. 84/1994 defines the POT as the act concerning the development strategies of port and logistics activities, subject to annual revision and approved by the Management Committee upon proposal of the President. Within this regulatory framework, the POT assumes a central position in the port planning cycle, acting as the instrument through which system-level strategic guidelines are operationally implemented, in coherence with the DPSS and the PRP.

Legislative Decree No. 169/2016, by establishing Port System Authorities and strengthening the principle of unified planning, further enhanced the role of the POT as an essential programming instrument for coordinating port and logistics development within individual systems. In this context, the POT is not merely an internal policy document but functions as a **governance tool for the port system**, capable of guiding infrastructure, organizational and operational decisions in the short and medium term.

The functions assigned by Law No. 84/1994 to Port System Authorities, particularly those related to strategic direction, planning and coordination under Article 6, find in the POT their primary instrument of implementation. The POT enables the integration into a coherent framework of port development activities, management of common infrastructure, organization of port services and coordination with hinterland and inland logistics systems, ensuring alignment between strategic objectives and administrative action.

The central role of the POT is also particularly evident in the regulation of transitional planning. Article 5, paragraph 1-sexies of Law No. 84/1994 assigns the POT a specific and autonomous function in cases where, pending the approval of a new Port Master Plan, urgent works need to be carried out. In such cases, the POT may temporarily define the functional allocation of certain areas, in compliance with legally permitted uses and subject to ministerial approval and environmental screening (SEA). This provision confirms the POT's independent legal relevance within the port regulatory framework.

Further confirmation of the importance of the POT can be found in the provisions governing its approval deadlines. Article 7, paragraph 3, of Law No. 84 of 1994 expressly links failure to meet the

deadlines for approving the POT to significant consequences for governance, demonstrating the essential nature of this instrument for the proper implementation of the port system's planning functions.

From a procedural perspective, Article 8, paragraph 3, letter c), of Law No. 84 of 1994 identifies the POT as the document that the President submits to the Management Committee for approval, while Article 9, paragraph 5, reiterates that the POT must be approved within defined deadlines and subject to annual review. Here too, the procedure is clearly structured around the POT, which represents the central focus of the Port System Authority's bodies.

The POT development process is also enriched by a moment of partnership discussion. Article 11-bis, paragraph 3, of Law No. 84 of 1994 assigns the Sea Resource Partnership Body (OPRM) consultative functions regarding the adoption of the POT, strengthening the participatory dimension of the planning process and confirming the POT's centrality as a means of synthesising public interests and the needs of the economic and social system.

Considering the regulatory framework outlined, the POT 2026–2028 is the cornerstone of the port planning system in the short to medium term, representing the instrument through which the planning functions established by Law no. 84 of 1994 are exercised in a coordinated and coherent manner.

The centrality of the POT emerges not only from a procedural perspective, but also from a substantive one, as an act capable of guiding the development of the Ionian port system in line with the objectives of the legal system, with national and European guidelines, and with the needs of evolving economic, logistical, and infrastructural contexts.

1.4 The Integrated Activity and Organization Plan – PIAO 2026/2028

The current PIAO 2026-2028[5] remains formally anchored to the strategic objectives of the POT 2023-2025 (2024 revision), it has been structured to ensure a smooth transition and full substantial coherence with the new programming referred to in this POT.

[5] https://port.taranto.it/albopretorio/index.php?option=com_content&view=article&id=2168:decreto-09-2026-piano-integrato-di-attivita-ed-organizzazione-piao-2026-2028-approvazione-ed-adozione-del-piano&catid=58&lang=it&Itemid=244

The PIAO may be subject to a specific **revision** to formally incorporate any updates resulting from the strategy included in this document.

Therefore, starting from the objectives of the current PIAO, the two documents will find programmatic synergy in the following areas:

- Green transition
- Traffic development
- Digital transition
- Governance and cooperation

1.5 Summary of the results of the previous three years

The POT 2023–2025 of the Ionian Sea Port System Authority represented a comprehensive strategic framework aimed at transforming the Ionian port into a **multifunctional, innovative and sustainable hub**. The strategy was structured around six objectives designed to generate value for the territory, integrating environmental protection and social well-being in line with the ESG (Environmental, Social, Governance) paradigm.

The primary driver of transformation was **Business Intelligence**, within which the digitalization of port operations was embedded. The objective was to transform Taranto into a **Smart Port**, capable of monitoring flows in real time and simplifying administrative processes. Key initiatives included the implementation of the **Port Community System (PCS)**, currently being migrated to the National Strategic Hub (PSN) to ensure maximum standards of security and interoperability with the Customs Agency and the Italian Coast Guard (CGCP). In parallel, the port has begun deploying a **5G infrastructure** to enable advanced services such as intelligent video surveillance and terminal automation.

The ecological transition represented the "green core" of the Plan. The Authority aimed to position Taranto as a reference hub for renewable energy, leveraging, albeit indirectly, pioneering projects such as Beleolico, the first offshore wind farm in the Mediterranean. Planned actions included the electrification of quays (OPS) through NRRP funding, enabling vessels at berth to switch off auxiliary engines. These initiatives experienced delays and effectively started in 2026. The approach also extends to the **circular economy**, with actions aimed at strengthening the port waste management system.

A port can only grow if it is in harmony with its surroundings. Projects such as the waterfront development in the Mar Grande and the redevelopment of the "Ex Torpediniere" area will restore public spaces to the public, opening the port to nautical and cultural tourism. A key role has been played by Open Port, an *exhibition* centre that will transition from virtual to physical to showcase the port's history and future to schools and visitors.

To compete in global markets, Taranto must strengthen its land connections. Completion of projects funded by the PNRR, such as the new breakwater and the strengthening of railway tracks (increasing the length to 750 meters), has been identified as key to encouraging a modal *shift from road to rail. The Eco Industrial Park, a 750,000 square meter area designed to host businesses active in the green economy, benefiting from the incentives of the Single Economic Zone (ZES) and the Customs Free Zone,* fits into this scenario. All these initiatives have been partially initiated and are expected to be completed during the current 2026-2028 Plan.

Internationalization is seen as a tool to diversify trade and reduce dependence on the steel sector. Local marketing efforts have aimed to position the port as a strategic logistics hub along the TEN-T corridors. Finally, Taranto, already named[6] Cruise Destination of the Year 2022, has confirmed the port's ability to attract major global tourism players. The cruise sector is emerging as a strategic segment for the future of the port and the territory, generating significant economic spillovers across the regional value chain. The growing cruise activity also supports intermodal logistics, contributing to the development of regional transport and mobility services. In 2025, for example, cooperation with Costa Crociere enabled approximately 11,200 passengers to benefit from high-quality fly&cruise experiences, enhancing the international positioning of the Port of Taranto.

Finally, the Plan places strong emphasis on **governance and accountability**. The Authority has committed to operating as a "glass house", through the digitalization of internal processes and the strengthening of reporting mechanisms. The ultimate objective is to ensure efficient management capable of responding to stakeholder needs, thereby securing a **social license to operate (SLO)**.

[6] https://port.taranto.it/index.php/it/news-it/2332-news-del-15-09-2022-il-porto-di-taranto-destinazione-dell-anno-ai-seatrade-cruise-awards

2 Context and market analysis

2.1 The global, international and European context

2.1.1 General overview

The POT of the Ionian Sea Port System Authority (AdSP MI) is being developed in a historical phase marked by a profound transition of the global economy, characterized by the overlapping of macroeconomic, geopolitical and structural factors that are substantially reshaping the dynamics of international trade and, consequently, the organization of transport and logistics systems.

March 4, 2026, marks a turning point for continental maritime governance: the European Commission simultaneously adopted the New EU Port Strategy and the EU Maritime Industrial Strategy. This dual regulatory framework elevates ports, shipping, and shipbuilding to vital pillars for the Union's security and defence, as well as for economic growth. In an era marked by aggressive global competition and an unprecedented energy transition, the EU is now imposing a vision of "Strategic Autonomy." For the Port Authority, alignment of the 2026-2028 Strategic Plan is a prerequisite for strategic compliance to ensure the Port of Taranto's relevance in Europe's new geoeconomic landscape.

The strategy adopted in March 2026 defines a binding scope for action based on four key guidelines briefly described below together with the Commission's mandate:

- Competitiveness: Strengthening the EU maritime sector in the face of international competition by integrating Research and Innovation.
- Sustainability: managing the accelerated energy transition and decarbonizing the shipping and port sectors.
- Security: proactive protection of critical infrastructure necessary for trade and the defence of EU interests.
- Resilience: Systemic capacity to absorb and respond to emerging global risks and supply chain crises.

The upgrading of Taranto's infrastructure and the actions envisaged under this POT closely reflect the safeguard priorities defined at central level, through the following lines of action identified at European level:

Strengthening Competitiveness - Research & Innovation: modernization will not be limited to the dockside but must include process automation and the adoption of advanced digital technologies to bridge the gap with non-EU competitors.

Energy transition and sustainability: local planning must act as a driver for the decarbonization of shipping, accelerating the electrification of docks (OPS) and the creation of alternative fuel hubs, fully consistent with the Commission's objectives.

Security and protection of critical infrastructure given Taranto's central location in the Mediterranean, the Port of Taranto (POT) must include protocols for hardening physical and cyber infrastructure. The port is not just a logistics hub, but a national and European security asset.

Resilience against emerging global risks: It is imperative that the POT analyse and mitigate the global risks outlined in the EU Communication of March 4. This includes route diversification and structural resilience against geopolitical disruptions affecting maritime flows in the Mediterranean.

The management model of the Port of Taranto will evolve towards an integrated approach aligned with the **EU Industrial Maritime Strategy**. It is no longer sufficient to manage logistics alone; Taranto must capitalize on its industrial heritage to revitalize shipbuilding and ship repair activities.

"The ports, shipping, and shipbuilding sectors are vital for EU trade and defence; in the face of global competition and the energy transition, these industries must remain strong to ensure the Union's autonomy and growth." (European Commission, Communication on the EU Industrial Maritime Strategy, 4 March 2026).

The Port Authority will therefore promote synergies with the local shipbuilding industry, transforming the port into an industrial hub where the construction and maintenance of technologically advanced ships support the Union's maritime industrial autonomy.

The Port of Taranto also aligns with the European Global Gateway strategy [7], positioning itself as a resilient and secure hub in global supply chains. Through the development of sustainable and digital infrastructure, the Ionian port contributes to strengthening logistics corridors between Europe, Africa, and Asia, ensuring high standards of cybersecurity and environmental sustainability.

Looking at the current international geopolitical scenarios and at the strategic role of ports in the infrastructural, energy and employment development of the Mediterranean, reference should also be made to the **Mattei Plan**, which addresses neighbourhood policy not only in geopolitical terms, but also—and above all—in energy, infrastructural and cultural terms. Owing to its privileged location in the

[7] https://commission.europa.eu/topics/international-partnerships/global-gateway_en

heart of the Mediterranean area, Taranto can aspire to play a pivot role in the new development platform underpinning the Plan, which aims, among other things, to transform the Mediterranean into Europe's energy hub. These issues represent a major opportunity for the territory, also in terms of attracting international investment and acting as a maritime gateway for the main trade routes with North African countries.

Analyses conducted by the main international economic institutions converge in identifying a scenario of moderate global growth, below the average levels recorded in the pre-pandemic period, but overall resilient despite the multiplication of crisis fronts. According to the International Monetary Fund, global GDP is expected to grow at around **3.3%** over the 2025–2027 period, with a slight deceleration forecast for 2027.

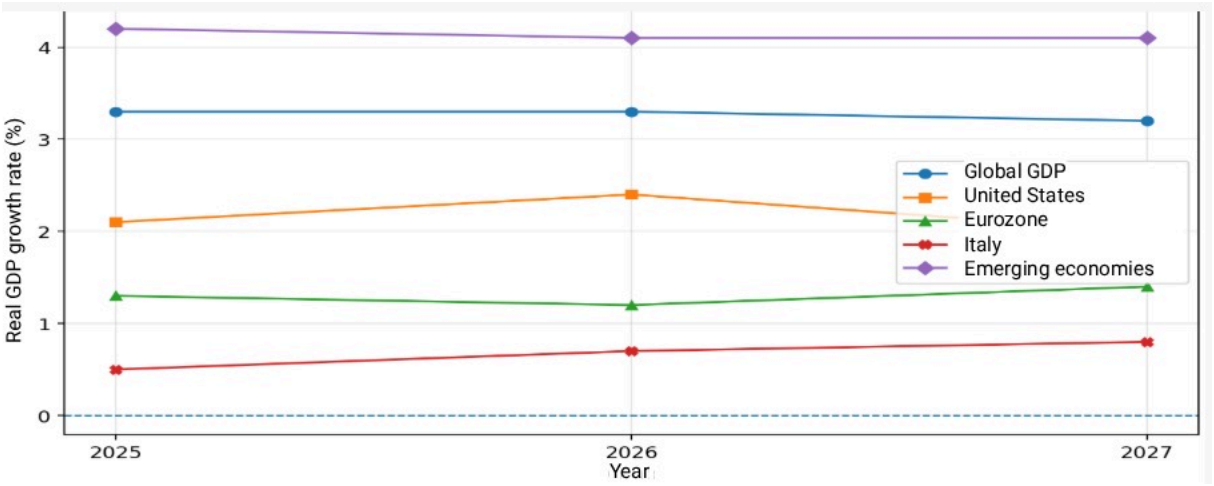

Figure 1 Global economic growth and divergences among major regions. WEC 2026.

Global growth is primarily driven by emerging economies, particularly India and China, while advanced economies are experiencing weaker growth, driven by tightening financial conditions, declining private investment, and an unstable geopolitical environment. Within the European Union, growth remains subdued and structurally fragile. Italy consistently ranks at the lower end of the European growth rate distribution, highlighting structural weaknesses that enhance the strategic role of infrastructure investments and the logistics and port system as an enabler of the competitiveness of the production system.

The slowdown in global economic growth is directly reflected in international trade. After a recovery in 2024, trade volumes are expected to contract in 2025, with only a partial recovery expected in 2026.

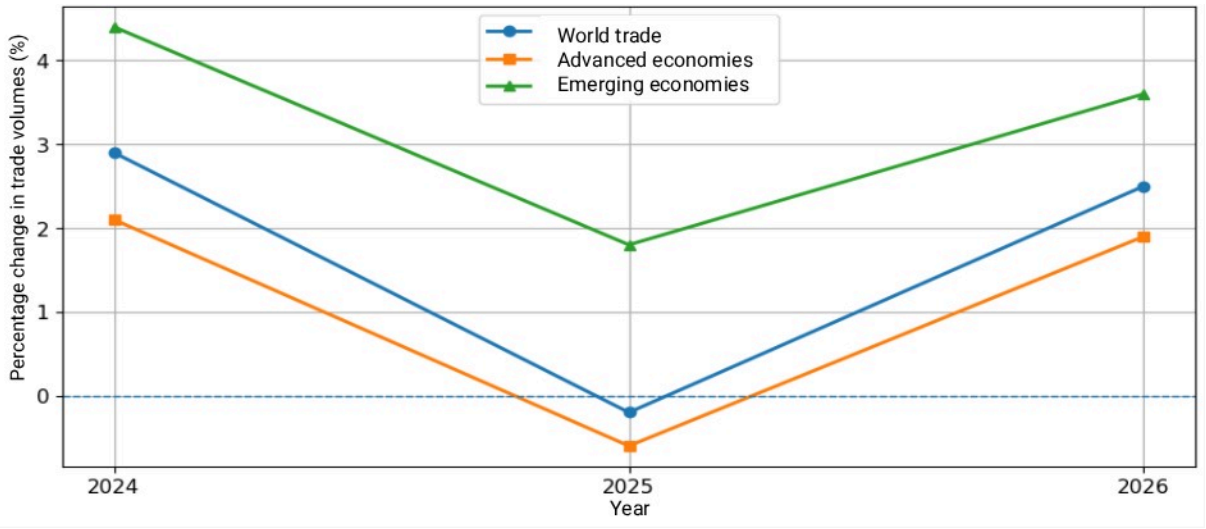

Figure 2 Trends in international trade in goods and regional divergences. Evidence of the effects of geopolitical and tariff shocks. WTO, 2024-2026 calculations.

In this context, the return of protectionist policies, particularly by the United States, has significantly impacted the costs of international trade and the predictability of trade. Tariff measures, combined with countermeasures adopted by major trading partners, have contributed to a weakening of the multilateral trading system and increasing fragmentation of global trade. At the same time, conflicts in Ukraine and the Middle East continue to have significant impacts on energy markets, supply chains of strategic raw materials, and the financial stability of numerous economies.

These factors have accelerated the reconfiguration of global value chains, favouring *reshoring, nearshoring, and friendshoring strategies.* While such strategies aim to reduce exposure to geopolitical risks, they also reduce the overall efficiency of the trading system and increase pressure on logistics and infrastructure nodes.

For the port system, this translates into a growing need for flexibility, adaptability, and the ability to intercept diversified flows in a context of high uncertainty.

2.1.2 Maritime transport: structural evolution, volatility and route reconfiguration

Maritime transport continues to be the backbone of international trade, moving over 80% of global freight volumes. Its centrality makes the sector particularly sensitive to macroeconomic and geopolitical shocks, but at the same time strengthens its strategic role as an essential element for economic security and the continuity of trade.

According to UNCTAD, global maritime trade volumes reached approximately 12.7 billion tonnes in 2024, up 2.2% from the previous year. However, analysis of tonne-miles shows a significantly higher increase, approximately 5.9%, reflecting the lengthening distances travelled by ships and the growing complexity of transport networks.

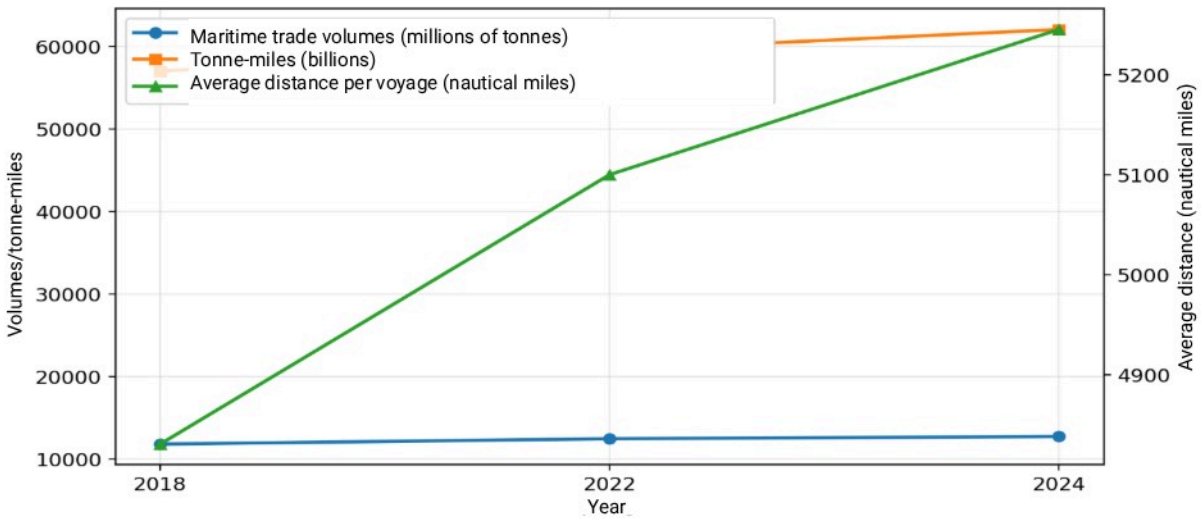

Figure 3 Evolution of global maritime transport. UNCTAD 2025.

The increase in ton-miles reflects a long-term trend, accentuated in recent years by disruptions and criticalities along some strategic global maritime traffic routes, particularly in the Red Sea and the Panama Canal. Route diversions, particularly around the Cape of Good Hope, have led to increased transit times, operating costs, and exposure to logistical risks.

In the short term, UNCTAD[8] has forecast very limited growth in maritime volumes for 2025, with the containerized segment proving more resilient than bulk cargo. In the medium term, average annual growth in maritime traffic is estimated at around 2%, confirming a structural slowdown compared to previous decades. This trend is attributable to the weakening link between economic growth and trade, rising trade barriers, and geopolitical fragmentation.

The operational environment of maritime transport is also characterized by growing freight rate volatility and persistent port congestion. These factors affect the reliability of supply chains and reinforce the need for infrastructure planning geared toward resilience and the reduction of systemic vulnerabilities.

[8]https://unctad.org/news/stormy-seas-global-shipping-unctad-warns-uncertainty-volatility-and-rising-costs#:~:text=Global%20shipping%2C%20moving%20over%2080,Get%20the%20dataDownload%20image

In response to these dynamics, we are witnessing a progressive reorganization of global connectivity routes and corridors, with the growing role of initiatives such as the India–Middle East–Europe Corridor (IMEC), the Middle Corridor through Central Asia, and alternative routes to the Suez Canal. These corridors address the need to diversify logistics risk and strengthen the resilience of global supply chains.

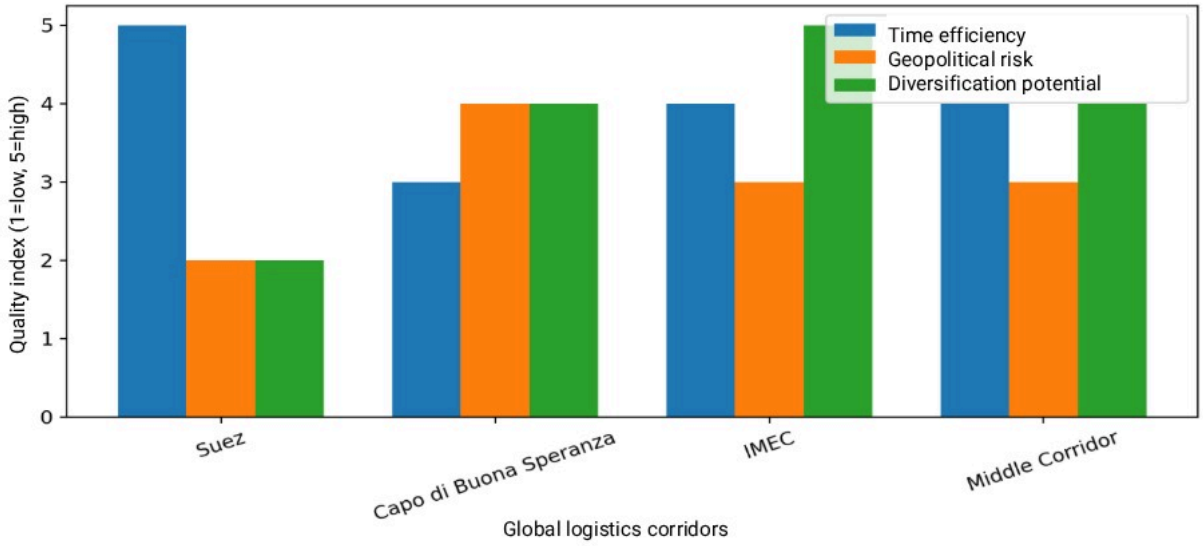

Figure 4 Comparison between traditional routes and alternative corridors.

2.1.3 Europe, the Mediterranean, and the Port System: Resilience, Competition, and Sustainability

Within the context of the reorganization of global routes, the Mediterranean continues to play a central role in the geography of international maritime trade. The ports of the basin have demonstrated a significant capacity to adapt to geopolitical tensions and traffic deviations, confirming their role as strategic logistics platforms for links between Europe, Asia and Africa.

According to SRM–Intesa Sanpaolo calculations, in 2024 the main Mediterranean ports handled a total of approximately 62 million TEUs, a 5.1% increase over the previous year. However, this growth was accompanied by a redistribution of flows across the basin's various areas.

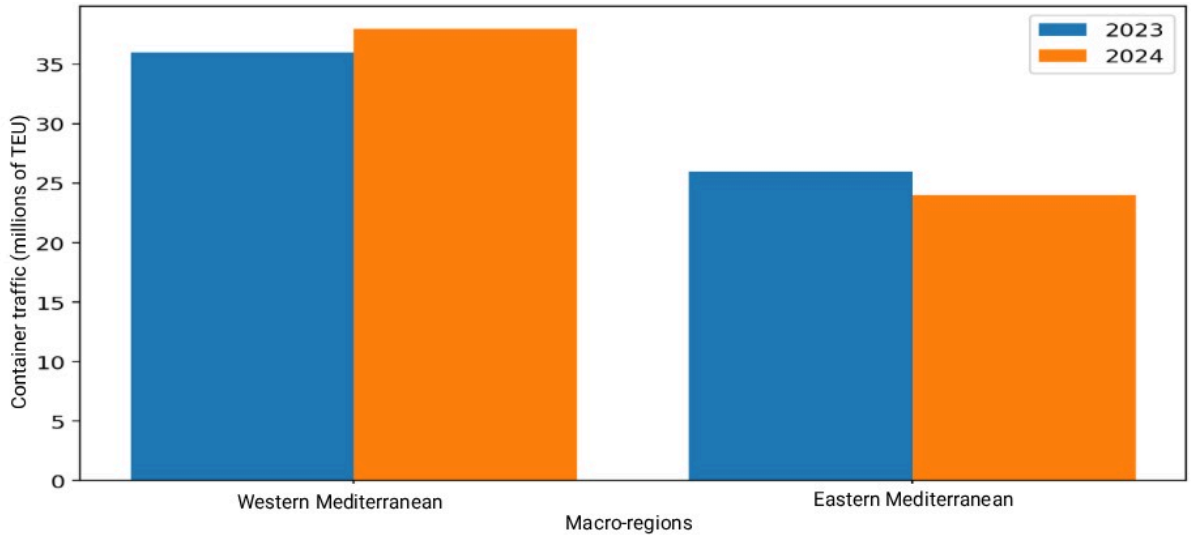

Figure 5 Redistribution of container traffic in the Mediterranean. SRM 2025.

Within the European Union, ports are taking on an increasingly complex and strategic role. They are no longer just transit hubs for goods, but integrated platforms that perform logistical, industrial, and energy functions. European ports are increasingly involved in managing energy supply chains, producing and distributing renewable energy, and supporting the ecological transition.

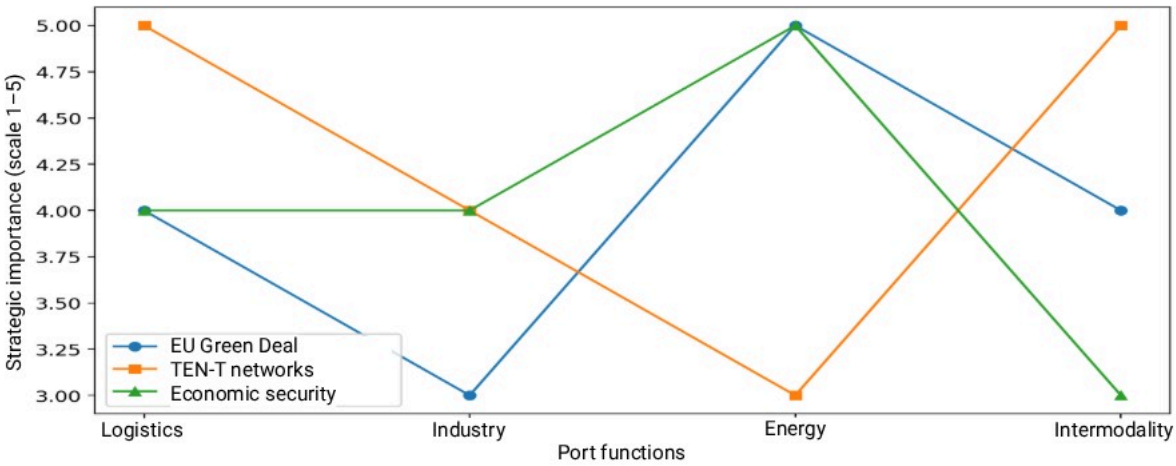

Figure 6 Multifunctional role of ports in European policies. European Commission.

In this context, competition between ports intensifies both within the Mediterranean basin and globally.

The ability to attract traffic and investment increasingly depends on the quality of infrastructure, the efficiency of logistics services, intermodal integration, and the ability to meet environmental sustainability requirements.

2.2 The national context

2.2.1 Intermodality and TEN-T networks: implications for port planning

Italy is heavily dependent on international trade, with an export-import/GDP ratio of over 50%, making the port system a strategic asset for the country's competitiveness.

In 2024, Italian ports handled approximately 481 million tons of cargo, confirming overall stability in volumes and significant growth in the container segment.

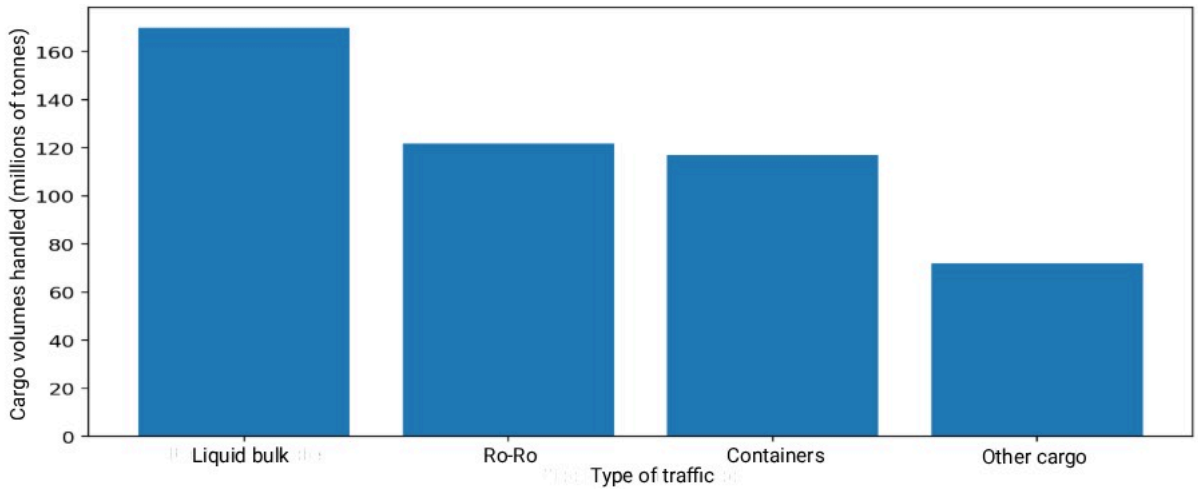

Figure 7 Structure of Italian port traffic. SRM.

Short Sea Shipping (SSS) represents one of the key strengths of the Italian system. In the Mediterranean, short-sea traffic has reached record levels, with Italy leading the European market in terms of volumes handled. This specialization strengthens the role of Italian ports as central hubs in regional and European logistics chains.

In this context, sea-rail intermodality plays a central role in port planning. Rail freight transport's share remains limited compared to European targets, making it a priority to strengthen port rail connections and upgrade infrastructure to TEN-T standards.

The PNRR represents a strategic opportunity to accelerate these investments. RFI has planned approximately €5 billion in investments dedicated to the freight cluster, including upgrades to the TEN-T corridors and improvements to last-mile connections with ports. It should be added that, specifically regarding rail transport, the Chamber of Deputies' Budget Committee recently approved an amendment to the Milleproroghe Decree (Legislative Decree No. 200 of December 31, 2025), extending the validity of the contribution to support rail freight shunting in ports until December 31, 2030. This Italian initiative, the first of its kind, has received approval from the European Commission, which had already authorized its duration for up to five years, or until 2030.

The contribution consists of a tariff reduction for rail freight operators and their customers. The payment may be made voluntarily by Port System Authorities, up to a maximum of €500,000 per year each, regardless of the number of ports managed, for a total of €6 million annually and €30 million overall over the authorized period. The benefit is intended for shunting operators, who must transfer 50% of the contribution to the railway companies according to the *Ferrobonus model*[9].

The aid will be calculated on a per-train basis, according to the actual and documented costs of shunting services. Estimates submitted to the European Commission indicate, for Italian railway undertakings, an average shunting cost of **EUR 793 per train** (train length: 480 metres). The decline in rail freight traffic also recorded in ports entails an increase in tariffs, since providers of shunting services must spread high fixed costs over a smaller number of train movements.

[9] Italian government incentive for road haulage companies and logistics operators who choose to shift freight from road to rail. €29.4 million is available for the 2026 financial year. An amendment to the Milleproroghe Decree was also approved, making financial support for rail operations in ports a structural measure until December 31, 2030 (source: Trasportonline).

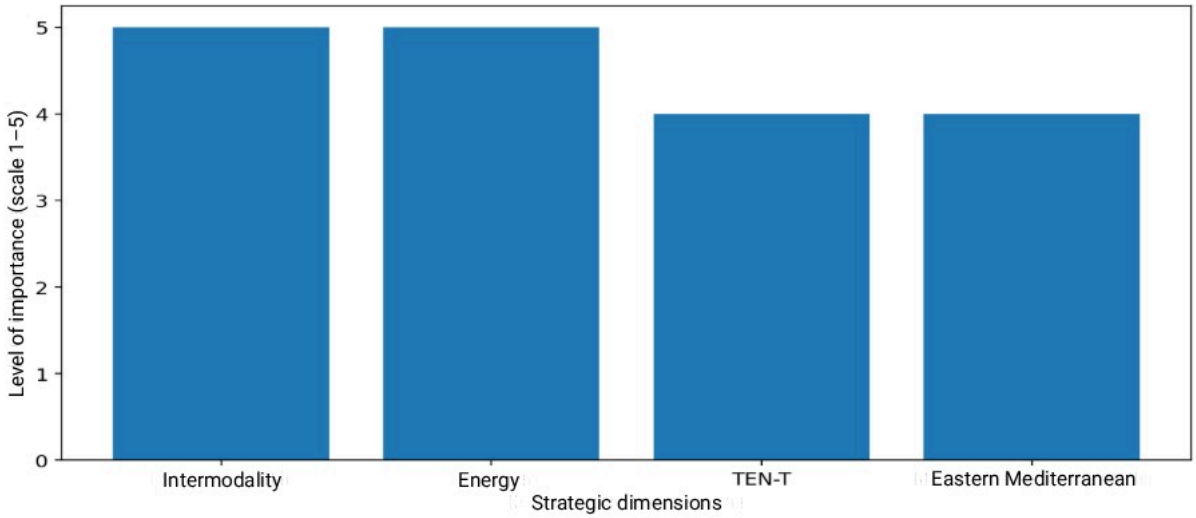

Figure 8 Strategic positioning of the Port of Taranto.

The contextual framework outlined above, supported by data analysis and factual evidence, confirms the centrality of the **maritime economy** as a strategic lever for economic and logistics development. In a context characterized by moderate growth, geopolitical instability and trade fragmentation, ports and connectivity infrastructure play a central role not only from an economic perspective, but also from a strategic and environmental one.

For the AdSP MI, the POT will represent a compass for strengthening infrastructural resilience, intermodal integration, and the port system's ability to adapt to new traffic geographies, enhancing the role of ports as central nodes of the TEN-T networks and as sustainable logistics platforms serving national and European development.

2.2.2 Reform of the Italian port system

Within the framework of national infrastructure, transport, and logistics policies, the reform of the Italian port system has been the subject of a stakeholder debate promoted by the MIT leadership for over two years. This debate is part of the broader process of strengthening the National Integrated Transport and Logistics System (SNIT), which the 2025 Public Finance Document, in the Annex dedicated to "Strategies for Infrastructure, Mobility, and Logistics," identifies as a strategic priority for public action, also considering the 2026 deadline for completing the projects funded by the PNRR and the Complementary Fund.

The same document generally calls for a possible reform of the port system, based on the principle of maintaining the public nature of ports, strengthening governance coordination, and improving the efficiency of logistics processes, including through technological innovation. These approaches are consistent with the strategic guidelines of the 2015 National Strategic Plan for Ports and Logistics (PSNPL), which continues to constitute the fundamental framework for the organization and development of the sector.

Over the past year, the idea of a new governance model for the port system has emerged, based on more coordinated strategic planning at the national level, a clearer distinction between management, programming, and implementation functions, and a strengthening of integration mechanisms between infrastructure, logistics, and the local area.

In this context, the debate has also concerned the possibility of harmonizing port planning instruments, optimizing concession management and improving the efficiency of implementation of strategically relevant infrastructure investments.

According to currently available information, the Council of Ministers approved, on December 22, 2025, a port reform bill that provides for the establishment of a single publicly controlled entity, called "Porti d'Italia SpA," with a shareholding in the Ministry of the Economy and Finance and oversight by the Ministry of Infrastructure and Transport. This entity would be primarily responsible for the design, construction, and extraordinary maintenance of port infrastructure of strategic national and international importance, while the Port System Authorities would retain the functions of territorial governance, management of state-owned concessions, and ordinary maintenance.

A central element of the proposed framework involves the establishment of a five-year Program Agreement between the Ministry of Infrastructure and the newly established Porti d'Italia SpA, as a tool for defining strategic infrastructure projects, investment priorities, and implementation methods. Under this framework, territorial port planning, including the DPSS, the PRP, and the POT, would be required to align with the guidelines and decisions made at the national level within the Program Agreement, establishing a more integrated multilevel planning system.

Still according to the scenarios emerging from the public debate, the identification of strategic infrastructure works, and extraordinary maintenance interventions would be entrusted to specific ministerial decrees, with Porti d'Italia S.p.A. acting as the single contracting authority. If confirmed, this approach could lead to a clearer separation between planning and policy functions, to remain with the Port System Authorities, and the design and implementation functions for major works, to be centralized at national level, with possible implications for the way interventions are programmed within POTs.

Additional relevant issues concern the financing system envisaged under the new framework. According to available information, a **Fund for Strategic Maritime Transport Infrastructure** would be established, financed through a share of port dues, anchorage dues, taxes on loaded and unloaded cargo, as well as a component of concession fees linked to investments. Such a mechanism could affect the availability of financial resources directly managed by Port System Authorities and, consequently, their ability to autonomously plan and finance certain categories of intervention, particularly those not included among national strategic works.

In this context, the **Three-Year Operational Plans**, as instruments for programming the actions and interventions of the Port System Authorities in the medium term, could be significantly affected, both in terms of content and in terms of their relationship with national planning. In particular, the possible subordination of the POT to the Programme Agreement between the MIT and Porti d'Italia S.p.A. could require closer alignment between territorial priorities and centrally defined infrastructure strategies, while still respecting the competences currently assigned to Port System Authorities by the existing legal framework.

At present, in the absence of an official and definitive legislative text, it is not possible to make conclusive assessments on the reform's effects or its operational implications. Any parliamentary process will need to carefully clarify the division of responsibilities, the role of strategic planning tools, including the Three-Year Operational Plans, as well as the financial resources allocated to support the port system's development guidelines and objectives.

In this context of uncertainty, this POT has been drafted in full compliance with the current regulatory framework, considering the reform hypotheses exclusively as elements of an evolving institutional context, to be carefully monitored, without impacting, at the current stage, the definition of the objectives, priorities and actions planned by the Port System Authority.

2.2.3 Traffic recorded in 2025 and analysis of trade flows

Within the framework outlined by international macroeconomic and geopolitical scenarios, the national context displays complex dynamics directly affecting traffic evolution, logistics organization and the strategic role of the Italian port system. As an economy strongly oriented towards exports and structurally integrated into European and Mediterranean value chains, Italy is significantly affected by ongoing transformations in global trade, while continuing to confirm the central role of maritime transport as the main carrier of trade flows.

In 2024, according to ISTAT data processed by the Coeweb database, Italy's total foreign trade reached 427.7 million tons, of which 286.7 million tons were imported, and 141.0 million tons were exported. These volumes recorded an overall contraction of 2.9% compared to the previous year, with imports decreasing by 3.0% and exports decreasing by 2.6%. This figure reflects the slowdown in international trade observed throughout the year, in a context marked by geopolitical uncertainty, trade tensions, and the progressive reorganization of supply chains.

Within this framework, maritime traffic continues to represent the dominant component of Italy's physical trade. In 2024, maritime flows reached 203.3 million tonnes, equal to 47.5% of total traffic, with 146.7 million tonnes in imports and 56.5 million tonnes in exports. However, compared to 2023, maritime traffic recorded a significant decline of 9.5%, with a more pronounced reduction in imports (-11.8%) and a more moderate one in exports (-2.9%). This trend is attributable both to the slowdown in international demand and to the criticalities affecting some strategic maritime routes, impacting volumes and vessel rotations.

In terms of economic value, in 2024 Italy's foreign trade amounted to **EUR 1,192.3 billion**, of which **EUR 568.7 billion in imports** and **EUR 623.5 billion in exports**. Here too, an overall decline of **2.1%** compared with the previous year is observed, with a more pronounced reduction in imports (**-3.9%**) and substantial resilience in exports (**-0.4%**). Maritime trade, accounting for **26.4%** of the total value of trade, amounted to **EUR 315.1 billion**, split into **EUR 158.9 billion in imports** and **EUR 156.2 billion in exports**, marking a **5.4% annual decrease**. Again, the decline was more pronounced in imports (**-9.5%**) than in exports (**-0.9%**), confirming the greater resilience of the export component.

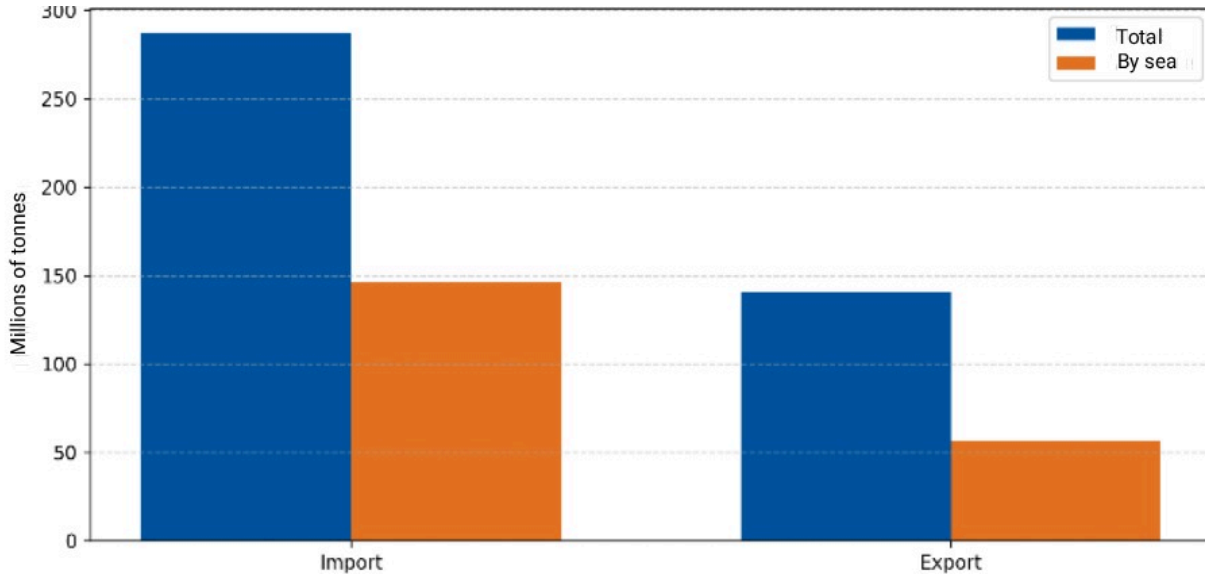

Figure 9 Italian foreign trade 2024.

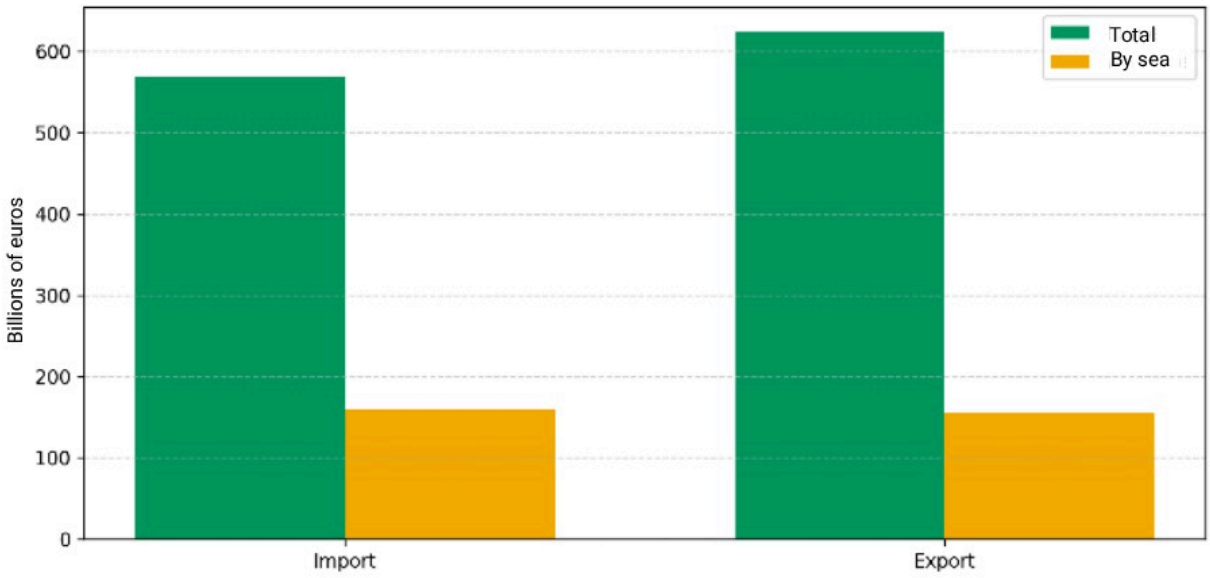

Figure 10 Italian foreign trade (€).

During 2025, initial available data indicate a progressive improvement in the national port situation. According to the data contained in "Port Infographics 2–2025," produced by Assoporti and SRM – a research centre affiliated with the Intesa Sanpaolo Group – in the first half of 2025, Italian ports handled nearly 250 million tons of cargo, a 1.2% increase compared to the same period in 2024. Total traffic exceeded 248 million tons, driven primarily by growth in containers (+2.6%) and dry bulk cargo, which recorded a particularly significant increase (+18.9%). During the same period, liquid bulk and Ro-Ro traffic decreased by 3.5% and 1%, respectively.

Positive dynamics are also emerging in the passenger segment. In the first half of 2025, Italian ports handled almost **30 million passengers**, an increase of **5.8%** over the previous year, while cruise traffic reached **5.6 million passengers**, also up by **5.8%**. These data confirm the role of the port system not only as logistics infrastructure, but also as a central asset for mobility, tourism and the economy of coastal territories.

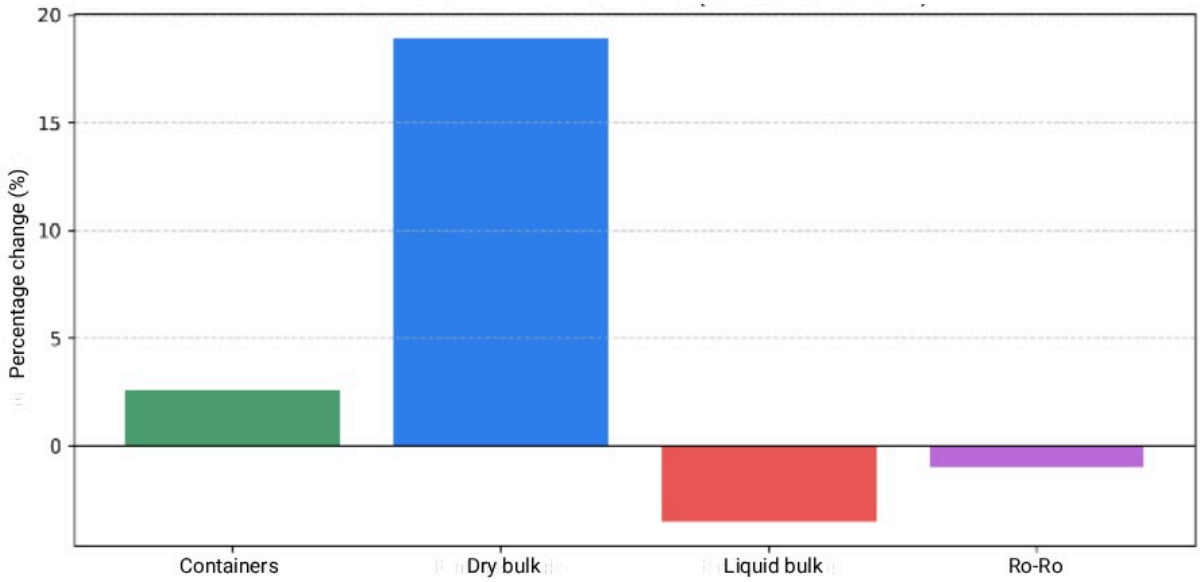

Figure 11 Italian ports – Traffic dynamics (% 1st half 2025).

Alongside the recovery in volumes, the national port system's path towards innovation and infrastructure sustainability continues. Specifically, dock electrification represents one of the most significant strategic directions: 25 OPS connection points have been contracted or installed by 2025, demonstrating the growing commitment to decarbonizing port activities and reducing the environmental impact of docked ships. These initiatives also take on strategic importance in relation to Italy's positioning within the European green port economy and the ports' ability to attract traffic and investments consistent with the European Union's environmental objectives.

Internationally, the national port system is experiencing a growth in global maritime trade, expected to reach a new all-time high of 12.8 billion tons in 2025. The container segment, expected to grow 14% overall by 2029, confirms its centrality as a strategic asset in global trade. In this scenario, the Mediterranean is strengthening its role, surpassing Northern Europe in terms of container volumes handled: in 2024, Mediterranean ports handled more than 82 million TEUs, compared to 61 million handled in Northern European ports.

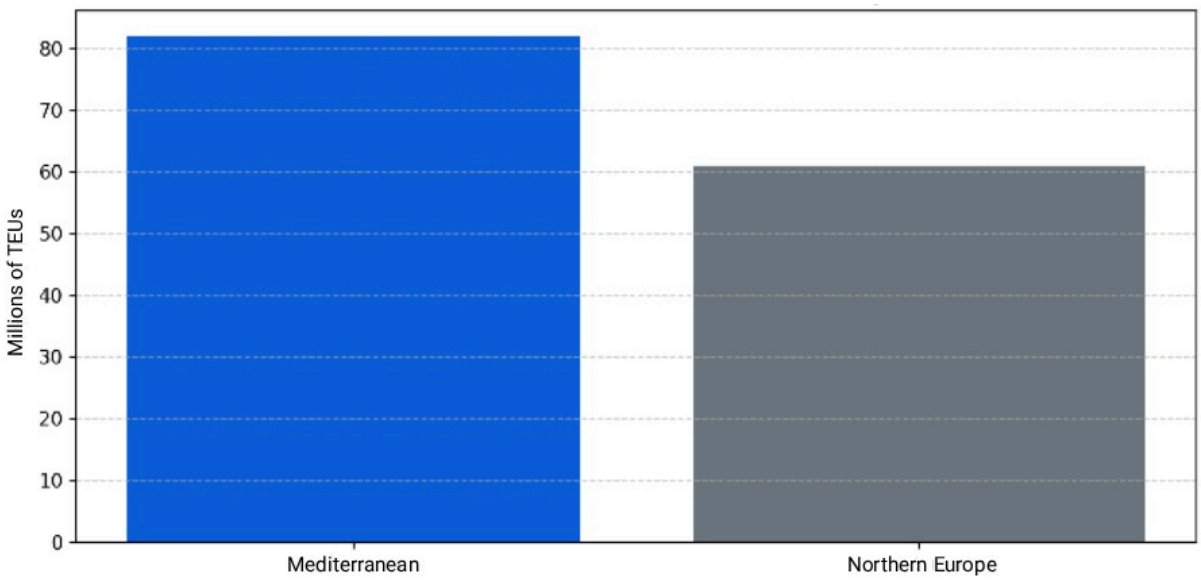

Figure 12 Container traffic 2024. Comparison of European areas.

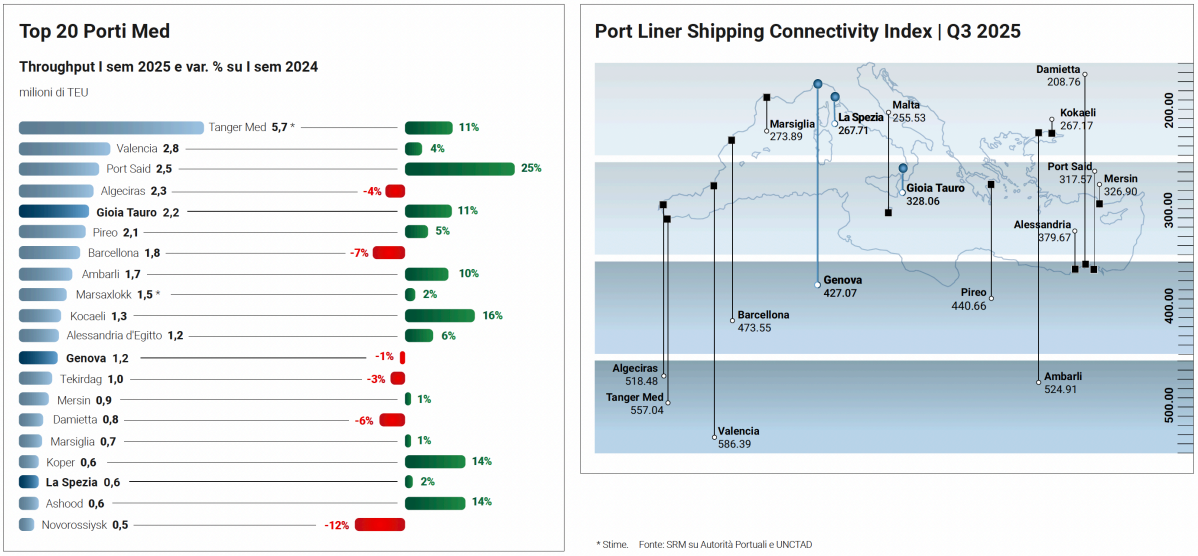

Figure 13 Performance and connectivity of Mediterranean ports. Source: SRM, 2025.

With reference to Figure 13, the **Port Liner Shipping Connectivity Index (PLSCI)**, calculated by UNCTAD, measures the degree of integration of a port within a liner shipping network. Access to global markets depends heavily on maritime connectivity, particularly regular liner services used for manufactured imports and exports. The higher the value, the better the connectivity. The index takes account of various factors: the number of ships scheduled weekly at the port; annual deployed capacity (TEU); the number of regular services to and from the port; the number of shipping companies

operating regular services at the port; the TEU size of the largest vessel calling at the port; and the number of other ports directly connected to the port through regular liner services.

Particularly relevant is the growing importance of **intra-Mediterranean traffic** and **Short Sea Shipping**, a segment expected to represent one of the main drivers of regional trade development. In this field, Italy holds a clear leadership position, with a market share close to **40%**, ranking first both in the Mediterranean and in the European Union. In a context of growing international competition and the redefinition of trade routes, Short Sea Shipping plays a strategic role in the resilience of the logistics system, in reducing the environmental impact of transport, and in strengthening links between European markets.

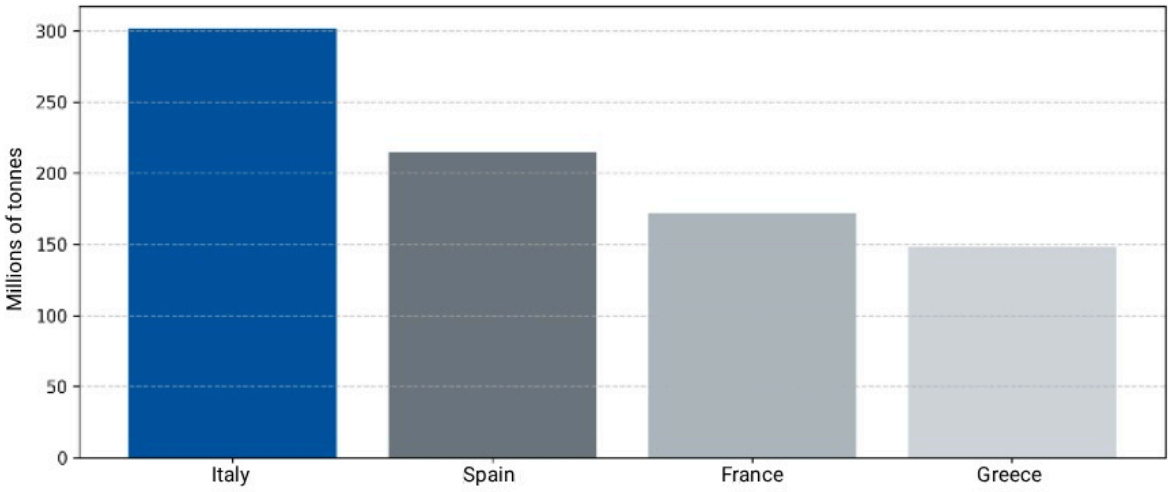

Figure 14 Short Sea Shipping – Main EU countries (2025).

In this scenario, Southern Italy is increasingly important as a natural hub for interconnecting Euro-Mediterranean and intercontinental routes. Due to their geographic location and availability of space and seabed, Southern Italian ports are expected to play an increasingly central role in intercepting maritime flows, developing container, bulk, and intra-Mediterranean trade, and supporting new energy and industrial sectors. Fully leveraging this potential requires targeted strengthening of port infrastructure, last-mile connections, and intermodal integration with the national logistics system.

Within this framework, the Port of Taranto occupies a strategic position within the port system of Southern Italy and the entire Mediterranean basin. The centrality of the Mediterranean, the growth of container traffic and Short Sea Shipping, and the ongoing energy transition offer significant opportunities for the Ionian port system. Strengthening infrastructure, technological innovation,

environmental sustainability, and integration with inland logistics networks are therefore key levers enabling the Port of Taranto to significantly contribute to the competitiveness of the national logistics system, the expansion of exports, and the development of the blue economy, in line with the guidelines of the 2026–2028 Regional Plan of the AdSP MI.

2.2.4 Italy's role in European corridors

In the framework of European transport and logistics policies, Italy plays a leading role within the Trans-European Transport Network (TEN-T), It serves as a natural connection between the Mediterranean basin, Central Europe, the Balkans, and the eastern European regions of the Union. The peninsula's geographical location, combined with the density of its port system and the extensiveness of its rail and road networks, gives the country a structural role in the processes of market integration, streamlining logistics flows, and strengthening European territorial cohesion.

Within the Core TEN-T network, nine strategic corridors have been identified at the European level, four of which directly affect Italy: the Mediterranean Corridor, the Scandinavian-Mediterranean Corridor, the Baltic-Adriatic Corridor, and the Rhine-Alpine Corridor. These axes represent the backbone of European freight and passenger mobility and are the primary reference for completing strategic infrastructure by 2030.

The Mediterranean Corridor performs a key east-west connection function across the Union, linking the Algeciras–Hungary axis and including strategic infrastructure such as the Turin–Lyon rail link and the routes connecting Ligurian and Venetian ports with Central and Eastern European markets. The Scandinavian–Mediterranean Corridor, by contrast, constitutes the fundamental north-south axis of the European system, stretching from Helsinki to Valletta and crossing the entire Italian Peninsula, with the Brenner node and the associated base tunnel as the pivotal point for the integration of north-south flows. The Baltic–Adriatic Corridor provides a direct connection between Upper Adriatic ports and Central Europe, while the Rhine–Alpine Corridor links the Port of Genoa and the industrial system of Northern Italy with the North Sea, through strategic infrastructure such as the Third Giovi Pass.

Italy's strategic objectives within the TEN-T corridors are aimed at removing major infrastructure bottlenecks, improving rail interoperability, strengthening port and airport last-mile connections, and aligning with the technical and environmental standards introduced by **Regulation (EU) 2024/1679** on EU guidelines for the development of the TEN-T, which repealed the previous Regulation (EU) No. 1315/2013. These interventions are supported by a broad investment portfolio of European relevance, financed through national and European resources, with particular attention to rail freight development and the sustainability of transport systems.

A significant milestone in the revision of European transport policy was the approval of the new Regulation on TEN-T Corridors on **24 April 2024**, concluding the process launched by the European Commission through act COM(2022)380 final. The new regulatory framework, effective after publication in the Official Journal of the European Union, aims to overcome existing infrastructure shortcomings and complete strategic links, by strengthening integration among railways, roads, inland waterways and short-sea shipping routes, through ports and intermodal terminals.

In the new strategic plan, the European Commission has recognized a strengthened role for corridors oriented toward the Mediterranean, the Balkans, and Eastern Europe, also based on proposals put forward by Member States, particularly Italy. The main innovations for the national system include the extension of the Baltic-Adriatic Corridor from Ravenna to Bari-Taranto, creating a strategic connection with the Scandinavian-Mediterranean Corridor both to the north, through the Bologna hub, and to the south, through the Bari hub. This also includes the provision, within the Scandinavian-Mediterranean Corridor, for the construction of a permanent link across the Strait of Messina, identified by the Commission as the key project for overcoming infrastructure disruptions in Southern Italy.

Additional relevant elements concern completion of the Adriatic backbone, with the inclusion of the **Ancona–Foggia section** in the Extended Core network for both rail and road, as well as the structuring of the new **Trans-Balkan Corridor**, based on links between Italy and the Balkans. This corridor has strategic relevance as a gateway to EU candidate countries and as an integration element between the Adriatic, Balkan and Black Sea economies. The Mediterranean Corridor has also been extended, strengthening the eastern projection of the European network.

The acceptance of the Italian proposals confirms the European Commission's orientation toward greater functional specialization of the Core network's railway lines, distinguishing between lines primarily dedicated to freight traffic and those geared toward high-speed passenger traffic. This approach has allowed for the definition of two coastal freight routes and two passenger routes, one along the central axis and one along the Adriatic coast, as well as the inclusion of the Ionian section in the Comprehensive network, filling a significant infrastructure gap in southern Italy.

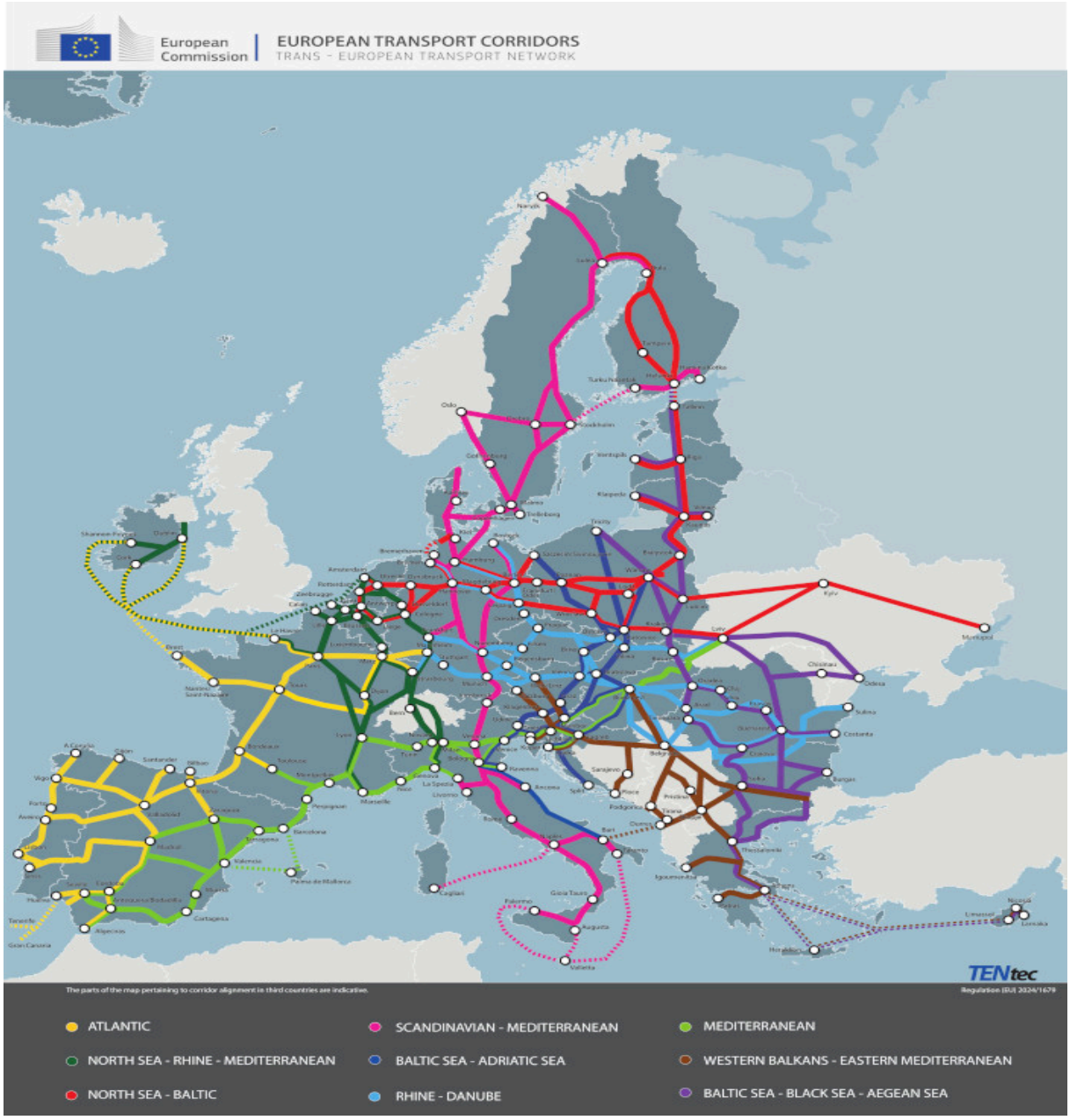

Figure 15 Map of European runners.

The new TEN-T corridor structure also includes additional ports, rail and road terminals, airports, and urban hubs, with the aim of ensuring greater territorial cohesion and more effective modal integration.

In this context, the Port of Taranto assumes specific relevance as the rail and road terminal node of the **Scandinavian–Mediterranean Corridor** and as a maritime connection point towards **Valletta**, positioning itself as a strategic element for the integration of Southern Italy into European networks. The development perspective is oriented towards the creation of an integrated logistics system around

the Ionian port, based on a network of specialized infrastructure and services capable of attracting maritime traffic, strengthening intermodality and supporting territorial economic development.

Overall, strengthening Italy's role in the European TEN-T corridors is a key element for the competitiveness of the national logistics system and for the full integration of Southern Italy into European transport networks.

In this context, the POT 2026–2028 of the AdSP MI is positioned as an implementation tool consistent with the new European framework, aimed at enhancing the strategic positioning of the port of Taranto within the continental corridors and contributing to the objectives of sustainability, resilience and balanced development of the transport system.

2.2.5 Digitalization of ports

Port Authorities (AdSPs) are currently subject to stringent digitalization requirements, aimed at improving logistical efficiency, safety, and environmental sustainability, in line with European directives and the PNRR. The Ministry of Infrastructure and Transport (MIT) has identified digitalization as one of the priority strategic objectives for 2024-2026.

The main digital obligations of the AdSPs:

- **Platform interoperability (PCS):** Port System Authorities must ensure that local **Port Community Systems (PCS)** are interoperable with one another and with the **National Logistics Platform (PLN)**. This is intended to digitalize cargo and passenger flows.
- **Digital procurement:** As of **1 January 2024**, Port System Authorities must use ANAC's **Public Contracts Platform (PCP)** and comply with the new digital procedures for public procurement tenders.
- **BIM implementation (Building Information Modelling):** mandatory adoption of BIM for the design and management of new port infrastructure, with strict targets for software implementation and staff training.
- **Transparency and Open Data:** Port System Authorities are required to ensure maximum transparency regarding the use of resources, by publishing data in accordance with applicable regulations and promoting the use of open data for port management.

- **Digital environmental management:** within the scope of the **"Green Ports"** programme under the NRRP, Port System Authorities must use digital tools to monitor and reduce CO_2 emissions and improve energy efficiency in ports.
- **Cybersecurity and cloud transition:** IT infrastructure must be aligned with cybersecurity regulations and migrated towards cloud-based solutions, with defined deadlines for compliance.

These obligations are part of the broader Smart Port and digitalization process of the Public Administration (Legislative Decree 76/2020), with a strong focus on digital and sustainable transition by 2026.

Specifically, about IT Security, Legislative Decree 138 of 4 September 2024 (the ″NIS Decree″) transposes into Italian law Directive (EU) 2022/2555, known as the ″NIS2 Directive,″ regarding measures for a high common level of IT security across the Union. This decree aims to ensure a high level of security for network and information systems in Italy, aligning it with European standards. To fulfil the obligations set forth in Articles 23, 24, and 25 of the aforementioned decree, NIS entities are required to adopt basic security measures and notify CSIRT Italy of significant basic incidents established by ACN Resolution no. 164179 of April 14, 2025. Within 18 months (October 2026) of receiving notification of inclusion in the national NIS list, important entities are required to adopt the security measures listed in Annex 1 of the aforementioned ACN resolution, while essential entities are required to adopt the security measures listed in Annex 2 of the same resolution. In Italy, security measures have been developed in accordance with the National Cybersecurity and Data Protection Framework and are organized into functions, categories, subcategories, and requirements.

By note MIT protocol No. 778/2023/Naz/0 of **6 December 2023**, concerning the implementation of Legislative Decree No. 65/2018 (transposing Directive (EU) 2016/1148, the "NIS Directive"), AdSP MI was identified as an **Operator of Essential Services** in the Transport Sector – Sub-sector: transport by water.

Subsequently, following the entry into force of Legislative Decree no. 138/2024, the AdSP MI was included among the essential entities listed in Annex I of the same decree ″Highly critical sectors″ (″Transport - Waterborne transport - Port management bodies″).

2.3 The green transition

2.3.1 The European Green Deal and the Emerging Opportunities of the Blue Economy

The European Green Deal[10] is the European Commission's action plan to make Europe the first climate-neutral continent by 2050. Presented in December 2019, it is not just an environmental strategy, but a true economic growth strategy aimed at transforming the EU into a modern, resource-efficient and competitive economy.

The main objectives are:

- Climate neutrality: achieving net-zero greenhouse gas emissions by 2050.
- Interim target 2030: reduce emissions by at least 55% compared to 1990 levels (through the Fit for 55 legislative package).
- Circular economy: decoupling economic growth from the use of natural resources.
- Just transition: ensuring that no person and no region is left behind (supported by the Just Transition Mechanism).

The Green Deal affects every sector of the economy:

- Energy: Decarbonise the energy system (responsible for over 75% of EU emissions).
- Construction: Renovate buildings to improve their energy efficiency (Renovation Wave strategy).
- Mobility: reduce transport emissions by 90% by 2050.
- Agriculture: Making the food system sustainable through the Farm to Fork strategy.
- Industry: Supporting businesses towards green innovation and the circular economy.

To achieve these goals, the EU is mobilising over €1 trillion of sustainable investments over a decade, using funds from the EU budget and the NextGenerationEU programme.

The European Green Deal and the Blue Economy are closely interconnected: the European Union has established that there can be no "green" transition without a sustainable "blue" dimension.

In May 2021, the European Commission adopted a new strategy for a sustainable blue economy, replacing the old concept of "blue growth" to align all maritime activities with climate-neutrality objectives by 2050.

[10] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en

The integration focuses on several key areas to achieve the objectives of the Green Deal:

- Decarbonising maritime transport: reducing greenhouse gas emissions using alternative fuels (FuelEU Maritime Regulation) and extending the EU ETS to the shipping sector from 2024.
- Marine renewable energy: massive development of offshore wind, wave, and tidal energy. The goal is for these sources to generate a quarter of the EU's electricity by 2050.
- Circular economy and zero pollution: new standards for fishing gear design, ship recycling, and the drastic reduction of plastics and microplastics in the oceans.
- Biodiversity: Protect 30% of EU marine areas by 2030 to regenerate fish stocks and increase climate resilience.
- Sustainable food systems: promoting low-impact aquaculture and the use of seaweed as a source of sustainable food and materials (Farm to Fork strategy).

According to the latest EU Blue Economy Report 2025 [11], the sector has shown a strong post-pandemic recovery:

- Economic value: in 2023, it generated around €263 billion in gross value added (1.7% of total EU GDP).
- Employment: Employs nearly 4.9 million people.
- Record growth: The offshore wind energy sector saw a 1,049% increase in value added between 2013 and 2022.
- Efficiency: The EU fishing fleet has reduced CO_2 emissions by 31% since 2009.

A proposal for an EU Blue Deal, a complementary initiative to the Green Deal, has recently emerged, focusing on resilient water management and combating water scarcity, considered a strategic priority for the 2024-2029 period.

[11] https://blue-economy-observatory.ec.europa.eu/news/eu-blue-economy-report-2025-2025-05-22_en

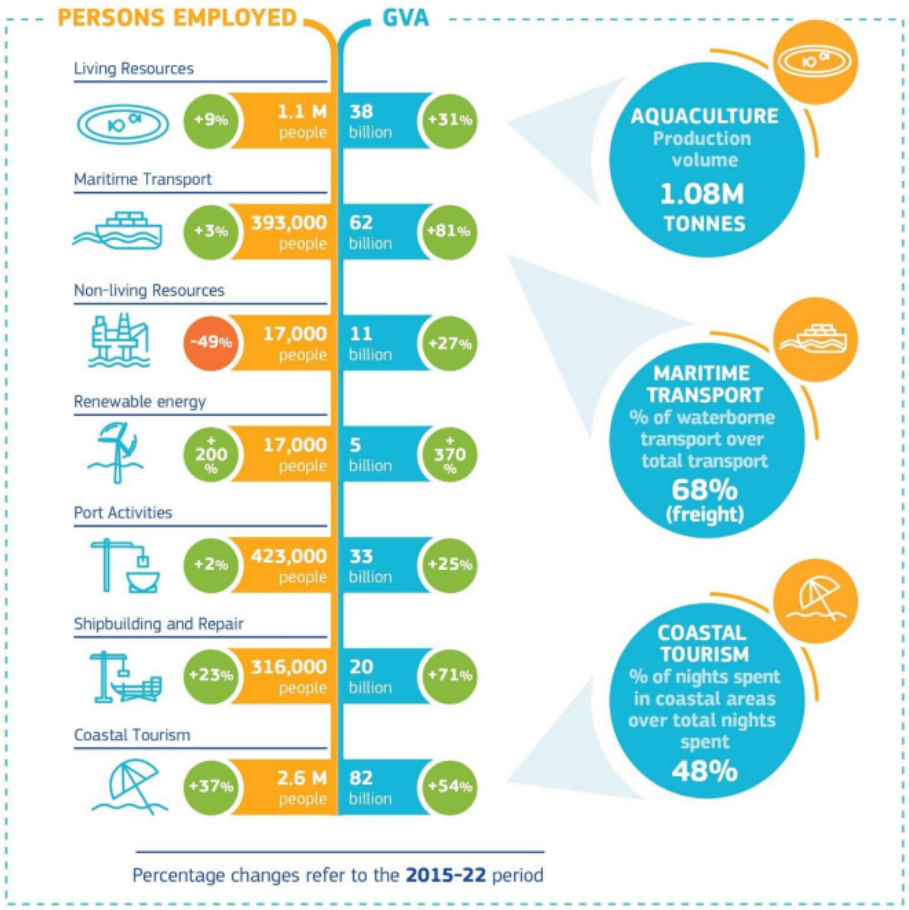

Figure 16 Consolidated Blue Economy sectors and value added (GVA). Source: EU 2025.

Traditionally, the main sectors of the Blue Economy in Europe that offer the greatest added value are maritime transport and coastal tourism (which includes cruises).

In Italy, all sectors directly employ over 553,000 people and generate approximately €27.8 billion in gross value added (2022). Although they represent a moderate share of the national economy, Italy's blue economy sectors contribute approximately 1.6% of national gross value added and 2.4% of national employment.

The relative size and share of the blue economy in Italy in terms of employment have fluctuated since 2009. Between 2009 and 2014, its workforce decreased from nearly 679,000 jobs in 2009 (about 3% of national employment) to 465,000 jobs in 2014 (2.1% of national employment), a 31% reduction primarily due to a sharp decline in coastal tourism.

Since then, it has experienced steady growth, despite the continued decline in employment in the marine extraction industry (oil and gas subsector). The COVID-19 pandemic has hit the country's blue

economy particularly hard, with a 27% contraction (nearly 160,000 jobs) in its workforce between 2019 and 2020, 80% of which was recovered by 2022.

In terms of GVA, Italy's blue economy before the pandemic ranged in nominal terms between €18.7 billion (the lowest level recorded in 2013) and €26 billion, the peak reached in 2019 (equal to 1.6% of the national GVA). The impact of the health crisis was among the most severe in the EU, with a 42% contraction to €15.1 billion in 2020. This loss was fully recovered in 2022, when the nominal GVA of the country's blue economy reached the highest level recorded by our data since 2009.

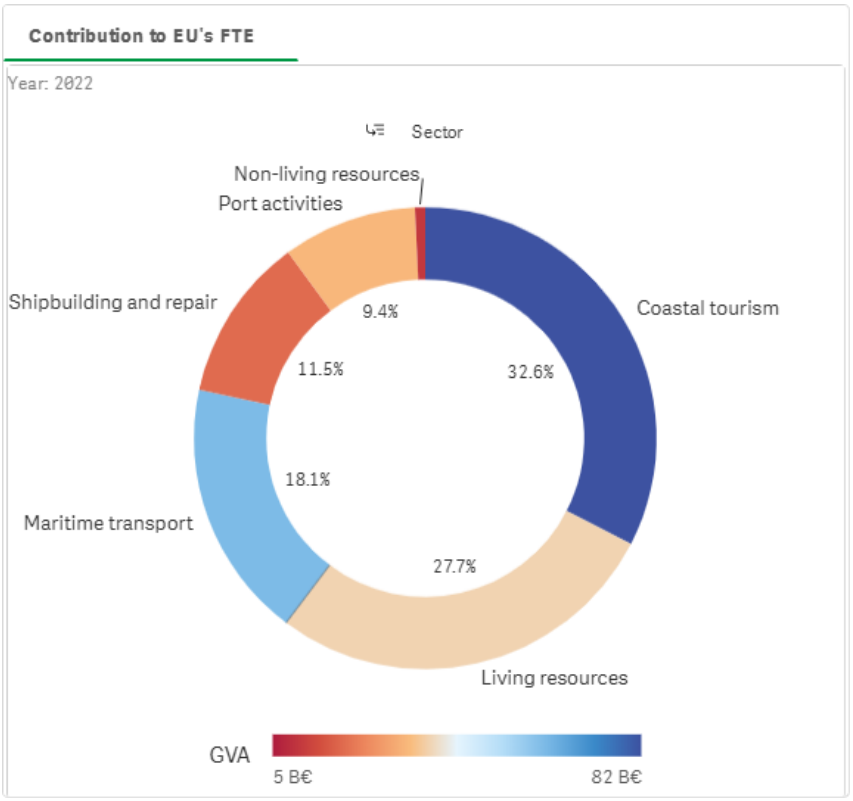

Figure 17 Distribution of value added by blue economy sectors in Italy. Source: EU 2025.

The most important sector of the blue economy in Italy is coastal tourism, a sector particularly vulnerable to shocks such as those generated by COVID-19 and the long-term effects of climate change. This sector contributes nearly 36% of the country's blue economy GVA and nearly 45% of its workforce (248,000 jobs). Living resources and maritime transport follow, each accounting for over 19% of the total blue economy GVA. The fourth largest sector is shipbuilding and repair, which accounts for 14% of the national blue economy GVA.

In employment terms, the **living resources** sector is the second-largest component of Italy's blue economy after coastal tourism, accounting for almost **28% of the national Blue Economy workforce (154,000 jobs)**. Maritime transport accounts for a further **12%** of the country's Blue Economy workforce. Shipbuilding and repair provide another **9%** of Blue Economy jobs, followed by **port activities (6%)**.

In the EU, Italy's blue economy ranks fourth in terms of contribution to both gross value added (GVA) and employment. It ranks second in the EU for employment in coastal tourism (after Spain), maritime transport (after Germany), and shipbuilding and repair (after France).

Table 1 Key European regulations relating to the European Green Deal.

Regulation	Object	Impacts on the port
FuelEU Maritime (EU 2023/1805)	Reducing the GHG intensity of marine fuels	Need for alternative fuel infrastructure and OPS
EU Maritime ETS (EU 2023/959)	Inclusion of maritime transport in the ETS	Emissions monitoring, MRV digitalization, tariff impacts
AFIR (EU 2023/1804)	Alternative fuel infrastructure	OPS mandatory by 2030 for passengers and containers
RED III (EU 2023/2413)	Renewables share in transport	Need for local renewable energy production
Ship Recycling (EU 1257/2013)	Standard for ship recycling	Dedicated areas, hazardous waste management, material traceability

2.3.2 The circular economy in the context of the blue economy

The **circular economy** is a model of production and consumption based on sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products for as long as possible. In this way, product life cycles are extended.

In practice, this means minimizing waste. When a product reaches the end of its life cycle, its materials are retained within the economy, where possible, through recycling. These can be reused productively multiple times, thus creating additional value.

This represents a departure from the traditional linear economic model, based on a "take-make-consume-throw away" model. This model relies on large quantities of cheap and easily accessible materials and energy.

A widely used definition is the following: "An economic system in which resource input and waste, emissions and energy leakage are minimised through recycling, extending, intensifying and

dematerialising material and energy loops." This can be achieved through digitalisation, servitisation, sharing solutions, durable product design, maintenance, repair, reuse, remanufacturing, refurbishment and recycling (Geissdoerfer et al., 2020).

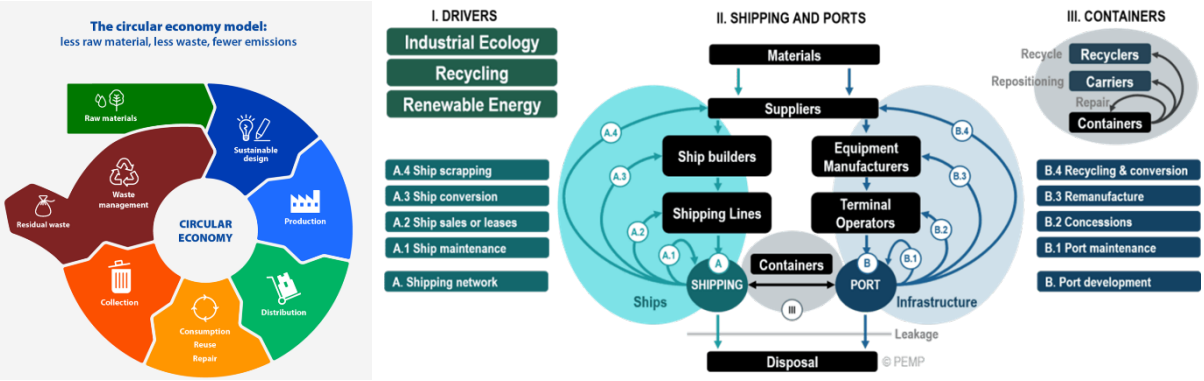

Figure 18 The concept of the circular economy, including in the maritime context. Source: Internet.

With reference to Figure 18, circularity in the shipping and port sector consists of: maintenance, reuse, reconversion and recycling.

- Maintenance is a basic form of circularity and ensures that a product can be reused multiple times and its life cycle is extended. To maintain acceptable operating conditions, both ships (A.1) and ports (B.1) require recurring maintenance. For capital-intensive goods, maintenance is a common aspect of extending their life cycle, unlike many consumer goods, which are not designed to be repaired. Therefore, the port and maritime sectors rely on substantial repair and maintenance practices, where cost-effectiveness and predictability are at the core of their commercial viability. Maintenance is a particularly challenging issue for port terminals, as operations must continue while maintenance is in progress.
- There is a large market for the sale or charter of vessels (A.2), which allows for the sharing of naval resources and continued optimal utilization. For example, many of the largest shipping companies can charter more than half of their naval assets. At the end of the charter contract, the vessel can return to the charter market and be "repurposed." Another circular feature involves the shift of vessels from long-distance to regional connecting maritime services when new, larger vessels are introduced. Since ports are fixed assets, concessions (B.2) can be perceived as circularity mechanisms in which port authorities offer terminal assets for lease. Once the concession expires, the terminal asset can be leased to another terminal operator. Terminal equipment can also be leased to cover periods of high activity or to eliminate excess capacity.

- Ships can be converted for new uses and new propulsion technologies (A.3). For example, the first container ships were converted bulk carriers and fractional cargo vessels, while the first cruise ships were converted liners. The low-sulphur bunker fuel requirements introduced in 2020 are pushing many shipping companies to retrofit their ships' engines with technologies such as scrubbers. In the port sector, modifying the function or operational characteristics of a port terminal by upgrading existing equipment (B.3) is a form of circularity. For example, cranes and yard equipment can be retrofitted for automation.
- There is a large industry dedicated to **ship dismantling** and the recycling of ship components, especially metals (A.4). India and Bangladesh are the most important locations for ship dismantling. Once terminal equipment reaches the end of its life cycle, it can also be disposed of and recycled (B.4). A more complex issue concerns the spatial footprint of a terminal that may be converted to other uses, such as residential development. For example, if the nautical profile of a terminal is no longer suitable for port operations (e.g. lack of adequate depth), the site may be "recycled" through urban regeneration.

With specific regard to recycling, the market for the recovery of materials from ship dismantling appears to be a particularly promising prospect. According to recent **BIMCO** studies, over the next ten years, from 2023 to 2032, more than **15,000 ships** with a cargo capacity of over **600 million tonnes** are expected to be recycled—more than double the number recycled over the previous decade. In general, **95-98% by weight** of a ship's materials is recycled. The trend is promising (Figure 19), although it has recently seen a decline due to the presence of cheaper steel from China. The leading European market is Turkey.

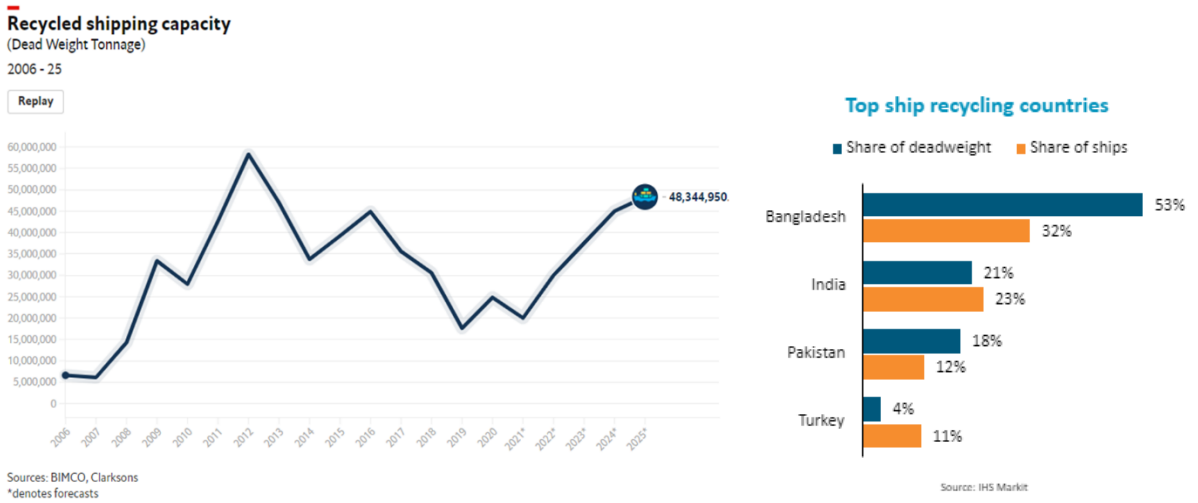

Figure 19 Ship recycling capacity and leading countries. Source: BIMCO, IHS.

2.3.3 The cruise industry

The cruise industry is a significant economic driver for local destinations, generating an impact that encompasses direct, indirect, and induced benefits. Although previous estimates indicated a generated value of approximately €14 billion, the final figures for 2024 confirm the sector's absolute centrality, which closed the year as the best period ever for the Italian cruise industry. In 2024, Italian ports handled over 14.22 million passengers (including embarkations, disembarkations, and transits), marking a 3% growth compared to the already record 2023. (Source: Risposte-Turismo: Cruise traffic in Italy in 2024 and forecasts for 2025)

At the local level, added value manifests itself through various channels:

- Passenger spending: the economic impact is driven by a daily per capita expenditure significantly higher than that of the average tourist (around € 230 versus € 70), with immediate repercussions on local trade and services.
- Direct port benefits: the port directly benefits from the 5,127 ship calls recorded in 2024 (+3.6% on 2023) through berthing rights and technical-nautical services.
- Employment and related industries: the sector supports employment in coastal tourism and throughout the logistics and supply chain.

Traffic is not evenly distributed but is strongly concentrated in strategic areas. In 2024, Lazio and Liguria remained the top two regions, accounting for 46% of total passengers and 32% of berths. Specifically:

- Lazio regained the top spot with 3.46 million passengers.
- Liguria follows with over 3 million passengers, despite a slight decline.
- Sicily and Campania complete the top regions, bringing the national traffic concentration to 72% when combined with Lazio and Liguria.

Italy plays a leading role in the Mediterranean. With 3.46 million passengers, Civitavecchia ranks as the second port in the Mediterranean, closely behind Barcelona. Other ports such as Naples (1.73 million) and Genoa (1.53 million) maintain leading positions in the European top ten, while ports such as Livorno and Messina recorded exceptional growth in 2024 (+35.4% and +17.4% respectively compared with 2023).

A significant phenomenon is the positive fragmentation of destinations: in 2024, active cruise ports rose to 64, with the entry of new ports such as Pozzuoli and Termoli, capable of welcoming small, *luxury- category ships.*

The sector is experiencing polarization: on one side, "mega" ships (over 3,500 passengers) that guarantee large volumes, on the other, small luxury vessels for exclusive itineraries. Regarding

seasonality, although the summer months (June-September) still account for 54.9% of traffic, a de-seasonalization trend is observed in ports such as Palermo and Savona, which maintain significant shares even in the winter months.

It should also be considered that cruise ships are those that will benefit most from the cold ironing, being highly energy-intensive in port.

Table 2 OPS power requirements for different types of ships.

Ship type	OPS Power Requirement	Average parking duration	Average energy delivered
Container ship	6–12 MW	6–12 h	36–144 MWh
Ro-pax	4–8 MW	4–8 h	16–64 MWh
Cruises	10–20 MW	8–12 h	96–240 MWh

2.3.4 Italy's role in the green transition

The year 2025 marked a turning point for Italian ports, consolidating the peninsula's role not only as a natural logistics platform for the Mediterranean, but also as a true laboratory for Europe's energy transition. In a global context still affected by geopolitical instability along the Red Sea routes, the national port system demonstrated resilience beyond expectations.

Consolidated data for 2025 show moderate but significant growth in overall volumes. Compared to 2024, the Italian port system recorded a 1.2% increase in cargo handled (approximately 250 million tons in the first half of the year alone) (source: Assoporti and Studi Ricerche per il Mezzogiorno).

- Container shipping: maintained a positive trend with a 2.6% increase, driven by the reorganization of supply chains and the strengthening of *intra -Med services.* By 2025, the Mediterranean had consistently surpassed Northern Europe in container volumes handled (over 82 million TEUs in total).
- Solid bulk cargoes experienced extraordinary growth (+18.9%), driven by the recovery of certain industrial sectors and new raw material supply dynamics.
- Passengers and cruises: the sector confirmed its global leadership with a +5.8% increase, exceeding 30 million passengers and consolidating Italy as a *top- tier destination* for European cruise tourism.

The transition to "Green Port" models is no longer a theoretical vision, but an operational reality supported by PNRR funds (Mission 3). With a total investment of approximately €270 million, 2025 marked the completion of critical construction sites. The main projects involved:

- **OPS** (Electrification of Docks): By the end of 2025, over 25 connection points will be operational or undergoing final testing in the main ports (Genoa, Trieste, Civitavecchia). The goal is to drastically reduce CO_2 and SOx emissions during ship docking.
- **Hydrogen Port Valleys:** the first pilot projects for the production and use of green hydrogen in ports have been launched, aimed at powering quayside handling equipment and, ultimately, short-sea shipping.
- **Energy efficiency:** massive digitalization interventions in logistics (Smart Ports) have allowed a reduction in waiting times for heavy vehicles, optimizing energy consumption in terminals by -15%.

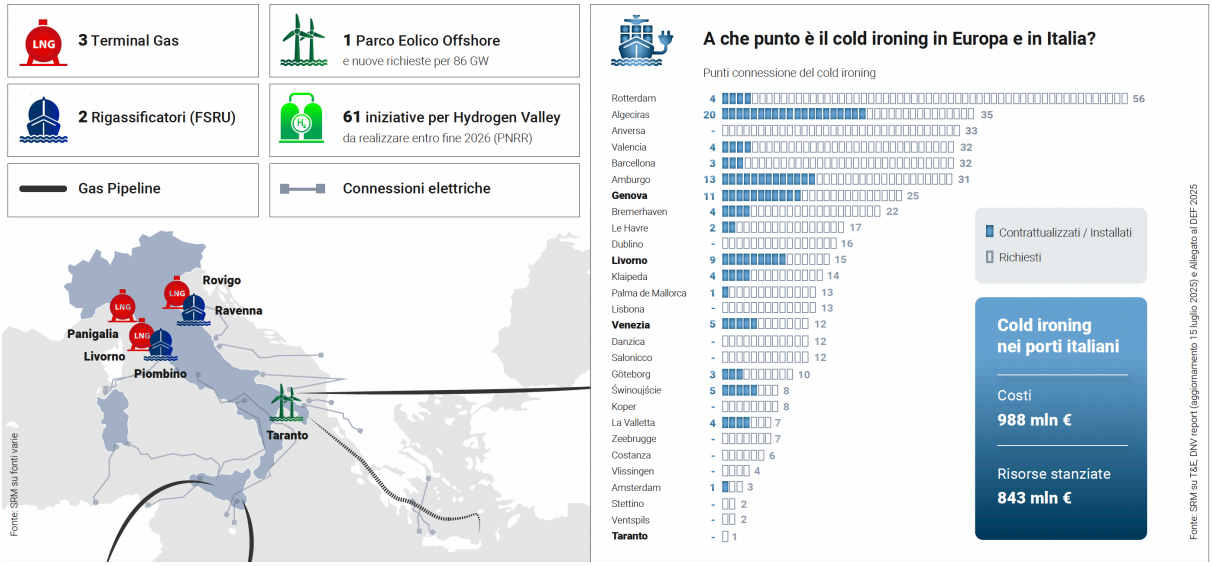

Figure 20 Energy situation in Italian ports. Source: SRM 2025.

Italy has officially opened the offshore wind market, identifying ports as the missing link in the industrial supply chain.

- **Strategic hubs:** With the July 2025 decree, the ports of **Augusta** and **Taranto** were designated as national hubs for the construction, assembly, and launch of offshore wind farms (floating and fixed -bottom). The **€78.3 million investment,** which began in 2025, aims to upgrade the seabed and quay areas.
- **Market pipeline:** Market demand is driven by ambitious projects such as the **Barium Bay floating wind farm (1.1 GW),** which obtained environmental permits in May 2025. The national pipeline envisages the installation of over 10 GW of capacity by 2035, requiring an infrastructure conversion of southern ports to support new-generation turbines of over 15 MW.

Despite tensions in the Suez Canal having pushed some traffic towards the Cape of Good Hope, Italy has strengthened its role as the "Southern Gateway" for the TEN-T corridors.

2.3.5 Focus on offshore wind - market demand & pipeline

The offshore wind market is undergoing a structural transition, characterized by a shift from accelerated growth to a process of progressive consolidation. This evolution is attributable to global macroeconomic factors, including rising inflation, rising raw material and technology costs, as well as permitting and supply chain complexities, which have impacted project completion times in the short term. Despite these economic challenges, the medium- to long-term outlook for the sector remains highly positive and confirms the role of offshore wind as a cornerstone of decarbonization and energy security strategies.

In 2024, global installed offshore wind capacity reached approximately 83 GW. New installations slowed in the same year, with approximately 8 GW connected to the grid, a 26% decrease compared to the previous year, primarily due to authorization delays in Europe and supply chain challenges. This short-term decline, however, does not undermine the strength of the global pipeline, which highlights strong development potential for the decade 2025–2034. Projections indicate global offshore capacity will grow from current levels to over 440 GW by 2034, with an estimated compound annual growth rate of between 14.6% and 19%, confirming structurally expanding demand.

From an economic perspective, the global offshore wind market was estimated at approximately **USD 39.97 billion in 2024**, with projected growth to **USD 65.04 billion by 2030** and a **CAGR of 8.9%** over the 2025–2030 period. Another estimate places the total value of the offshore wind energy market at **USD 55.9 billion in 2024**, with projected growth to **USD 298.8 billion by 2034**, consistent with a **CAGR of 14.6%**. These dynamics are supported by increasing electricity demand, growing decarbonisation requirements, and favourable regulatory frameworks such as dedicated auctions, incentive tariffs, contracts for difference, and new financing models including **Power Purchase Agreements (PPAs)** and **green bonds**.

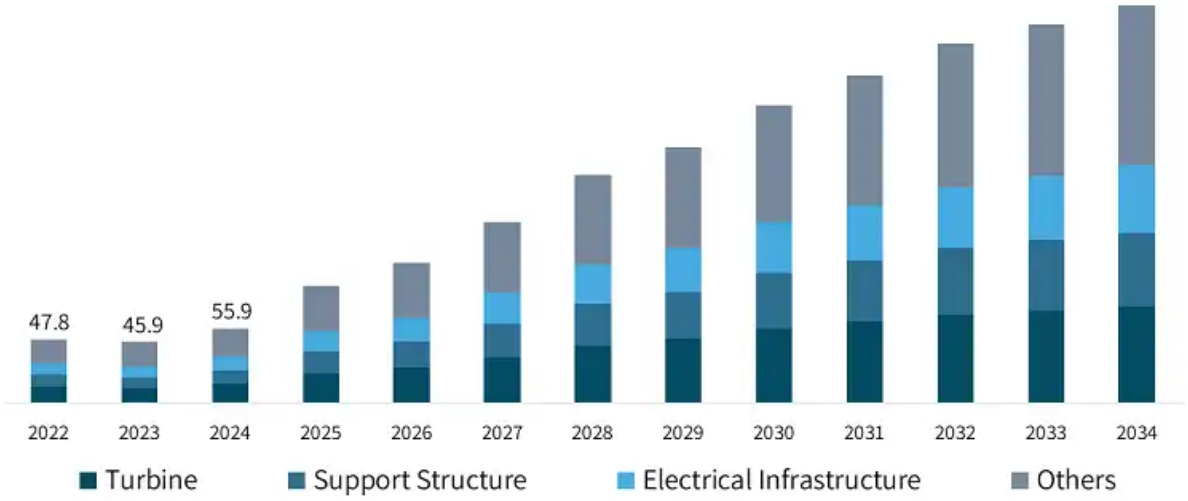

Figure 21 OWE Market Size (USD Billions). Source: www.gminsigths.com.

The main market drivers are climate neutrality goals, the need to reduce energy dependence, rising PPA prices, and strengthening public policies supporting renewable energy sources. At the same time, technological advances are helping to improve the economic sustainability of projects using increasingly larger and more efficient turbines. In 2024, projects with turbines larger than 5 MW accounted for approximately 43.69% of the market, with a growing trend toward 15–18 MW solutions, which can reduce the average cost per megawatt-hour and increase plant productivity.

Geographically, the global pipeline shows strong concentration in a few key regions. China remains the world leader in new installations and cumulative capacity, accounting for approximately half of the global market for the seventh consecutive year. Europe represents the second largest market, with over 19 GW installed in the European Union in 2023 and the strategic goal of reaching 300 GW of offshore capacity by 2050, in line with the European Green Deal.

At the same time, the pipeline is rapidly growing in emerging markets in Asia-Pacific and the Americas. In Asia, Japan, South Korea, the Philippines, and Vietnam are developing numerous projects, thanks in part to growing interest in floating technologies. In the Americas, Brazil and Colombia are emerging as new development hubs, while in the United States, despite delays and project revisions, the goal of installing 30 GW of offshore capacity by 2030 remains on track, with the East Coast as the primary hub. This trajectory is supported by federal policies and the U.S. Department of Energy's commitment to research, development, and technology demonstration activities aimed at overcoming barriers to the large-scale deployment of offshore wind.

The offshore wind industry is therefore evolving from a "growth at all costs" phase to a recalibration phase, in which the stability of public policies, project bankability, and robust supply chains play a central role. Alongside the opportunities offered by the development of floating technologies, which allow for the installation of plants in deep waters with better wind conditions, several structural challenges remain, such as high initial investments, the complexity of installation and maintenance operations, environmental issues, and the need to upgrade grid and electricity connection infrastructure.

These factors require an integrated approach, combining energy, industrial, and infrastructure planning. In this context, Southern Italy, and particularly the Ionian port system, are of high strategic interest for the development of floating offshore wind. The geographical location of the Port of Taranto, the availability of state-owned and inland areas, existing and currently under development infrastructure, and its proximity to the marine areas affected by major projects make the port a potential hub for the Mediterranean offshore wind industry. The port can play a key role in both the construction, assembly, and launching of wind farms, as well as in subsequent operation and maintenance activities, contributing to the development of an integrated industrial supply chain and the enhancement of the port logistics system, consistent with the energy transition, sustainability, and competitiveness objectives outlined in the Plan.

2.4 The Port of Taranto

2.4.1 Main features

The Port of Taranto represents one of the most significant infrastructural assets of the Italian port system, strategically positioned in the heart of the Mediterranean Sea (see Figure 22)

- **Geographic coordinates:** the airport is located at Latitude 40° 27′ North – Longitude 17° 12′ East.
- **Centrality in global routes:** The port is only 172 nautical miles from the main Suez-Gibraltar route.
- **Morphology and territorial scope:** The port is located on the northern coast of the Gulf of the same name, encompassing a large outer harbour (Mar Grande) and an inner inlet (Mar Piccolo). The territorial scope of the Port Authority was formally defined by a Decree of the Minister of Transport and Navigation dated April 6, 1994, and subsequently expanded by a Ministerial Decree dated June 23, 2004. The administrative boundaries extend from the western pier of the Aragonese Castle to the left bank of the Tara River.

Figure 22 Position of the port of Taranto in the Mediterranean maritime freight flow scenario. Source: Marinetraffic.com.

The analysis of spatial data highlights a first-rate land endowment, with management divided between public functions and specialized concession regimes.

Table 3 Distribution of port areas.

Area Type	Surface area (m2)
Total Port Area Surface Area	**4,500,000**
Concession areas	2,300,000
Public operating platforms	200,000
Common areas, roads and restricted areas *	1,600,000

**Technical note: The remaining 1.6 million square meters are intended for shared services, road infrastructure, and land areas not specifically classified as public operating docks.*

Table 4 Linear development of the platforms.

Dock Type	Length (m)
Total Linear Development (Official Data)	**13,027**
Docks under concession	9.310
Public docks	3,720

Note: The linear total of 13,027 meters represents the official catalogue figure; the sum of the operational components reflects almost the entire available quay length.

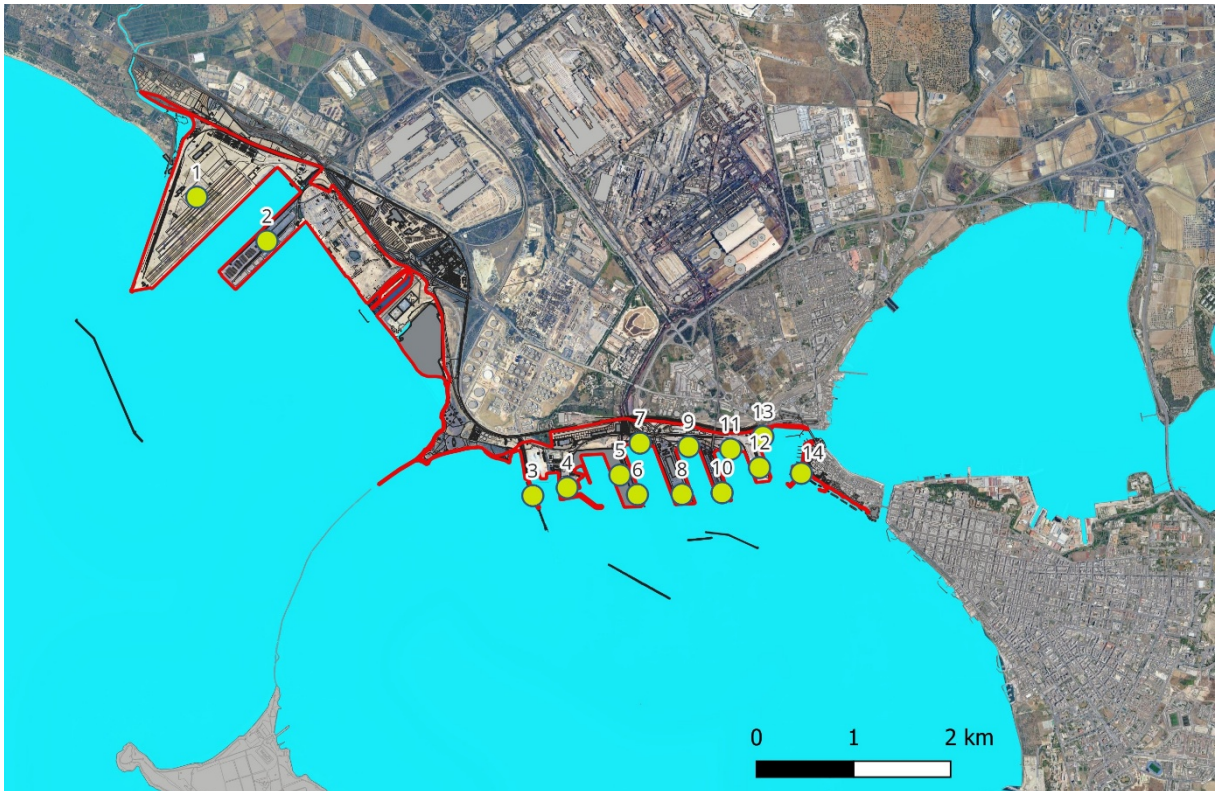

Figure 23 Functional framework layout of the port of Taranto.

With reference to Figure 23, the functional elements of the port are:

Name of the berth	Dealer	Length (m)	Goods handled/passengers
DESCENT 1	FREE PLATFORM	240	Various
1st PROJECTION - East	FREE PLATFORM	360	Various
1st PROJECTION - West	FREE PLATFORM	330	Various
1st PROJECTION - Header	FREE PLATFORM	130	Various
DESCENT 2	FREE PLATFORM	290	Various
2nd PROJECTION - East	STEELWORKS OF ITALY	515	Iron ore discharge
2nd PROJECTION - Header	STEELWORKS OF ITALY	143	Technical stop for ships
2nd PROJECTION - West	STEEL MILLS OF ITALY	550	Steel material

DESCENT 3	STEEL MILLS OF ITALY	230	Ferroalloys – slag
3rd PROJECTION - East	STEEL MILLS OF ITALY	615	Steel materials
3rd PROJECTION - Header	STEEL MILLS OF ITALY	200	Tar fuel
3rd PROJECTION - West	STEELWORKS OF ITALY	630	Steel material
DESCENT 4	FREE PLATFORM	300	Various
4th PROJECTION - Levant root	CEMITALY SPA	167	Cement load
4th PROJECTION - East	STEELWORKS OF ITALY	434	Iron and coal unloading
4th PROJECTION - Header	STEELWORKS OF ITALY + FREE QUAY	72 + 113	Bitumen loading + Miscellaneous
4th PROJECTION - West	FREE PLATFORM	600	Various
DESCENT 4 BIS	FREE PLATFORM	230	Various
OIL PIER	ENI SpA	560 + 560	Refined petroleum products
BUOY FIELD	ENI SpA		Crude oil discharge
5th PROJECTION - West	STEEL MILLS OF ITALY	1,200	Steel products
DESCENT 5	FREE PLATFORM	310	Various
MULTI-SECTOR PIER	SAN CATALDO CONTAINER TERMINAL SPA	1,800	Container handling/Miscellaneous goods/Ro-Ro

The depth characteristics according to bathymetric 2022 are illustrated in the following figures.

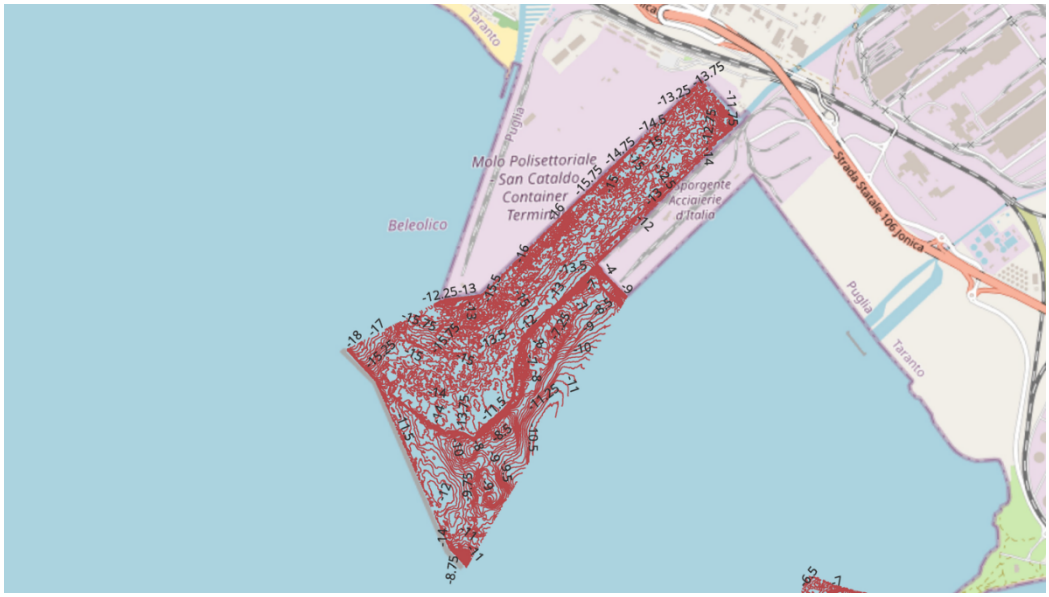

Figure 24 Bathymetric profiles in the area of the Multi-purpose Pier

Figure 25 Bathymetric profiles of the landings. 2022 surveys.

Specifically, the maximum permitted draught at the docks is shown in the table below, updated with the latest Port Authority Ordinance dated January 23, 2026.

Table 5 Maximum allowable draught (January 2026).

Berths	
Berth 1	Max immersion 7.40 m
Berth 2	9.80 m for the first 175 m from the edge with the 1st protruding; 8.70 m for the remaining 110 m
Berth 3	9.00 m
Berth 4	9.50 m (vessel length limit 200 m)
Berth 4 bis	10.50 m (vessel length limit 140 m)
Berth 5	10.50 m (vessel length limit 205 m)
Pier 1	
Levant	8.5 m (no mooring within the first 20 metres from the head)
Header	5.60 m (first 40 m) and 8.00 m (remaining 90 m). Mooring on the port side is mandatory.
West	10.00 m
Pier II	
Levant	Variable between 14.50 m (first 150 m from the root) and 15.50 m (remaining 365 m)
Header	10 m (max ship length 100 m)
West	9.30 m (max ship length 230 m)
Pier III	
Levant	11.50 m (first 400 m from the root) and 10.70 m (remaining 170 m)
Header	10.50 m (maximum vessel length 180 m)
West	10 m (first 200 m) and 12 m (remaining 440 m)
Pier IV	
Levant	9.50 m at the root (first 200 m) then for the remaining part 22.50 m
Header	10.50 m west side, 7 m east side. Maximum vessel length 150 m.
West	11 m. Maximum vessel length 240 m.
Pier V and Multi-sector Pier	
5th Projecting	The first 50 meters of the quay are closed to mooring. Between 50 and 100 meters of the quay, 9.20 meters. Between 100 and 400 meters of the quay, 10.50 meters. Up to the head of the quay, 11 meters.
Multi-sector Pier	12.50 m from the edge of Abseil 5 for the first 600 m. 14 m for the remaining meters up to the head.
Other Infrastructures and Operations	
ENI Pier	Includes Berth 1 and 2 (7.90 m), Berth 3 (9.20 m), Berth 4 (9.10 m) and the New Berth Tempa Rossa (10.50 m), rated for vessels up to 260 m in length and 80,000 DWT.

Punta Rondinella Passage	6.70 towards the SW side of the cliff and 5.50 m in the centre towards the NE.

Operational efficiency is ensured **365 days per year**, supported by the natural protection of the gulf, artificial breakwaters, and negligible tidal range, which facilitates berthing operations.

Infrastructure development governance is regulated by the current **Port Master Plan (PRP)**, approved by Decree No. 142 of **11 October 2021** and published on **17 November 2021**.

2.4.2 Traffic Analysis

Traffic flow analysis highlights a phase of profound transformation for the Taranto port system, characterized by a contraction in historical bulk volumes and encouraging growth in the cruise sector.

Cargo sector (containers, solid and liquid bulk, Ro-Ro)

The 2016-2025 decade marks a phase of deindustrialization at the port, characterized by an unprecedented decline in volume. The figure for total freight tonnes highlights a structural erosion of the freight base, plummeting from 24,668,850 tonnes in 2016 to 12,201,174 tonnes in 2025. This trend represents a reduction in volumes of more than 50%.

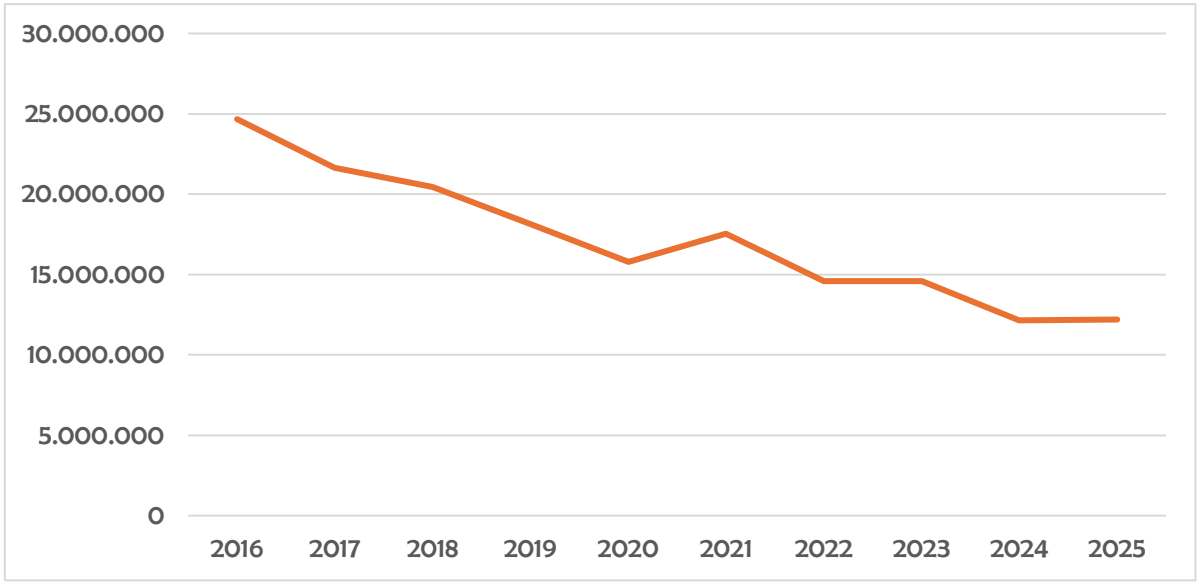

Figure 26 Evolution of freight traffic in the Port of Taranto over the last ten years (t, processing on AdSP data).

This trend reflects the urgent need for product diversification and efficiency improvements to reverse the trend and improve logistics flow management. The primary driver of this decline is the steep decline in dry bulk cargo, partially mitigated by the resilience of the liquid energy sector, as shown in the following table.

Table 6 Trends of solid and liquid bulk cargoes.

Year	Solid Bulk [t]	Liquid Bulk [t]
2016	13,736,471	5,534,336
2020	8,290,602	4,278,384
2025	5,584,514	4,481,133

The detailed analysis reveals a structural crisis in the extractive/energy model:

- **Dry bulk**: declined from **13.7 million tonnes** (2016) to **5.5 million tonnes** (2025).
- Miscellaneous cargo **General cargo**: decreased from **5.3 million tonnes** to **2.0 million tonnes**, confirming the contraction of traditional industrial flows.
- **Liquid bulk**: shows relative resilience, with a reduction of approximately **19%**, remaining at **4.4 million tonnes** in 2025.

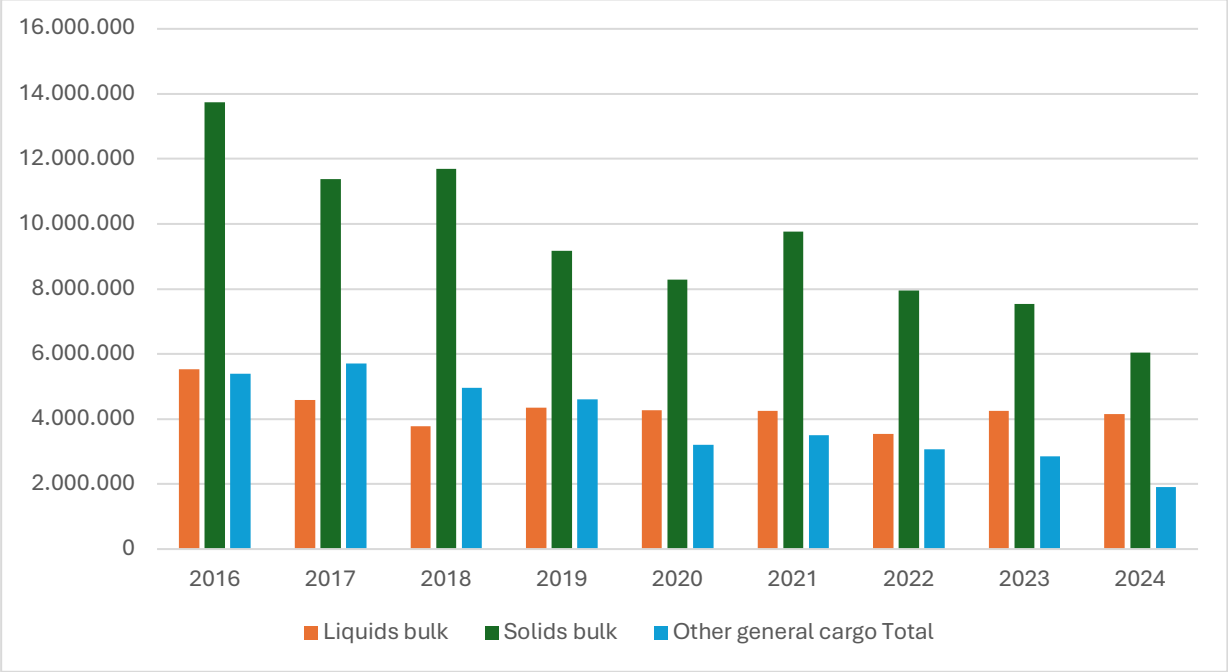

Figure 27 Evolution of bulk traffic by category.

This data confirms stakeholders' concerns about the instability of the steel and energy markets. In response to this operational gap, the port strategy could seize the opportunities arising from new emerging supply chains, such as those related to **renewable energy** and green materials.

In response to the decline in bulk cargo, the airport has attempted a modal shift toward unitized traffic. However, analysis of TEUs reveals marked volatility in gateway flows, indicating a logistics specialization that has not yet stabilized.

Starting from a marginal value of 375 TEU in 2016 (a period in which the terminal was inoperative), the sector reached a peak in 2023 with 40,625 TEU, before suffering a sharp contraction towards 9,374 units in 2025.

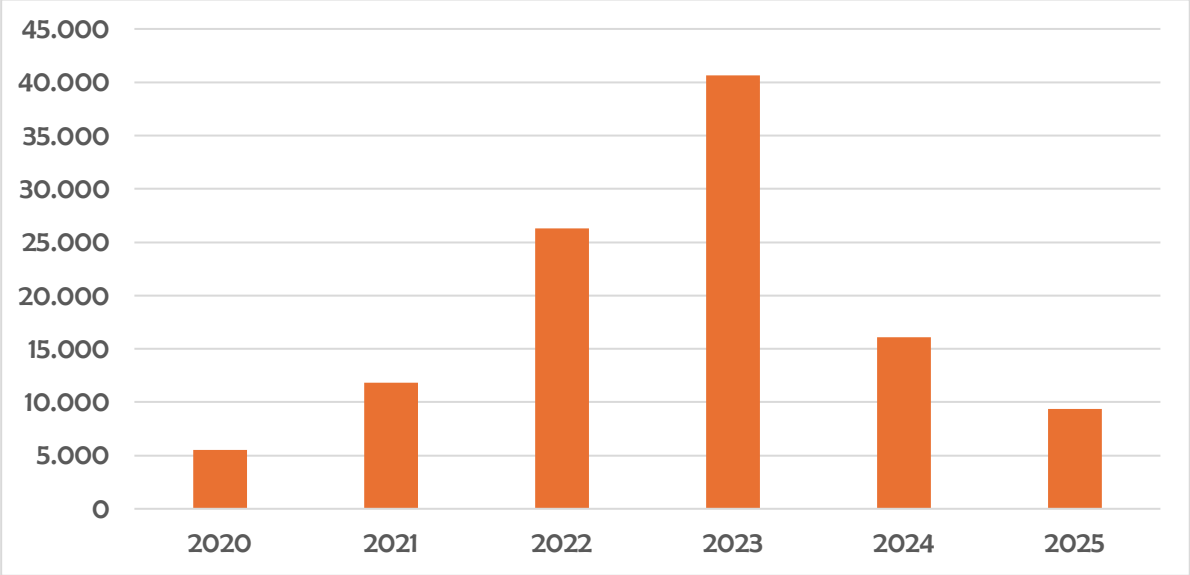

Figure 28 Trend of container traffic (TEU).

This instability reflects stakeholder concerns regarding aggressive competition from Mediterranean ports and the geopolitical instability affecting connections with Eastern markets.

Passenger sector

In stark contrast to the cargo sector, the passenger sector represents the port system's true emerging strength. The cruise sector has experienced exponential growth, going from zero in 2020 (due to the pandemic emergency) to 126,708 **passengers** in 2025.

The growth trend has been constant over the last four years.

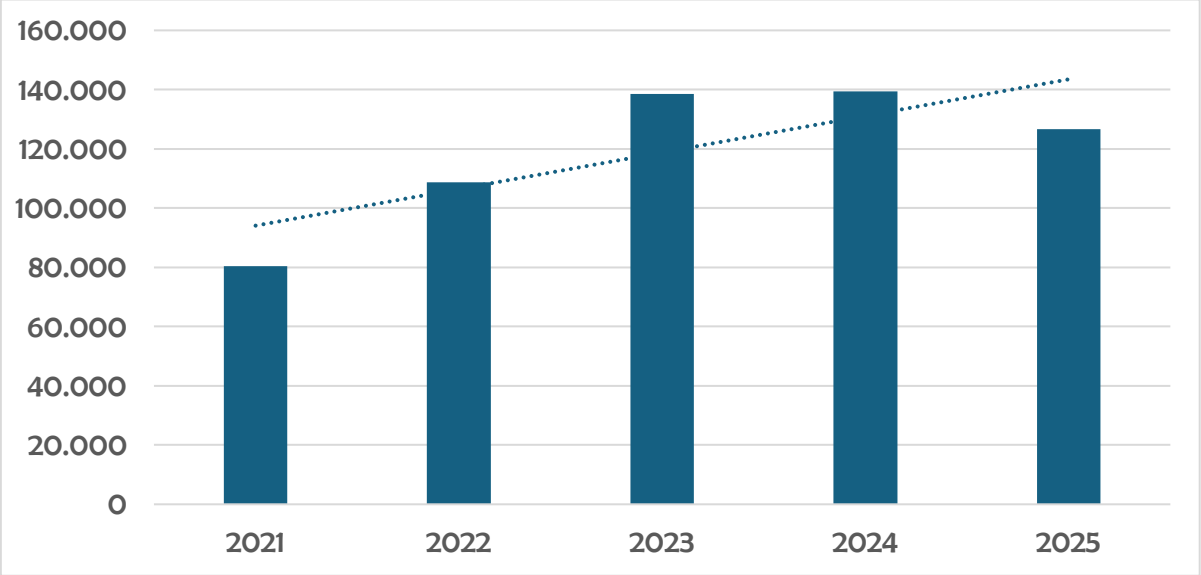

Figure 29 Cruise passenger traffic in the port of Taranto.

This success confirms the area's appeal and the port's potential as a *homeport,* despite the operational challenges highlighted by stakeholders, such as the need for dedicated terminals and the current requirement for shuttle services. Consolidating this traffic requires overcoming infrastructure gaps and improving tourist reception services to compete with international standards.

2.4.3 Competitiveness Analysis for Transhipment in the Port of Taranto

The port of Taranto, regarding container traffic, has so far been predominantly a transhipment port, not excluding a marginal gateway component. Container traffic is characterized by a *hub-and -spoke model,* whereby large-tonnage, large-capacity motherships along main trade lanes call at hub ports, which then exchange with secondary ports via feeder connections with smaller-capacity vessels. So-called naval gigantism has led to the deployment of large-capacity ships (e.g., Ultra Large Container Vessels - ULCVs), which, however, require very deep quaysides (18-20 m) since they have drafts of 16 m and more, depending on the cargo.

For this reason, transhipment hub ports are generally selected among those with the deepest waters, as well as for the terminal's performance characteristics (number of cranes, crane size, throughput, storage capacity, etc.) and port costs.

Table Table 7analyses the Mediterranean ports currently serving primarily transhipment purposes. Performance data from various sources reveal the predominance of the Spanish ports of Algeciras and Valencia in the western Mediterranean, and Piraeus in the eastern Mediterranean, along with Turkish

ports. In Italy, Gioia Tauro is the main transhipment hub, having regained its historic role in recent years. Interestingly, terminal capacity, combined with maximum allowable draft, make the difference in terms of competitiveness, as the transhipment port is notoriously substitutable and not geographically constrained by the hinterland's territorial context.

Table 7 Comparison of characteristics and performance of potentially competing transhipment ports.

Port	Nominal capacity of container terminals (MTEU)	Container traffic 2025 (TEU)	Maximum depth at container terminals (m)	Maximum draft allowed (m)	% Container Saturation	Presence of expansion /development projects	PLSCI
Algeciras	6	4.29	17	15.4	72%	No	511.86
Ambarli	4	3.43	17	14,5	86%	No	519,84
Beirut	1,5	1	16,5	12,5	67%	Yes	201,28
Cagliari	1,1	0,27	16	16	25%	Yes	34,47
Gioia Tauro	4,5	4,49	18	16,2	100%	No	318,53
Haifa	1,58	0,68	17,3	15,8	43%	No	207,78
Izmit	2,76	2,51	18,5	17,52	91%	Yes	81,24
Marsaxlokk	4	3	17	16	75%	Yes	264,42
Mersin	2,6	1,97	15,8	15,8	76%	No	359,81
Piraeus	7,3	5,1	19,5	16	70%	Yes	429.12
Taranto	2	0.01	16	14	0%	Yes	26.71
Valencia	5.6	5.66	18	16	101%	No	593.14

Figure 30 Comparison of characteristics of Mediterranean transhipment ports.

Table 8 dimensional characteristics of container ships.

Ship class	Capacity (TEU)	Length (LOA)	Width (Beam)	Typical Draft
Feeder	500–1.000	90–140 m	15–23 m	6–8 m
Feedermax	1.000–2.000	140–170 m	23–28 m	8–9,5 m
Panamax	3.000–5.000	200–295 m	32 m	10–12 m
Post-Panamax	5.000–8.000	275–300 m	40–43 m	12–13,5 m
New Panamax (Neo-Panamax)	10.000–14.000	295–335 m	49 m	13–14.5 m
Post -Panamax Plus	14,000–18,000	350–400 m	54–59 m	14–15.5 m
Ultra Large Container Vessel (ULCV)	18,000–24,000	395–400+ m	59–62 m	15–16 m

The **Taranto container terminal (Multipurpose Terminal)**, operated by **San Cataldo Container Terminal S.p.A.**, has a nominal capacity of **2 MTEU** and strong rail connectivity. However, it is currently constrained by a **maximum draught of 14.0 m** and by portainer cranes not capable of handling vessels above **4,000 TEU**, i.e. limited to feeder-class vessels.

2.5 Port accessibility and land connections

The Port of Taranto occupies a strategic geographical position in the Mediterranean, located along the Suez-Gibraltar route. It is designated as a core node of the Scandinavian-Mediterranean Corridor of the Trans-European Transport Network (TEN-T). Its competitiveness as an intermodal hub depends closely on the integration of port infrastructure, land connections (road and rail), and the concessional regimes of the Special Economic Zone (ZES) and the Free Customs Zone (ZFD).

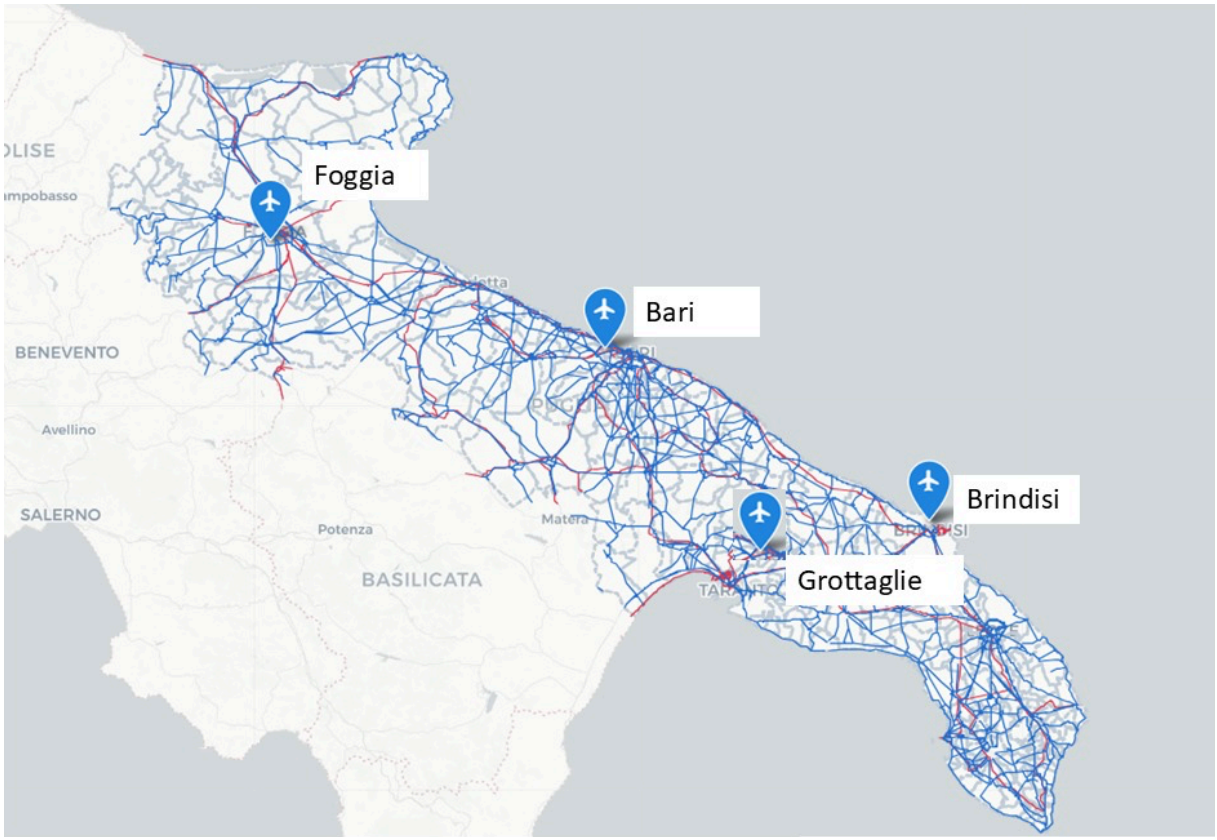

Figure 31 Accessibility to the Port of Taranto (source: dabimus.com)

Road accessibility to the Port of Taranto is guaranteed by a network of arteries connecting it to the main regional and national markets:

- **Highway network:** The port is only 15 km from the entrance to the A14 (Adriatica) highway, which connects Taranto to Bari and, via interchanges, to Naples (A16), Rome, and northern Italy. The

port's route to the highway, located outside the city centre, is free of bottlenecks, facilitating the transit of heavy vehicles.

- State Roads (SS):
    - **SS 106 (Jonica):** essential for connections to Calabria and Reggio Calabria.
    - **SS 7 (Via Appia):** connects the airport to Bari, Brindisi and Lecce.
    - **SS 100:** direct connecting road to Gioia del Colle and Bari.
- **Taranto-Grottaglie-Brindisi highway:** important for the transversal connection of the Salento peninsula.
- **Internal infrastructure:** the port has the "Strada dei Moli", an integral part of the so-called Port Platform, aimed at optimizing internal traffic within the port basin.
- The current situation of the port can be described as follows:

infrastructure: The container terminal is equipped with a five-track system directly connected to the national rail network on the western side. This allows for an estimated *transit time* of approximately 30-34 hours for container transport to Central Europe (e.g., Munich-Riem).

- Node enhancement projects (2024-2025 horizon):
    - Taranto Station: activation of electrified tracks with a standard length of 750 meters (compared to the previous 450m) to optimize the composition of freight trains.
    - Cagioni station: construction of three centralized tracks to connect the multi-sector pier's logistics platform to the RFI network.
- **Adriatic Corridor:** RFI's €8.5 billion investment in the Lecce-Bari-Bologna line will speed up the Brindisi-Taranto route, consolidating the port's role as a gateway for international traffic in Southern Italy.

The current rail infrastructure of the Port of Taranto is considered optimal, representing a significant strategic advantage in the context of central and southern Italy. The current configuration features five interconnected piers. Rail specialization, to be created based on achievable trade flows, could also provide specialized piers and the expected traffic flows entering the port.

Specific technical facilities ensure efficient handling and interconnection with major industrial hubs. The port has a massive rail link that connects directly to the steelworks via dedicated tracks.

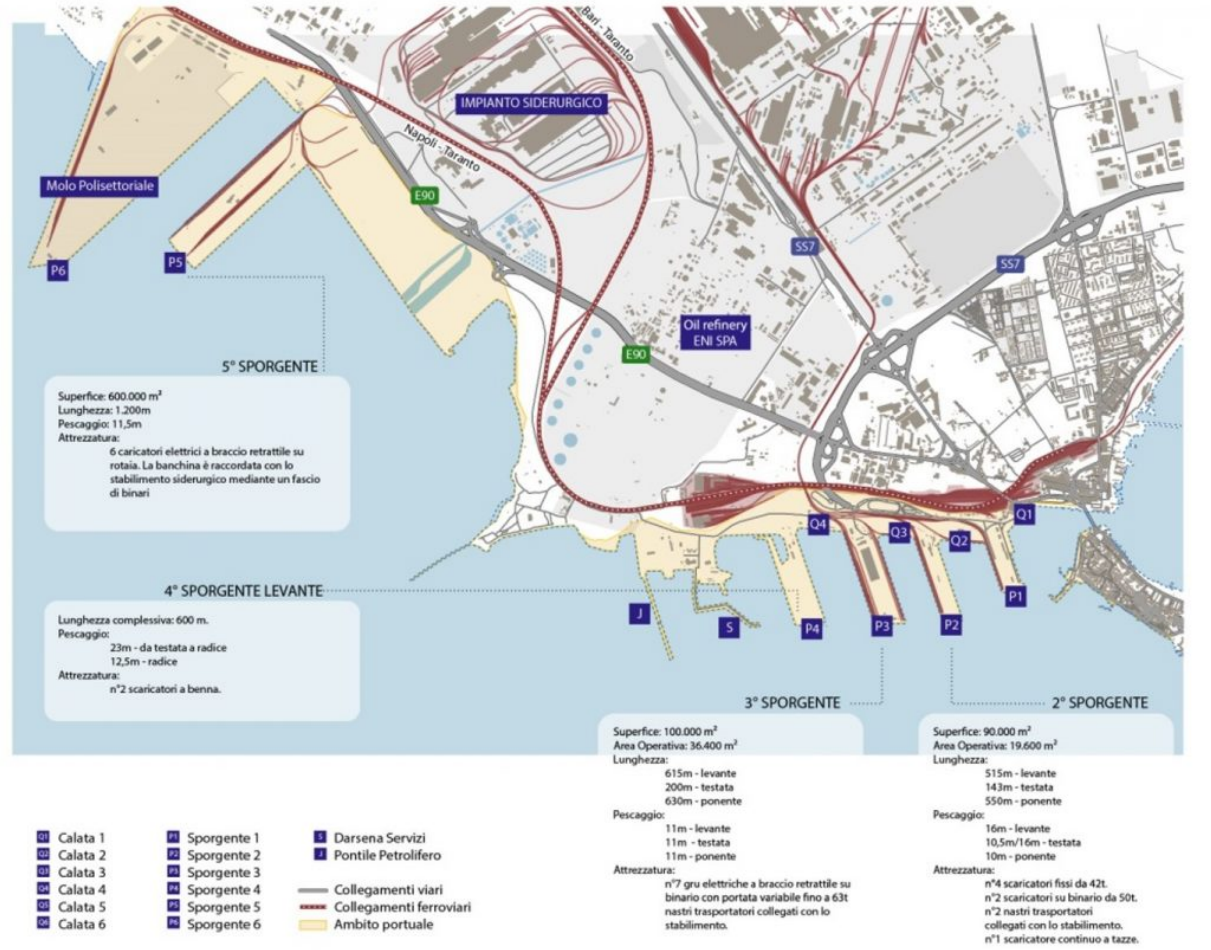

Figure 32 Port layout with port railway equipment.

Rail access to the Port of Taranto is divided into two main lines along the Adriatic line (excluding the Tyrrhenian route due to orographic complexity and gauge limitations). The following is a performance comparison:

Table 9 Line parameters comparison (Source: Network Information Prospectus - PIR-RFI)

Parameter	**Via Gioia del Colle (Preferential)**	**Brindisi/Mesagne Street**
Itinerary	Bari-Modugno-Taranto	Brindisi-Oria-Taranto
Module (Train Length)	**500 m** (+70 m compared to Brindisi)	480 m

Axial Weight	**D_4 (22.5 t/axle)**	C_3 (20.0 t/axle)
Towed Mass (N->S)	1,240 t	1,410 t
Towed Mass (S->N)	**1,170 t**	900 t (Serious bottleneck)
24/7 Operation	21-24 hours/day	16-18 hours/day

Both routes have a **P/C_{45} shape coding,** which determines the following conditions:

- **Allowed:** transit of High Cube (HC) containers.
- **Prohibited:** transit of semi-trailers and high-capacity swap bodies (**P/C80 profile required**).
- **Corrective action:** need for coordination with RFI to obtain a **TES (Excess Transport Gauge),** essential for integration with **Ro-Ro maritime flows**.

The saturation of the towed mass in single traction represents a limit to economic competitiveness (avoid the use of double traction, considered uneconomical):

- Critical section Brindisi: limitation to 900t (S->N) between Grottaglie and Francavilla.
- Critical section Gioia del Colle: limitation to 1,170t (S->N) between Bellavista and Gioia del Colle.

The Gioia del Colle route is superior in terms of axle weight (D_4), operational temporal flexibility, and bidirectional load capacity in single traction. Adapting the limit gauge is a priority to unlock the market for craneable and non- craneable semi-trailers.

By 2026, the Taranto system will stand out for its significant infrastructure in terms of track density and platform capacity. The challenge for the next three years will be to complete the digital transition of these connections to make the ship-train transition fully automated and transparent.

The Port of Taranto's air accessibility is based on an integrated system that uses the airports of Bari (90 km) and Brindisi (75 km) as connection points for national and international scheduled flights, but identifies the "Arlotta" airport in Grottaglie, just 20 km away, as the strategic asset for intermodality. The proximity of Grottaglie, directly connected to the port's northern entrance via the road to Brindisi, enables the vision of the Ionian Sea. Integrated Logistics District (IILD), a model in which sea, air, and rail operate in a network to enhance the competitiveness of Southern Italy.

In the freight sector, the creation of a customs corridor (Bonded Corridor) between the port and the airport would allow the movement of perishable or high-value cargo in approximately 50 minutes under

electronic seal, reducing transit times by up to 40% and logistics costs by 25%. In terms of passenger traffic, the Grottaglie port is considered fundamental for the development of the cruise segment through the fly & cruise option, already the subject of discussions with operators such as Costa Crociere to intercept new trends in global tourism.

Despite this potential, accessibility is currently hampered by insufficient public transport services (buses and trains) between Taranto and the Apulian airports and by a prolonged institutional stalemate regarding the opening of Grottaglie to civil flights and the definition of Public Service Obligations (OPS).

2.6 Hinterland, ZES and ZFD

Taranto's hinterland is not just a physical space, but a regulated economic space. The ZES (Special Economic Zone) acts as a catalyst for new production developments. The goal is to create a favourable administrative and tax corridor that will incentivize businesses to locate in the hinterland areas. The advantage lies in the presence of a large rail infrastructure, allowing these areas to function as true "dry *ports,*" where goods can be cleared through customs, processed, and reintroduced to international markets.

> *Specializing docks and traffic flows is key to providing customized solutions to a market that demands speed and reduced cargo break costs.*

The port's integration into special zones is the main driver for attracting industrial investments.

A. **Southern Single Zone:** starting in 2024, the functions of the previous Ionian Single Zone will be merged into the Single Zone, which aims to simplify governance and offer tax benefits (reduced corporate income tax, tax credit) and accelerated administrative procedures (Single Authorization - AU) for companies located there.

B. **Free Customs Zone (ZFD) Enclosed**: the Port of Taranto has 11 perimeter areas (approximately 163 hectares) managed by the Port Authority.

   - *Advantages*: it allows the storage and processing of foreign goods with no customs duties (VAT and duties) suspended without time limits.
   - *Objective*: to transform the port from a simple transit point into a value-added logistics processing hub, attracting sectors such as automotive and agri-food.

C. **Eco Industrial Park** (formerly Distripark): this project extends over 750,000 m2 in the hinterland area and operates under both the ZES and ZFD regimes, configuring itself as a hub for the circular economy and intermodal logistics.

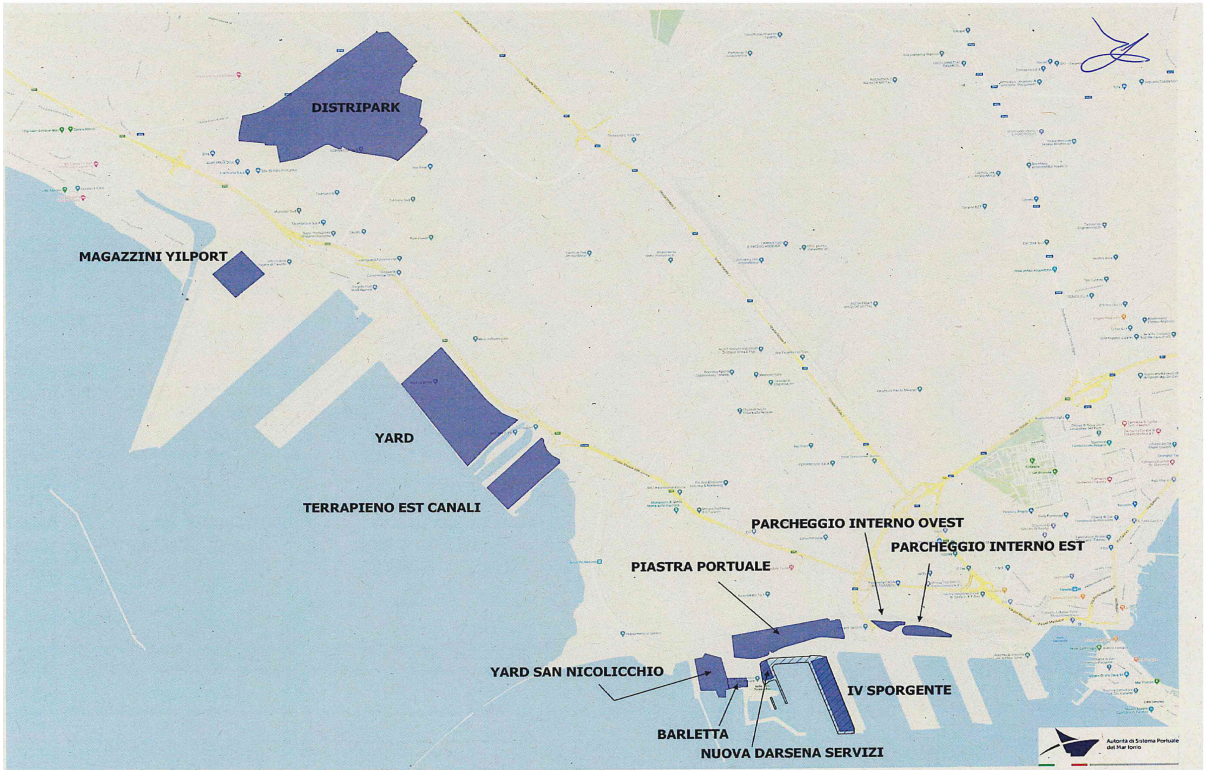

Figure 33 Identification of areas in the ZFD perimeter according to the 2020 AdSP decree.

2.7 The digital context of the port of Taranto

Over the past few years, the Port of Taranto has made significant investments in its digitalization process. Today, the Port has a complex digital configuration, as shown in **Errore. L'origine riferimento non è stata trovata.**.

In addition to the institutional portal, the Port has a Port Community System (PCS) that already offers a variety of services to operators.

The SUA (Single Administrative Desk) processes, Access Control, the Logistics module, and the ZFD management module have already been digitalized.

The system already offers the basis for interoperability with other PPAAs, connection with platforms for operator identification and payments, and basic services such as digital signature, PEC, Single Sign-On and Protocol management.

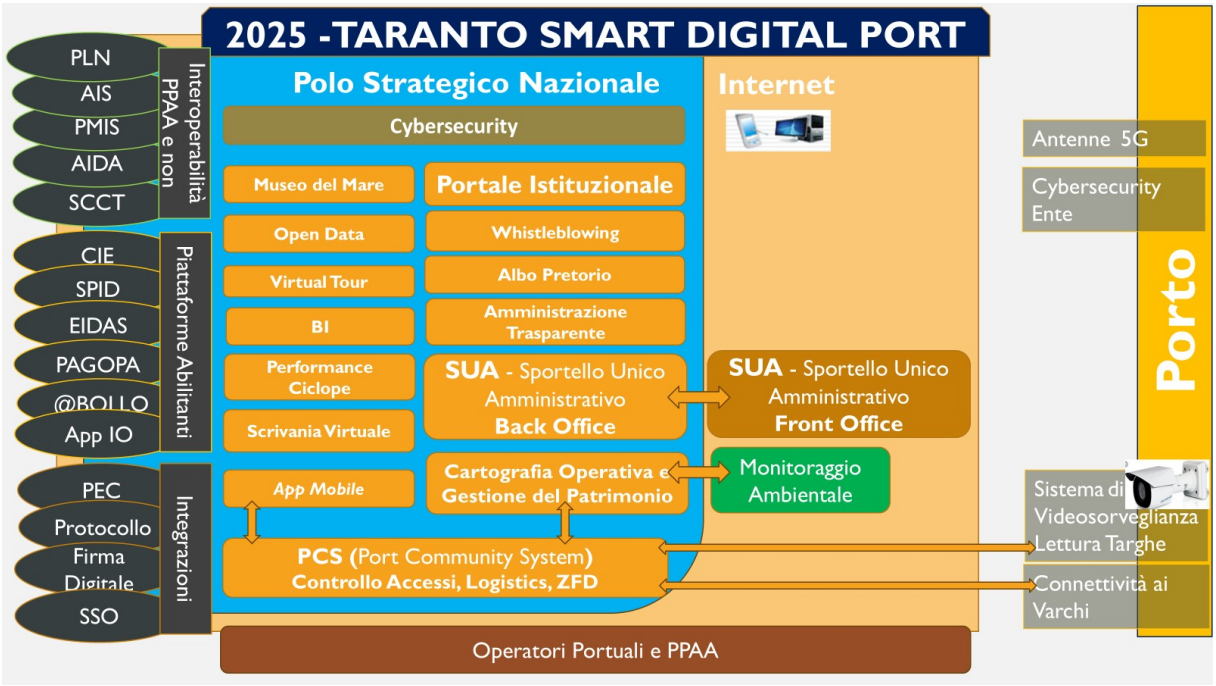

Figure 34 Digital Architecture of the Port of Taranto (Year 2025).

The public body has initiated a process to manage IT security-related processes. It is important to highlight the launch of 5G coverage of the port, which is currently limited to two areas and two antennas but already offers basic services. The current infrastructure, therefore, allows for a first step in the digitalization of processes and represents an important milestone on the path to a Digital Port (Smart Port).

Operators are clearly aware of the current limitations and have outlined their needs through targeted data collection, including the digital functions to be managed in the port, which are considered the responsibility of the **AdSP MI.**

The main functional areas of the PCS in Taranto are:

- exports
- imports
- maritime statistics

- arrivals/departures of trips/ships

The PCS provides a tool for the electronic exchange of information between logistics sectors and the port. It is currently the most advanced method for exchanging information within a national or single EU port system.

In the 2023-2025 POT, the AdSP had defined an action plan aimed at ***simplifying***, ***digitizing*** and ***innovating*** decision-making and operational processes and procedures (Business Intelligence & Digital Port Operations) both within and outside its organizational boundaries.

In the 2024 update, it is important to underline that a Digitalization Objective (Business Intelligence and Digital Operations) had been defined with specific Actions reported in the following table.

Table 10 Actions of digitalization in the previous POT and 2024 update.

Plan Actions (POT 2023-2025)		
Objective	Action (POT 2023-2025)	Action (POT Revision 2024) Development and Management of a Newsletter on Public Contracts
Business Intelligence and Digital Operations	Creation and Implementation of a Database of Legal Opinions	Technological Infrastructure and 5G
	Interoperability of the PORT COMMUNITY SYSTEM and 5G Infrastructure	Port Community System Interoperability Digitization of the Institution's Document Management Processes

During 2024, the digitalization activities for the Customs Free Zone Management module were completed. This integration was integrated into the already operational PCS to manage the flow of goods both incoming and outgoing from sites located within the Customs Free Zone area, as well as any transfers between Customs Free Zones. This initiative is also important for collaboration with other ports, as it represents one of the national experiences of "Software Reuse in accordance with the AGID (Agency for Digital Italy) guidelines."

- The "TECHNOLOGICAL INFRASTRUCTURE and 5G" action focused on infrastructural and technological interventions: two 5G antennas were installed, thus creating the first step towards the 5G digital infrastructure that could be completed in the near future.
- The "PORT COMMUNITY SYSTEM INTEROPERABILITY" action focused on the interoperability of the information systems of the various port stakeholders: various

interoperability projects have been launched that still require a focus on training and support for operators to be fully operational.

The "DIGITALIZATION OF THE AGENCY'S DOCUMENT MANAGEMENT PROCESSES" action is aimed at implementing, in line with the AGID – Agency for Digital Italy – guidelines for accessibility and IT security, an integrated and customizable management of operational and document practices and flows, promoting efficiency, transparency and collaboration between the various stakeholders of the AdSP.

In summary, the actions initiated were the following:

Objective	Action	State
1. Business Intelligence and Digital Operations	Action No. 1: Development and management of a newsletter on public procurement.	Finished
	Action #2: Technological Infrastructure - 5G	Finished on the first two antennas of the Port
	Action No. 3: Interoperability of the Port Community System. –	In progress – as an action
	Action No. 4: Digitization of the Institution's document management processes.	In progress - as an action

All these actions were implemented in accordance with the planned activity plan. At the end of the period, and based on the evidence expressed by various stakeholders (including through an interview conducted in February 2026), it emerged that the following are necessary for the future:

- consolidate the results obtained and strengthen the availability of the tools needed to operate (computers, printers, telecommunications, software);
- extend digital services and infrastructure to other areas of the port;
- ensure interoperability between applications and entities at both a technical and procedural level to enable simplification;
- define criteria for measuring the results of the various projects and share them.

2.8 Analysis for the development of a floating offshore wind (FOW) hub

2.8.1 Introduction and methodological approach

The Port of Taranto is entering a crucial planning cycle aimed at preparing the port to handle offshore renewable energy projects. The roadmap positions FOW as the dominant technology for Italy, given the Mediterranean's bathymetric constraints and the maturity trajectory of floating foundations.

Italy's official 2030 offshore wind target is modest compared to the broader project pipeline. There is a discrepancy between short-term policy goals and the scale of early-stage projects, which reinforces the need for ports to take a leading role in project implementation.

National policy signals significantly improve Taranto's situation [12]: Interministerial Decree No. 167 of July 4, 2025 (implementing Article 8, paragraph 2, of Legislative Decree No. 181/2023) officially designates the Ionian port as a priority national strategic hub for the development of floating offshore wind farms. The measure releases resources for infrastructure modernization and port area upgrades, with particular attention to interventions at the Molo Polisettoriale quay. In February 2026, the Port Authority submitted the supplementary technical report for the project to MASE, including the implementation schedule for the activities and confirming an Economic Framework (EF) of €28 million for the Molo Polisettoriale quay alone.

A specific study was conducted in view of the POT that combines five analytical lenses that, together, convert the ambition of becoming a floating wind hub into a phased, technically feasible and investable program:

1. Context and Policy Review: Assessing offshore wind ambitions, policies, and competition in Italy and the Mediterranean, establishing what is plausible and when, combined with insights from other offshore wind regions such as the North Sea.
2. Market demand and pipeline analysis: Scenario-based implementation modelling (low/medium/high) and translation into port activity volumes (turbines, floats) and spatial requirements (hectares, wet storage).
3. Technical Requirements Definition: Port requirements specification for key FOW activities such as float manufacturing/assembly, gas turbine marshalling and integration, wet storage, O&M,

[12] https://port.taranto.it/index.php/it/news-it/2676-news-del-07-10-2025-taranto-hub-nazionale-offshore-wind-ufficialita-del-decreto-mase-dopo-l-incontro-con-il-ministro-salvini

mooring /anchor marshalling, cables, and (de-)mobilization. Specifications cover quay length, depth, bearing capacity, apron area, and other operational constraints.

4. Location Options Assessment: Comparative assessment of three candidate development areas: the Multipurpose Pier at Pier 6, the former Belleli shipyard, and a reclamation expansion at Pier 5, including gap analyses against technical requirements and identification of obstacles, risks, and opportunities.

5. A roadmap for implementation: identifying governance models and stakeholder roles consistent with European port practices on energy transition, recognizing that FOW ports typically require enabling public works and coordinated planning.

This section of the POT summarizes the results of the context and demand analysis, while section 6 reports the requirements and roadmap for implementing the FOW supply chain in the port of Taranto.

2.8.2 *Analysis of the context and potential demand*

The Italian government has published its official strategy for the development of "Innovative Renewable Energy Generation." This strategy, published as the National Integrated Energy and Climate Plan (PNIEC), aims to decarbonize Italy, focusing on reducing greenhouse gas emissions through the installation of significant renewable energy capacity. The key objectives for 2030 are:

- A 55% reduction in net emissions compared to 1990
- A share of renewable sources of 39.4% in the final energy mix
- A target of 63% of electricity consumption generated from renewable sources
- These objectives are intended to be achieved through the implementation of the following renewable energy assets:
- Solar PV: ~80 GW
- Onshore wind: 28 GW
- Offshore wind: 2.1 GW
- Hydroelectric: 19.4 GW
- Geothermal: 1 GW
- Bioenergy: 3.2 GW
- Other, may include floating offshore wind: 5 GW

The 2.1 GW target for offshore wind is modest. The pipeline of potential projects identified in Italy is 88 GW (4C Offshore Database). Of this figure, nearly 86 GW of capacity is planned as floating offshore wind. The 2.1 GW target appears to be on the low side, as confirmed by industry publications and European targets. For example, some industry analyses and the European Commission's " Fit for 55" modelling scenarios suggest that Italy should aim for 8.5 GW by 2030 to fully align with the most ambitious targets of the Renewable Energy Package; however, this is considered extremely unlikely, given the still underdeveloped Italian offshore wind market and supply chain. Currently, only 30 MW of offshore wind capacity is installed in Italy, so the sector is still in its infancy.

According to available national data, 2050 is the estimated deadline by which more than 20 GW could be developed in Italy [13]. Furthermore, Italian offshore wind projects, currently totalling 88 GW, far exceed those of any other Mediterranean country, such as France (23 GW), Spain (19 GW), and Greece (12 GW). The total capacity of planned projects in Italy is lower than that planned in the United Kingdom (113 GW), but higher than that of other European countries, such as the Netherlands (60 GW), Belgium (3.5 GW), Spain (19 GW), France (24 GW), and Germany (39 GW). However, in Italy, the sector is less developed than in Northern European countries. Currently, there is a single operational 30 MW offshore wind farm near Taranto, the only facility of its kind in Italy. Italian ports have little or no experience in managing offshore wind logistics. However, due to the considerable depth of the waters relatively close to the coast, floating offshore wind is the only realistic foundation type for much of the Italian market, apart from the Northern Adriatic Sea.

The shallowness of the Mediterranean in some locations prevents the installation of floating offshore wind farms. Floating foundations can be used at depths of up to approximately 1,000 meters, due to the required anchoring to the seabed. Therefore, projects must be built relatively close to the Italian coast.

The main obstacles identified for offshore wind development in Italy include complex permitting procedures, technical challenges in developing floating offshore wind projects, and supply chain development. The latter for offshore wind projects could be supported by Italy's strong industrial base in shipbuilding, metal production, and advanced manufacturing. However, current wind project developments rely on Chinese-made turbines, such as the Mingyang turbines operating at the 30 MW Taranto wind farm. Local production could be increased, as Mingyang and Renexia have agreed to locally produce turbines for the 2.8 GW floating Med Wind project off the eastern coast of Sicily.

The main Italian initiatives for the development of the offshore wind market are:

[13] https://www.anev.org/wp-content/uploads/2025/07/Rassegna-ANEV_3%C2%B0-summit-eolico-offshore-18-luglio-2025-.pdf

- The FER 2 support program, which uses a Contracts for Difference (CfD) system. The FER 2 program was established to support the development of 4.6 GW of renewable capacity, including 3.8 GW of offshore wind (fixed and floating). The key requirements for eligibility for the program are as follows:
    - A grid connection agreement issued by Terna
    - A concession for seabed management issued by MIMS
    - An environmental impact assessment released jointly by the Ministry of the Environment and Energy Security (MASE) and the Ministry of Culture (MiC).
- Projects that have submitted applications for at least all three permits exceed 14 GW. This could indicate that demand for offshore wind farm construction will far exceed the 3.8 GW projected by the government. However, FER 2 is seen as a step forward in further developing auctions and tenders for the development of the Italian offshore wind market.
- The Port Decree (DM Eolico Offshore), issued by the MASE in early 2025, designates the ports of Taranto and Augusta (Sicily) as strategic national hubs for offshore wind, with Brindisi (Puglia) and Civitavecchia (Lazio) as secondary hubs, focusing on the assembly of floating platforms, turbine logistics, and O&M. The government has allocated €78.3 million for the ports of Taranto and Augusta alone, for the modernization of their port basins, dredging, and heavy lift infrastructure. By ensuring regulatory certainty and proximity to high-potential southern regions, it unlocks local supply chains, potentially reducing logistics costs by 20–30% and attracting investments such as the Med Wind project.
- Italy's reforms regarding permitting and environmental impact assessment (EIA), through the 2024 Energy Security Decree and the 2025 Transition Plan 5.0, exempt offshore wind farms up to 50 MW from full EIA requirements until June 2025. These reforms also allocate €200 million per year (2024-2032) from CO_2 auctions to accelerate permitting and support regions, while harmonizing regulations for floating wind farms. This reduces the typical timeframe by over two years, with 2.2 GW now approved for further development.
- Terna (the Italian electricity grid operator) has published in its 2025-2034 grid plan [14] a €23 billion investment to integrate over 65 GW of renewable energy by 2030, including offshore wind connections for the over 80 GW pipeline. The plan prioritizes new high-voltage lines, substations, and offshore platforms in southern Italy (e.g., Puglia and Sicily) to resolve congestion and enable

[14] https://www.terna.it/it/media/comunicati-stampa/dettaglio/terna-regione-calabria-presentato-piano-sviluppo-2025-2034-rete-elettrica-nazionale

43 GW of renewable energy to access the grid. Storage procurement through the Italian Forward Storage Market (MACSE) targets 71.5 GWh by 2030 for wind variability, increasing trading capacity by 7 GW. This unlocks offshore distribution despite delays in authorizations.

Industry publications show that a target of 20 GW by 2050 could be achievable. The main obstacles to overcome are the lack of port infrastructure, uncertainty about technological developments, and regulatory hurdles in the permitting process.

Spain, France, Italy, Greece, and, to a lesser extent, Malta, plan to transform the Mediterranean Sea into a key area for fixed and floating offshore wind. Fixed offshore wind represents just over 2 GW of the 88 GW of projects identified in Italy. The second largest project pipeline in the Mediterranean is in Greece, with a total of 2.3 GW of fixed projects and 9.4 GW of floating projects. France and Spain combined have an 11 GW pipeline of floating wind projects in the Mediterranean (France is rapidly developing port facilities in ports such as Port-La-Nouvelle and Marseille- Fos). Finally, two floating offshore wind projects are planned for Malta, with a total capacity of 280 MW. The projects are mapped in Figure 35.

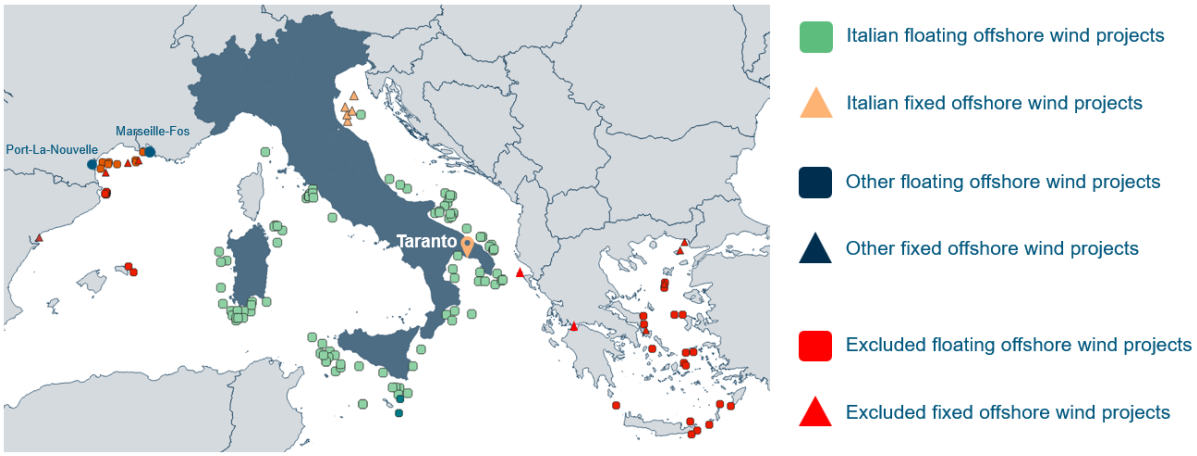

Figure 35 Fixed and floating offshore wind projects in the Mediterranean Sea.

For the overall relevant market that could be captured domestically, all Italian projects were included, along with projects within a maximum distance of 500 kilometers from Taranto.

Considering Italy, we note that several projects are in the initial planning and permitting stages. However, only one project has submitted a permit application. This is the 7 Seas Med floating offshore wind project in Sicily. The project is owned by CIP (50%), Eni (25.5%), and CDP (24.5%) and is the first to receive EIA authorization in Italy. Construction of the 250 MW project is scheduled for 2028.

In addition to this potential first mover, there are other projects with a commercial operation date (COD) planned, according to analysts at 4COffshore[15]. If we include wind farms in the initial design/planning phase, a total capacity of around 4 GW is expected by 2040. The first projects planned for 2030 are: Romagna 1 (200 MW), Romagna 2 (400 MW) and Rimini (330 MW), however the probability of their actual construction in 2030 is very low.

Barium Bay project is an important one for Taranto, as it could become the first large-scale floating wind project to be assembled and integrated in Taranto. It comprises 1,110 MW of floating turbines, with 15 MW each. The project, owned 50% by Hope Group and 50% by Galileo Energy, has received the EIA and will be eligible to participate in the FER 2 auction. Initially scheduled for 2030, analysts predict it will enter into operation around 2034, given that it is a large-scale floating project, and delays are expected.

Within a 500 km radius of Taranto, projects representing approximately 50% of the total 88 GW pipeline are located, as shown in Figure 36Since 500 km is assumed to represent the maximum radius from which a project can be served, we have assumed that the Port of Taranto will be able to serve approximately 50% of the Italian market with integration activities after 2035. Before 2035, the port is expected to provide integration activities for the Barium Bay offshore wind project. Within this radius, only floating offshore wind projects are planned and therefore the port is not expected to be active in facilitating the construction of fixed foundation offshore wind projects. The port is expected to facilitate 100% of the floating foundation activities requested in Italy.

[15] https://map.tgs4c.com/offshorewind/

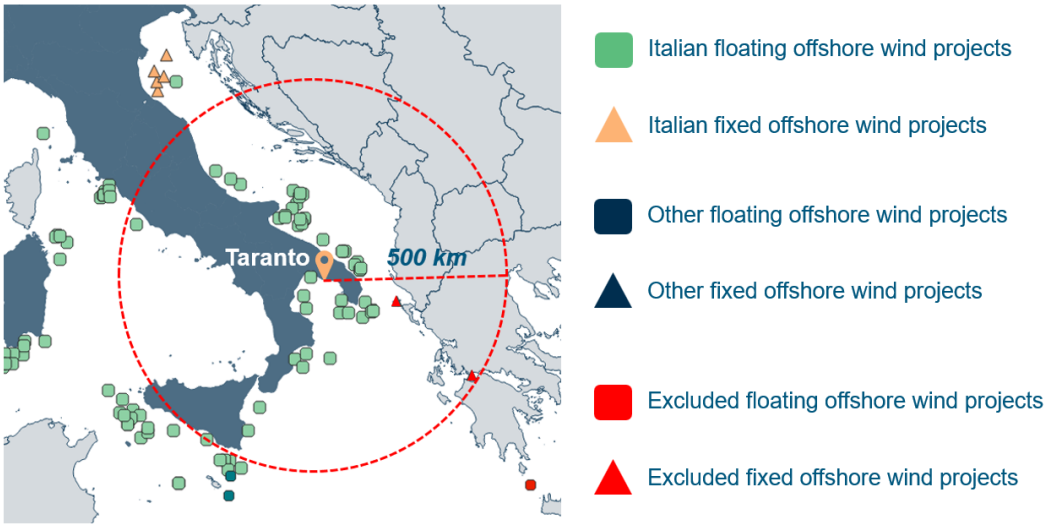

Figure 36 FOW projects located within 500km of the port of Taranto.

It is important to highlight that the demand for port area in the low scenario *is* relatively stable at around 40 hectares, peaking at around 64 hectares in 2033. In this scenario, approximately 10 hectares are required for integration activities and approximately 30 hectares for floater assembly. In the medium scenario, approximately 80 hectares are required, of which 20 hectares are reserved for integration and 60 hectares for floater assembly. In the high scenario, demand peaks at 131 hectares in 2033. In this scenario, between 25 and 30 hectares are required for integration activities. It is important to note that the area required for production represents the most important component of port demand.

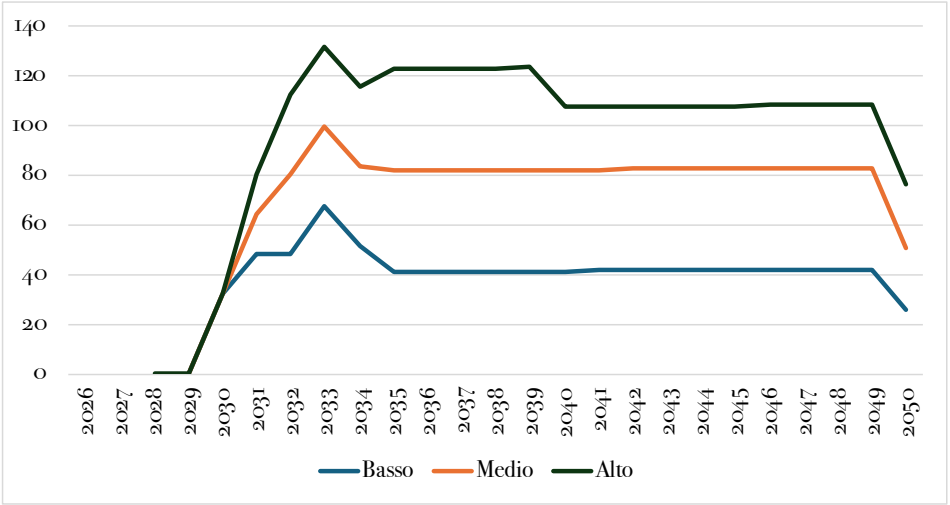

Figure 37 Demand for port areas (ha) for FOW in the different scenarios analysed.

We assumed that the port of Taranto would host the assembly of floaters for all Italian offshore wind projects, resulting in increased demand. This integration represents just over 20% of the port's demand in all scenarios. If floater assembly were reduced by 50%, for example, by producing 50% of the floaters in other ports, port demand would decrease significantly.

3 SWOT Analysis

3.1 Methodological approach

The methodology adopted for developing the SWOT matrix was based on a participatory and structured approach, aimed at integrating technical data with the direct perceptions of port cluster operators. The process actively involved the Port of Taranto's key stakeholders, who were asked a set of targeted questions tailored to the specificities of each product and functional sector. This structured engagement allowed us to outline a summary framework describing a port system in a critical transition phase. While the analysis confirms the presence of excellent infrastructure assets, the consultation clearly highlighted the operational, digital, and bureaucratic barriers that are holding it back. The SWOT matrix is therefore not simply a static snapshot, but rather the reflection of a dynamic discussion that highlights the need to transform physical competitive advantages into management efficiency and market attractiveness.

The stakeholders involved were divided into the following clusters:

- Public Administrations operating in the port
- Nautical technical services
- Logistics and transport operators
- Large Industries
- Concessionaires-terminal operators
- Associations and representations

Of the 28 questionnaires submitted, a response rate of approximately 80% was recorded. This is an excellent result, particularly significant given the limited time available for the consultation. This outcome demonstrates the high level of engagement and proactive interest of stakeholders in the definition of the new POT, confirming the validity of the participatory process undertaken.

3.2 SWOT Matrix of the logistics-port system

The SWOT analysis of the Taranto port system highlights an infrastructure with extremely high intermodal potential and excellent operational spaces, but it is hampered by operational bottlenecks and non-highly competitive service costs.

3.2.1 Strengths

- Adequate infrastructure assets: the port has deep waters suitable for large bulk carriers, specialized docks, and a multi-purpose pier with large dry dock areas.
- Container Terminal Assets: Availability of an operational yard of approximately 1 million m2 and 2 warehouses located in a Customs Free Zone, 900 refrigerated container sockets, of which 540 are operational.
- Connectivity: direct connection to the national network with an internal railway bundle of 5 tracks connected to the nearby Cagioni station.
- Operational safety: guaranteed high technical-nautical safety standards and maximum efficiency in navigation safety checks.
- Logistics and positioning: geographical advantage on the East-West routes and decentralized terminal structure, aimed at minimizing interference with city traffic and optimizing heavy traffic.
- Industrial and energy presence: the presence of the Eni Refinery and the consolidated industrial vocation.
- Technical-nautical services: stakeholders recognize high standards of navigation safety and modern equipment.
- Territorial attractiveness: the area confirms itself as a destination of primary interest for international companies and tourist flows.
- Digital Asset: First phase of PCS implemented - Adherence to an integrated digitalization path from the PCS model and basic services to a SMART PORT model based on IoT solutions and integrated processes
- Consolidated industrial vocation and leadership in the renewable energy sector: presence of the first offshore wind farm in the Mediterranean and already operational infrastructure dedicated to the green energy supply chain.

3.2.2 Weaknesses

- Dependence and underutilization: heavy dependence on the steel sector and trade currently below potential.

- Infrastructure in need of modernization: the water depth is insufficient to accommodate the latest-generation mother ships, penalizing container traffic. Some docks suffer from structural damage or ineffective fenders. Adequate passenger accommodations are lacking.
- Cost structure: high incidence of energy costs and port services compared to the Mediterranean basin average.
- Digital and bureaucratic barriers: data fragmentation between agencies (in the import-export section between PCS, AIDA, and PMIS) and the persistence of paper-based procedures at checkpoints despite partial digitalization.
- Maintenance deficiencies: deterioration of the internal road surface and need to strengthen water connections in the terminals, insufficient lighting for 24-hour operations and lack of optical fibre in some areas.

3.2.3 Opportunities

- Transhipment Hub: assessing its role as a port of excellence for container transhipment in the Mediterranean and Europe.
- Diversification of trade: development of Ro-Ro traffic and new segments such as agri-food/fruit and vegetables; expansion of cruises.
- Enhancement of ZES/ZFD: full integration of the Single Customs Window and investment attraction thanks to the advantages of free zones.
- Integrated digitalization: strengthening the integrated PCS with public and private stakeholders to reduce downtime.

3.2.4 Threats

- Geopolitical instability: International tensions affecting maritime connections with the Middle East and the Far East.
- Competitive pressure: Aggressive competition from "unfair" ports and established ports such as Piraeus, Tangier Med and Port Said.
- Risks: vulnerabilities of security systems related to cybersecurity and potential environmental impacts resulting from incidents in nearby industrial areas.
- Steel crisis: Uncertainty about the future of the steel hub and dependence on it pose a systemic risk

3.3 SWOT results

Taranto's port logistics system boasts a competitive landscape characterized by significant infrastructure assets, such as direct connection to the TEN-T network and the San Cataldo Container Terminal, which offers approximately 1 million square meters of storage space, internal sidings, and warehouses in a Customs Free Zone (ZFD). Other strengths include efficient navigation safety controls and a strategic location on East-West routes.

However, the system suffers from structural weaknesses, such as insufficient draft for the latest-generation container motherships and high energy and port service costs. Although concrete opportunities exist in the renewable energy market, transhipment, and the development of ZES/FDZ areas, significant threats remain from aggressive competition from other Mediterranean ports (such as Piraeus and Tangier Med) and the geopolitical instability affecting trade with the Middle and Far East, intensified by recent wars that have affected trade.

The proposed SWOT analysis accurately outlines the profile of a port in a delicate transition phase, where its solid historical industrial base must now meet the challenges of modernization and diversification. The strengths highlighted accurately reflect the port's significant infrastructure assets, particularly its deep waters (docks under concession to Acciaierie d'Italia - AdI), which facilitate bulk carriers, and the presence of a multi-sector pier with extensive dry dock areas.

Intermodal connectivity, guaranteed by the direct connection to the TEN-T network and the internal rail network of the San Cataldo Terminal, represents a real competitive advantage that distinguishes Taranto from other less integrated Mediterranean ports. The efficiency of technical and nautical services is also a key pillar, ensuring high safety standards that operators consider a consolidated excellence.

However, the port's weaknesses demonstrate how its potential is hampered by a structural dependence on the steel industry, whose instability generates uncertainty for the entire logistics sector. Despite the deep seabed, its inconsistency and the inadequacy of state-of-the-art "motherships" limit Taranto's ambitions in the container sector. A particularly acute limitation for operators is digital and bureaucratic fragmentation, with disparate systems managed by multiple public administrations such as PCS, AIDA, and PMIS, still requiring the use of paper at gates and slowing traffic. Added to this are widespread maintenance deficiencies, ranging from deteriorating road surfaces to incomplete fibre optic coverage, and the lack of a proper cruise terminal, which currently forces passengers to use inadequate temporary facilities.

Figure 38 SWOT summary.

The opportunities outlined project the port toward a role as a hub for the energy transition, with a specific focus on offshore wind and green value chains such as hydrogen and biofuels, transforming its industrial vocation into a driver of sustainable innovation. Diversification of traffic toward ro-ro, through small but crucial infrastructure upgrades, and toward the agri-food sector could stabilize volumes in the medium term. The full exploitation of the ZESs and the Customs Free Zone, supported by the effective implementation of the Single Customs Window, is seen by stakeholders as key to attracting new investments and reducing operational downtime.

Finally, the threats are a reminder that the port operates in an extremely volatile international context. Geopolitical instability, particularly on the Suez Canal routes, and aggressive competition from highly efficient Mediterranean hubs such as Piraeus and Tangier Med, require Taranto to accelerate simplification processes to avoid losing competitiveness. Furthermore, environmental risks related to its proximity to heavy industrial areas remain a critical variable, requiring constant monitoring and transparent communication to maintain public consensus. This SWOT analysis therefore provides a

solid foundation for the 2026-2028 POT, clearly indicating that the port's success will depend on its ability to transform its physical assets into a fluid, digital, and diversified logistics system.

3.4 Infrastructure and operational gap analysis

Aligning the port with international standards requires overcoming a series of gaps that currently limit the fluidity of processes and the system's bankability. Overcoming the identified gaps is essential to transforming the Port of Taranto into a smart and sustainable logistics hub.

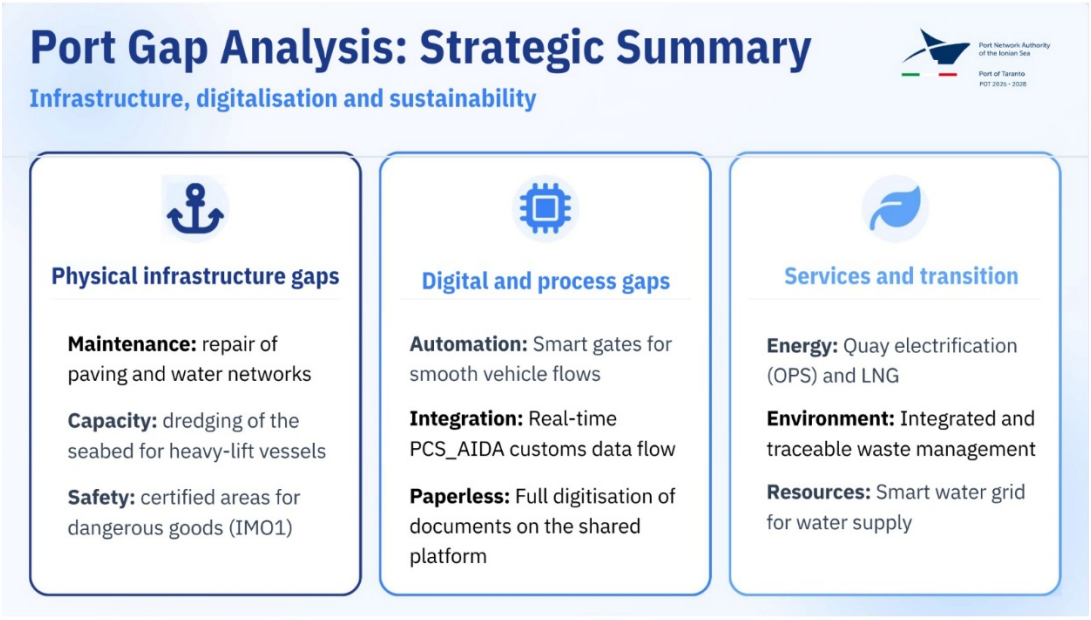

Figure 39 Summary of the gaps identified.

Physical infrastructure gaps

- The urgent need for maintenance and structural interventions to ensure operational continuity has emerged. Priorities include repairing the terminal road surfaces and strengthening water connections. Regarding quay capacity, the main gap remains the inadequate depth of the container terminal for heavy vessels, combined with the lack of areas equipped for the storage of dangerous goods such as IMO 1.

Digital and process gaps (Smart gate focus)

- The system suffers from the so-called ″paper paradox,″ where digital processes (e.g., AIDA) coexist with requests for physical documentation at checkpoints. To bridge this gap, it is essential to:
    - ➢ Implement the ″Smart Gate″ system to automate and improve flow management, while ensuring process sustainability and efficiency.
    - ➢ Integrate the Port Community System (PCS) directly with the Customs Agency′s AIDA system to speed up the flow of customs data.
    - ➢ Digitize the communication of weather bulletins and safety/traffic alerts directly on the common platform.

Gap in ancillary and transition services

- To enhance attractiveness for major shipping lines, it is necessary to strengthen ancillary services, including bunkering, water supply and waste management.
- In addition, the adaptation of terminals to support the energy transition remains a priority, particularly about Onshore Power Supply (OPS) infrastructure and the distribution of alternative fuels, such as LNG and biofuels.
- From an infrastructure perspective, priority actions include deepening seabeds to accommodate heavy vessels and restoring essential maintenance elements such as road pavements and water connections.
- From an operational standpoint, there is a strong need for dedicated storage areas for specialised cargo (e.g. IMO Class 1) and for the enhancement of ancillary services such as bunkering and OPS.
- The most significant digital gap concerns system integration. The Port Community System (PCS) must overcome the “paper-based paradox” by achieving full integration with the AIDA Customs System.
- Finally, it is crucial to advance digitalisation through systems such as the Smart Gate, to optimise process efficiency, improve sustainability and enable real-time logistics flow management.

4 Strategic objectives and actions of the POT 2026-2028

This chapter outlines the strategic objectives of the Port System Authority of the Ionian Sea for the 2026–2028 period, defining a development pathway that positions the Port of Taranto as a leading logistics and energy hub in the Mediterranean.

Within this framework, the Authority's action is based on the synergy between the new POT and the PIAO, instruments that jointly ensure alignment between high-level strategic directives and a management approach strictly oriented towards measurable results.

4.1 Setting high-level goals

The heart of the planning lies in the generation of public value, understood as the fundamental ability of the Administration to aim for the growth of the economic, social and environmental well-being of the Ionian territory and its stakeholders [16].

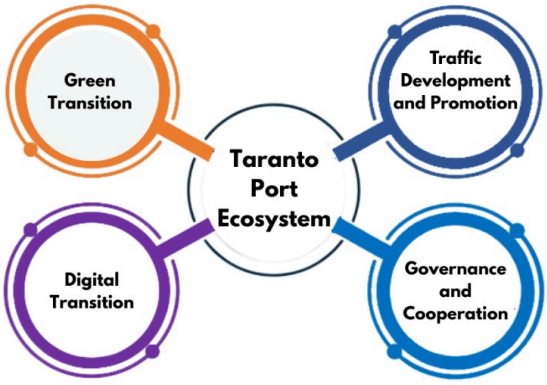

Figure 40 The four strategic objectives of the POT 2026-2028.

The vision of the AdSP MI for the three-year period 2026-2028 translates into a set of 4 objectives that guide the agency's actions, described below:

[16] *To generate public value, and therefore well-being, for citizens and users of today and tomorrow, public administrations should be able to provide services effectively and efficiently, considering the quantity and quality of available resources.* Source: CERVAP

- **Green transition,** to consolidate the port's role as an energy hub and promote climate neutrality through efficient consumption.
- **Traffic development and promotion,** aimed at diversifying the port's industrial vocation, developing intermodality and attracting large financial flows for strategic projects.
- **Digital transition,** aimed at transforming the airport into an advanced technological hub through the strengthening of cybersecurity and the implementation of cutting-edge management systems such as the " digital twin".
- **Governance and cooperation,** to institutionalize an "ESG Identity" based on transparency, gender equality and the socio-economic well-being of the community.

Through the interaction between these four objectives, the Authority aims to transform technological and environmental challenges into real opportunities for employment growth, skills development, and inclusion for the entire port and city community.

This programming architecture ensures that cooperation with the local area and the port cluster is not just an idealistic goal, but a concrete commitment, constantly monitored to ensure the harmonious development of the port. Below is a summary table of the objectives and related actions, described in detail in the following paragraphs.

Table 11 Objectives and Actions of the POT 2026-2028

Goals	Actions
Green transition	Onshore Power Supply
	Offshore Wind Hub
	Circular economy
	Energy hub
Traffic development and promotion	Infrastructure enhancement and redevelopment
	Cruise logistics
	Ro-Ro traffic development
	Intermodal traffic development
	Shipbuilding
	Development of value-added activities in the port and hinterland areas
Digital transition	Total interoperability ("Paperless port")
	Gate automation
	Connectivity and monitoring

Goals	Actions
	Cybersecurity
Governance and cooperation	Professional requalification of the port cluster
	Institutional coordination between the PPAAs operating in the port
	Port-city synergy

4.2 Actions

4.2.1 Introduction

The process for defining the strategic actions of the new POT is the result of a rigorous methodological approach, integrating objective technical analysis with the operational vision of the Authority's management. Starting from the findings of the SWOT analysis (developed following stakeholder consultation), the key directions were identified to capitalise on the port's strengths and capture opportunities arising from global markets, while mitigating structural weaknesses and risks.

This analysis was further validated and enriched through a proactive engagement with the senior management of the AdSP, whose operational experience enabled the translation of strategic objectives into concrete, measurable actions, aligned with the Authority's actual implementation capacity. This ensures a robust planning framework focused on public value creation and system competitiveness.

The Port of Taranto is currently in a crucial transition phase. On one hand, it benefits from infrastructure and rail assets superior to many competing ports; on the other, it is perceived as constrained by administrative inefficiencies and infrastructure requiring extraordinary maintenance. Future success will depend on the ability to diversify traffic flows, fully digitalise the logistics chain and strengthen port–city integration, particularly in relation to cruise tourism.

In line with the strategic objectives outlined above, the following section presents a synthetic framework of the intervention lines planned for the 2026–2028 period. These actions, selected based on competitiveness, profitability and sustainability criteria, represent the operational pillars for achieving the defined targets. Each action is detailed in the following paragraphs, including technical content, implementation modalities and expected impacts.

4.2.2 Green Transition (TG)

This POT, in alignment with the current PIAO, identifies sustainability and the energy and environmental transition as top priorities. Achieving this objective requires innovative actions to promote the circular economy, with a focus on energy management and environmental planning, to transform the Port of Taranto into a sustainable energy hub capable of attracting investments in renewable energy.

In recent years, the Authority has consistently reaffirmed the centrality of these themes, confirming the green transition as a key pillar of port strategy. This strategy will be further strengthened through projects aimed at reducing the environmental impact of port activities, investing in technological innovation, monitoring systems and circular economy programmes.

This commitment is reinforced by Interministerial Decree ("Port Decree") No. 167 of 4 July 2025 (MASE–MIT–MEF), which designates the Port of Taranto as a priority national area for the production, assembly and launching of floating offshore wind platforms. The Authority is also among the implementing bodies of the PNRR "Cold Ironing" (OPS) measure, aimed at reducing CO_2 emissions, improving air quality and increasing efficiency.

This objective confirms the green transition not only as a regulatory and environmental imperative, but as a strategic lever for the competitive positioning of the Port of Taranto in the coming three years.

- **On-shore Power Supply** (OPS). Develop and complete the electrification of docks to reduce emissions from docked ships.
- **Offshore wind energy supply chain**. Infrastructure and logistics preparation interventions for areas to implement activities related to part of the production process and plant displacement.
- **Circular economy:** promotion of recycling initiatives, including among port cluster companies, and through studies and research into activities related to the scraping supply chain (recovery of materials and parts from decommissioned ships).
- **Energy hub:** planning and rationalization of areas functional to the *green transition* with a view to the production and distribution of clean energy (e.g., alternative fuels, hydrogen), also through the review of existing concessions.

TG 01 On- shore Power Supply

The development strategy of the Port of Taranto focuses on decarbonization and reducing the environmental impact of maritime activities. In this context, the implementation of the Onshore Power Supply (OPS) system, also known as cold ironing, is a key aspect of the Port of Taranto's development

strategy. and represents a priority action to reduce emissions from ships while at dock. Dockside electrification allows docked ships to turn off their auxiliary engines and draw the necessary energy directly from the shore-based grid. This process eliminates the burning of fossil fuels while docked, drastically reducing greenhouse gas (CO_2) emissions, air pollutants, and noise, benefiting public health and the environment.

The AdSP MI has planned two strategic interventions:

- **Electrification of public docks:** a targeted intervention to serve directly managed piers.
- **Electrification of the Multi-purpose Pier:** project intended for the area granted to the terminal operator SCCT (Yilport) to support container traffic.

The interventions have been included in the Port System's Energy and Environmental Planning Document (DEASP) and the three-year public works program for 2023-2025. The Port Authority obtained the necessary funding under the PNRR (National Recovery and Resilience Plan) and the related Complementary Fund.

In September 2023, the call for tenders for a framework agreement for the integrated procurement (executive design and construction) was published. According to the constraints imposed by the PNRR, all works must be completed by December 2027.

TG 02 Offshore Wind Hub

The Port of Taranto has been officially designated as the hub of Italy's marine energy transition strategy, assuming the role of a national strategic hub for the design, production, and assembly of floating platforms for wind farms (so-called flowters). This development is part of the renewable energy growth objectives set by the proposed update of the National Integrated Plan for Energy and Climate (PNIEC 2023).

The integration of the offshore wind energy sector in the Ionian port finds its legal basis in Legislative Decree no. 181 of 9 December 2023 (the so-called "Energy Decree"), converted with amendments by Law no. 11 of 2 February 2024. Specifically, Article 8 of this decree provides for the creation of a national hub in Southern Italy for the development of shipbuilding related to offshore wind energy.

In implementation of this provision, the Ministry of the Environment and Energy Security (MASE) issued a Public Notice on April 18, 2024, inviting Port System Authorities to submit expressions of interest. The selection process concluded with Interministerial Decree (MASE-MIT-MEF) No. 167 of July 4, 2025, which identified the state-owned areas of the Port of Taranto as suitable for hosting such infrastructure. The decree established that, based on technical and economic feasibility, the planned projects for the Port of Taranto are a national priority.

To make the airport operational for the needs of the wind energy sector, specific physical modernization actions have been defined:

- Multi-purpose Terminal upgrade: Article 2 of Decree 167/2025 identifies it as the priority intervention is the modernization of part of the Molo Polisettoriale dock, aimed at allowing the unloading and assembly of turbines and floating platforms.
- Technical Functional Adaptation (ATF): The Port Authority has implemented an ATF procedure to designate three areas (onshore and offshore) for offshore wind farm construction. The Second Section of the Superior Council of Public Works (CSLLPP) issued a favourable opinion on this proposal with protocol no. 75/2024 of October 22, 2024.
- Accelerated Procedures: the awarding of contracts benefits from the simplification provisions set forth in Legislative Decree no. 76 of 16 July 2020 (converted into Law 120/2020) and the new Public Contracts Code (Legislative Decree 36/2023).

The production chain will be supported by the infrastructure of the hinterland areas, conceived as integrated logistics hubs:

- **Eco Industrial Park:** This approximately 75-hectare property is undergoing primary urbanization work (water, electricity, and road networks). On October 22, 2024, MASE-MIC Decree No. 340 was issued, certifying the project's environmental compatibility. On June 5, 2025, the Special Commissioner of the Port Authority issued the Single ZES Authorization No. 1/2025, reference No. 12873.
- **Single ZES and Customs Free Zone (ZFD):** companies in the supply chain operate under the Single ZES regime for Southern Italy, established by Legislative Decree no. 124 of 19 September 2023 (converted by Law 162/2023), and benefit from the Interlocked Customs Free Zone established by Law no. 160 of 27 December 2019. These instruments guarantee administrative simplifications (Single Authorization) and the suspension of customs duties for the storage of foreign components.

Industrial development relies on the presence of Beleolico, the Mediterranean's first offshore wind farm, which serves as a technological use case for the port. The consolidation of the supply chain is further strengthened by the nine-year concession of the Logistics Platform to Vestas Blades Italia Srl, approved by the Management Committee on November 5, 2024, confirming the port's "green" manufacturing vocation.

Srl ′s operations at the Port of Taranto have been consolidated through the issuance of a nine-year state concession for the ″Domenico Daraio″ Logistics Platform. This infrastructure will become a strategic asset for the management, logistics integration, and assembly of wind turbine components. Vestas is already present in the industrial area of the Port of Taranto, and its operations and presence in the Ionian port will further develop the following activities:

- Handling of large blades (V236): The Logistics Platform is a key component in supporting the new production line for the 15 MW V236 super turbine. This specific activity involves the handling and management of exceptionally large components, with blades measuring 115.5 meters in length.
- Local expertise and employment: A key aspect of Vestas′ presence in Taranto is its commitment to leveraging the Taranto Port Workers Agency to integrate human resources. This ensures that the movement and assembly of components are supported by local expertise, generating new employment opportunities and contributing to the region′s economic development.
- Reason for operating in the port: The choice to operate directly in the port area is dictated by the need for an efficient intermodal hub.
- Sustainability and strategic vision: Vestas′ presence is consistent with the Port of Taranto′s goals of becoming a Mediterranean hub for renewable energy. The project aligns with the social, environmental, and economic sustainability criteria promoted by the Port Authority, also paving the way for future developments in offshore wind power.

TG 03 Circular Economy

The Ionian Sea Port System Authority identifies the Circular Economy not only as an environmental necessity, but also as a competitive advantage for the entire Taranto port cluster. The goal is to lead the port toward a ″Green Port″ model where waste is repurposed as a resource, minimizing the environmental impact of industrial and logistics activities.

The project focuses on creating an integrated port ecosystem capable of optimizing the use of raw materials and promoting the recovery of end-of-life materials. This approach is part of the broader ecological transition, aiming to reduce the port′s ecological footprint and generate new employment opportunities in the recovery and regeneration sector.

The implementation of this action is divided into two main directions:

- Development of the naval recycling and recovery chain: A fundamental pillar of the action concerns the study and technical analysis for the activation of a chain dedicated to the decommissioning of ships and the recovery of materials (ship Taranto, thanks to its infrastructure and industrial vocation, can become a leading hub for the recovery of steel, metals, and components resulting

from the controlled demolition of ships and, potentially, also for the decommissioning of wind farms, in compliance with the highest international safety and environmental protection standards.

- Promoting Waste Recycling in the Port Cluster: The Port System Authority proposes to promote and coordinate recycling and sustainable waste management initiatives among all businesses operating within the port area. By developing shared guidelines and promoting best practices, the Authority aims to standardize waste separation and recycling processes for waste generated by operational and maintenance activities.

Through targeted feasibility studies and direct stakeholder involvement, the AdSP intends to:

- Reduce waste disposal costs for port cluster operators.
- Attracting new investments in the circular blue economy sector.
- Foster industrial symbiosis, allowing waste from one activity to become raw material for another local supply chain (e.g., recycled steel for shipbuilding or the steel industry).

The project will be supported by ongoing monitoring and participation in national and European funding calls for innovation in materials management processes.

TG 04 Energy Hub

The Port of Taranto intends to strategically evolve into an energy hub as well as a logistics hub, playing a central role in the production, storage, and distribution of energy from renewable sources, thanks in part to the port's traffic and wind power expertise. This evolution requires achieving both technical and organizational excellence to support the management of processes related to managed energy and its distribution role, even if limited to the port and hinterland. Connecting different production sources to various end consumers will be key to a rapid transition to renewables, improving the efficiency of the Port system and making it a model for ecological transition. The Port of Taranto will thus become a "multifunctional energy hub" that manages energy between port businesses and the surrounding area.

The main features of the port energy hub are:

- **Renewable energy management - on-site energy production:** on-site clean energy production, for example through floating photovoltaic systems, offshore wind farms, on-shore and warehouse roof solar panels, or wave energy exploitation. The project will design and implement projects for on-site renewable energy generation. Existing or planned initiatives involving the integration of photovoltaic systems with wind turbines and energy storage technologies will be launched and/or further developed, promoting intelligent management of on-site energy flows.

- **Energy transition – energy carriers (green hydrogen/e-fuels):** Ports are becoming hubs for the reception, storage, and transport of sustainable energy carriers such as green hydrogen, ammonia, or LNG (Liquefied Natural Gas). Ports and dry ports are becoming ideal locations for the development of a Hydrogen Valley. Thanks to the availability of water and connectivity to electricity grids, they can host electrolyzers to produce green hydrogen for the decarbonization of heavy industry and shipping.
    - Electrification of the Docks (Cold Ironing): supplying electricity to docked ships, allowing them to turn off polluting auxiliary engines. This is an example of on-site use of electricity produced within the spaces.
    - Offshore Wind Infrastructure: shipbuilding and logistics functions for the assembly, maintenance, and handling of giant components for offshore wind turbines.
    - Sector Integration: Connection between electricity grids, maritime and land transport, and energy-intensive industries adjacent to the port
- **Renewable Energy Communities (CERP):** The Port can act as the leader of a port CER, sharing excess energy produced with companies in the hinterland or with the surrounding urban fabric. The proposed port energy community (CERP) is a model in which Port System Authorities, terminal operators, and companies share renewable energy produced on-site (e.g., photovoltaic panels on warehouses) to power docks, offices, and ships (cold ironing), reducing costs and environmental impact. The CERP will therefore have to deal with multiple needs: covering the electricity demand of onshore activities (terminals, public services, cold ironing), meet the need for clean energy for maritime and land mobility, and promote the port's energy autonomy as a strategic logistics hub. There are important examples in this regard, such as the establishment of a CERP in the port of Civitavecchia.

In this sense, the ***smart-green port*** is configured as an integrated energy space, equipped with generation capabilities (e.g., offshore wind, photovoltaic, green hydrogen), storage (batteries and accumulation systems), distribution (smart grid, OPS), control and optimization (artificial intelligence, IoT sensors, digital twins). This creates the conditions for integrating digital transition and energy transition interventions/actions.

The actions envisaged by the POT are the following.

Intervention	Main Objectives	Action
Renewable Energy Management - On-Site Energy Production	Increase renewable energy capacity, decarbonization	Development of an integrated energy infrastructure for the port, from design to deployment of renewable energy sources (including offshore wind) and related storage systems.
Energy Transition – Energy Vectors	Autonomous generation of renewable energy, decarbonization, storage and distribution of renewable energy.	Transformation of port infrastructure into hubs for the storage (batteries) and exchange of sustainable fuels (hydrogen, ammonia, methanol). Construction of infrastructure dedicated to marine electricity generation. Implementation of distribution systems for the *OPS* serving the fleet.
Port Renewable Energy Communities (CERP)	Reducing emissions, decarbonisation, using renewable energy	Establishment of a public-private partnership for the creation of the Port Energy Community. Define and implement the roadmap for the energy transition in the Port of Taranto: implementation of the transition strategy in the Port of Taranto through efficiency improvements, dock electrification (OPS), and the integration of photovoltaic and wind systems.

The Energy Hub will be supported by funding requested from time to time for specific actions over the next 3 years.

Management in a CERP could help cover investments with the involvement of public and private partners.

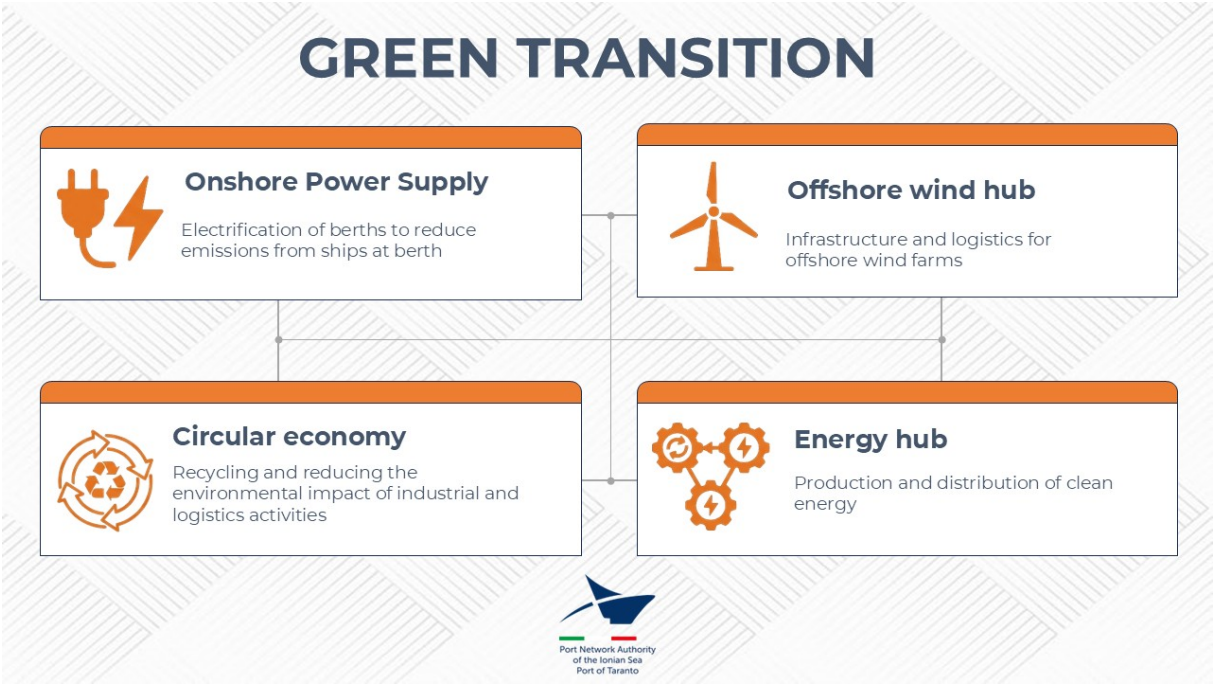

Figure 41 Summary of actions for the Green Transition objective.

4.2.3 Traffic Development and Promotion (SP)

The competitive revitalization of the Port of Taranto in the three-year period 2026-2028 inevitably requires consolidating its operational capacity and expanding its commercial attractiveness. In an increasingly dynamic global logistics market, the Ionian Sea Port System Authority (AdSP) identifies this objective as the key actions to transform the port from an infrastructure and industrial hub into a true integrated logistics hub.

This section outlines the lines of intervention focused on physical infrastructure and traffic diversification. The objective is twofold: on the one hand, to ensure the efficiency and safety of existing port operations; on the other, to create the technical and market conditions for the establishment of new production chains and commodity flows.

The actions described in the following paragraphs are structured along three strategic lines:

- **Infrastructure efficiency:** through extraordinary maintenance interventions such as dredging and mooring redevelopment, essential for accommodating next-generation vessels and ensuring safe navigation.

- **Intermodal connectivity:** with a strong push for rail transport and Ro-Ro motorways, leveraging incentives such as *Sea Modal Shift* to encourage the modal shift from road to rail.
- **The enhancement of areas and services:** from the construction of a permanent cruise terminal to the reindustrialization of historic areas (e.g., the former Belleli yard), up to the promotion of subsidized zones (ZES and ZFD) to attract value-added activities.

SP 01 Infrastructure enhancement and redevelopment

The Port of Taranto's development program includes a series of strategic interventions aimed at modernizing infrastructure, improving navigation safety, and integrating the port into the urban fabric. The following describes the priority actions based on the Authority's investment project framework.

- Maritime protection and offshore defence works

Protecting the port and the harbour from wave action is a priority to ensure the safety of moorings, the operation of the piers, and the security of the naval bases.

  - New breakwater - Western section: this project is part of the container traffic development plan defined by the Agreement of June 20, 2012. With a budget of €43,873,000.00, the project is currently underway and aims to protect the port outside the roadstead.
  - Refurbishment of protective structures: the Cheradi breakwaters, dating back to the early 1900s, are showing signs of deterioration that are compromising their functionality. The €80,000,000.00 project includes refurbishment to mitigate wave motion, benefiting the entire harbour, the new naval base, and the city's coastline.

- Dredging and seabed maintenance

Maintaining bathymetric depths is essential for access by the latest generation vessels.

  - Dredging of the Multipurpose Pier and V Pier area: this project involves the dredging of 2.3 million cubic meters of sediment and the construction of the first phase of the reclaimed basin for the expansion of the V Pier. The original investment of €83,000,000.00 is essential for the revitalization of container traffic. Following the contractual termination, the Port Authority has scheduled the project for completion and is currently 70% underway.
  - Dredging for reclamation and maintenance: following morpho-bathymetric surveys, the cleaning of the seabed in front of all the piers in the roadstead has been scheduled for a cost of €16,000,000.00.

- Water infrastructure and environmental remediation

The port invests in the sustainability and safety of abandoned industrial areas.

  - Rainwater treatment: the project includes a rainwater collection and treatment network in common areas, in compliance with national and regional regulations. The €18,178,446.00 project is at an advanced stage, with 90% completion and expected completion by 2026.
  - Securing the Former Belleli Yard: this project involves the second phase of groundwater remediation work in this strategic area for industrial reconversion, with a significant cost of approximately €172,110,000.00.

- Redevelopment of the San Cataldo Pier and Port-City Interface

The San Cataldo Pier is the hub of the port's transformation for tourism and cruise tourism.

  - Reconstruction of the Molo San Cataldo deck - West Side: due to the deterioration of the reinforced concrete structures, the demolition and reconstruction of the deck is planned, at a cost of €34,000,000.00.
  - Construction of the New East Gate: moving this customs gate back will improve public use of the pier, facilitating access for passengers and residents. The investment is €5,000,000.00.
  - Port-City: The Waterfront project includes coastal protection works and a continuous pedestrian path designed as an "extended promenade on the Mar Grande." The estimated cost is €56,283,243.14, with completion of the first phase scheduled for December 2026 (the current deadline set by the funding line).

The summary of the main infrastructural strengthening and redevelopment actions was set up starting from the *2026-2028 programming of the acquisition of goods, services and works of the AdSP MI*.

SP 02 Cruise Logistics

This initiative aims to transform the Port of Taranto from a transit hub to a premier homeport, providing it with a stable and modern facility capable of accommodating growing passenger flows with international quality standards.

The project involves the design and construction of a dedicated maritime terminal, designed to simultaneously handle the embarkation, disembarkation, and transit of thousands of passengers. The goal is to equip the port with:

- a modern terminal area with reception, check-in and security checks;
- baggage handling systems and integrated ground logistics;
- spaces for commercial services and tourist information, aimed at improving passenger experience.

Specifically, an agreement has already been signed under which the Taranto Cruise Port terminal operator undertakes to build the new cruise terminal.

This will be a modern and sustainable infrastructure representing the concrete expression of the long-term commitment of an international operator such as Global Ports Holding (GPH) to invest in the Taranto destination. GPH, majority shareholder of Taranto Cruise Port, is the world's largest independent cruise terminal operator, with an established presence in the Mediterranean, Caribbean, Asia and Pacific regions.

As part of a broader development project, the new terminal will strengthen the attractiveness of the Ionian port, responding to the requests of shipping lines that require the availability of dedicated cruise infrastructure to select Taranto as a reference home port, as is already the case with Costa Crociere.

TCP and the AdSP have been in dialogue in recent months with the aim of agreeing on the administrative path to follow, namely the procedural agreement. The agreement includes, among other things, an extension of the concession term for TCP for an additional 10 years.

The promotional strategy developed by the Authority aims on the one hand to consolidate the relationship with the mainstream cruise lines and on the other to broaden the horizon of collaborations with companies in the premium luxury segment, elevating the Taranto destination to a boutique destination.

The 'Magna Graecia Coast to Coast' project fits into this context, a strategic initiative that connects the ports of **Taranto, Reggio Calabria** and Agropoli, with the aim of building an integrated cruise development model based on cooperation, territorial identity and quality of experience.

This is an innovative model of public-private collaboration, capable of activating unprecedented synergies between operators and public administrations. A shared effort aimed at achieving shared goals of sustainable growth, with a focus on tourism and cultural development. The Ionian region's potential, still largely unexplored in terms of tourism, is thus placed at the centre of a strategy aimed at fully realizing its value, for the benefit of the entire community. Within this framework, the Port Authority confirms its role as a promoter of virtuous processes for the diversification of port and local economic activities, identified as a strategic objective of the Authority.

SP 03 Ro-Ro Traffic Development

The Ro/Ro (Roll-on/Roll-off) market offers reliable and cost-effective ways to transport wheeled goods (e.g., trucks, cars) for various sectors, ranging from automotive to construction, agriculture, and heavy machinery. Italy is well-positioned in this market (approximately 64% I/E share in the Mediterranean by 2024), and southern ports (e.g., Salerno, Bari, Brindisi) are already experiencing steady flows of this type, which primarily serve the domestic market of central and southern Italy. The main connections are with Turkey, Spain, and Greece.

The development of Ro-Ro traffic at the Port of Taranto could facilitate the partial transformation of the port from an industrial pole into a multifunctional logistics hub, leveraging its strategic Mediterranean location, port and hinterland infrastructure, and particularly its rail connections. Recent studies highlight the potential opportunity to attract car-carrier Ro-Ro traffic or niche segments (e.g. project cargo, in-port logistics activities, cargo consolidation/deconsolidation). The former relates to proximity to production plants (for exports) or the possibility of acting as a logistics hub for import flows; the latter relate to the provision of value-added services (e.g. storage) specifically dedicated to goods carried by Ro-Ro vessels, to be developed within hinterland logistics facilities.

In addition, the port's digital capabilities will provide a competitiveness and attractiveness enabler related to the automated management of vehicle flows, reducing waiting times and administrative procedures at the quay. The port's green transition can also contribute to the provision of energy-sustainable port operations, a factor increasingly requested by modern shipowners.

The Port Authority intends to implement promotional activities, in collaboration with port and regional terminal operators, to encourage the development of ro-ro traffic. This will also consider regional initiatives that are promoting cargo aggregation and the integration of logistics services in sectors such as agri-food (e.g., participation in Interreg projects aimed at promoting this type of traffic, such as the IPA ADRION 21-27 program).

SP 04 Intermodal Traffic Development

In terms of rail development projects for the Port of Taranto, the use of trains for the transport of food and agricultural goods will be explored to support the local economy, using the port as a terminal hub, or using rail and the Ionian seaport for ship-rail transhipment, or as an intermodal gateway.

Based on the current infrastructure, particularly rail connections, it would be possible to envisage specializing the docks in relation to dedicated traffic with different logistical solutions, aiming to evolve the port's role from a port of call to a rail freight hub, capable of integrating maritime services (containers and RoRo) with the national and European rail network.

These solutions (Figure 42) were hypothesized by analysing the performance of the connection lines and the current technical limitations, with the aim of overcoming bottlenecks and maximizing the competitiveness of the Taranto port.

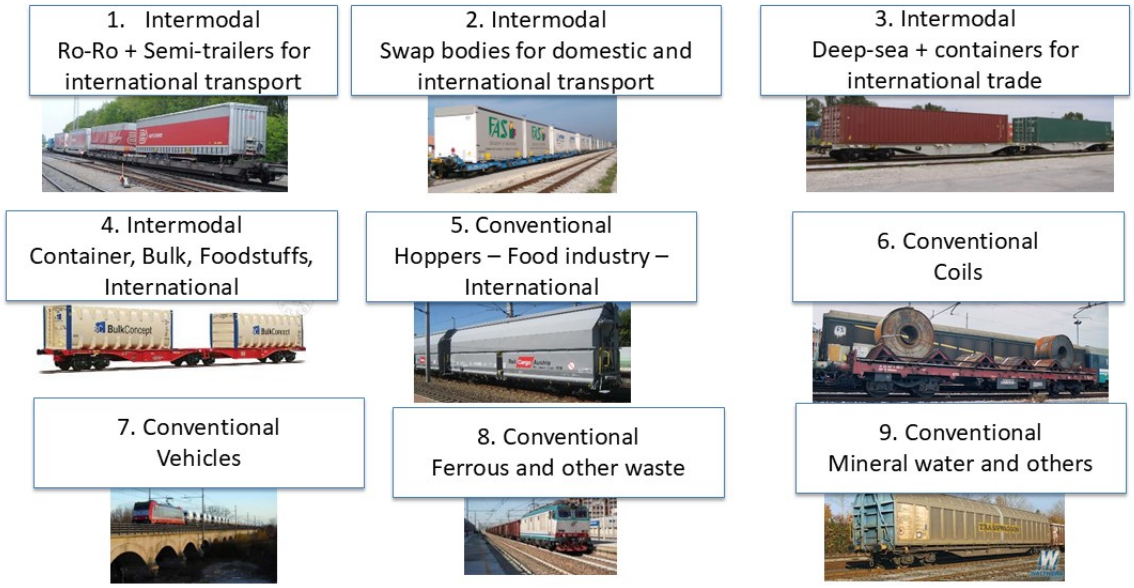

Figure 42 Project hypothesis for trains to and from the port.

The POT's action includes activities aimed at developing railway projects in collaboration with port rail terminal concessionaires and railway stakeholders (e.g., RFI, FS Logistix). This priority is also high due to the presence of the *Ferrobonus* (see also section 2.2.1).

The implementation roadmap envisages the involvement of the port cluster as sector experts to identify the types of traffic to be conveyed by train.

SP 05 Shipbuilding

The Port Authority's economic diversification strategy. This initiative focuses on the revitalization of the former Belleli Yard, a site of primary importance due to its size and location, currently undergoing a radical redevelopment process.

Following the withdrawal of the previous operator (Ferretti), the Port Authority contributed to the development of an addendum to the previous Program Agreement aimed at redefining the industrial use of the area. The new project aims to transform the site into a centre of excellence for shipbuilding and maintenance.

The first operational phase involves an estimated total investment of €170 million. Given the site's complexity, the project is being managed by a temporary consortium (ATI), composed of operators with appropriate expertise in environmental remediation and major maritime works.

The operation is divided into 3 functional phases, with the following operational structure:

- Primary objectives: complete remediation of the area, permanent safety measures, and preparation of infrastructure for reindustrialization.
- Financial status: The first functional phase is currently funded. To complete the project, the funding plan calls for additional funding from:
    - Direct funds from the Special Commissioner for Land Reclamation.
    - MIT Appropriations.

SP 06 Development of value-added activities in the port and hinterland areas

In synergy with activities related to the development of rail and ro-ro traffic, and considering the port of Taranto's inland facilities, promoting the benefits of the Customs Free Zone, managed by the Port Authority, is considered strategic.

The POT's goal is to launch promotional activities to promote the opportunities offered by the ZFD, both nationally and internationally, seeking to attract stakeholders (e.g., logistics operators, distribution companies, and manufacturing firms) to the already defined areas to develop value-added activities, thus benefiting the port and its related industries.

Promotional activities may include preparing specialized informational materials and disseminating information through institutional channels and third parties, participating in events (e.g., international trade fairs), and engaging in analysis activities by institutional bodies (e.g., ITA – Italian Trade Agency) for territorial marketing initiatives.

As part of the rationalization of port and dry port areas, the energy transition is reshaping the role of ports as strategic platforms not only for logistics, but also for the production, integration, and management of energy from renewable sources. In this context, the Port of Taranto is striving to become a national hub for floating offshore wind power and an advanced laboratory for green solutions applied to the port system and related industrial clusters. Among the initiatives undertaken by the Port Authority in the second half of 2025 is the launch of a study aimed at mapping, evaluating, and reconfiguring the port's spaces for energy, logistics, and industrial purposes. This activity involves an internal working group within the Port Authority and a network of qualified partners—AERO, LUM University, the Mediterranean Technology Centre for Sustainable Development, and GSE—whose task

is to integrate strategic vision, technical and economic analysis, and operational planning. The objective is to define development scenarios that realize the goal of making the Ionian Sea a green port capable of hosting the offshore wind industry, photovoltaic systems, and innovative models of port energy communities. AERO contributes its offshore sector network; the Mediterranean Technology Park supports the definition of a sustainable energy vision; the GSE provides expertise on incentives, self-consumption configurations, and energy communities; LUM University provides competitiveness analyses, access to tenders, and investment attraction. In this context, the Port of Taranto is the first port in Italy to have signed an agreement with the GSE on energy transition, confirming the action the Port Authority intends to develop with the aim of benefiting from strategic institutional support in the Ionian Sea port's redevelopment process.

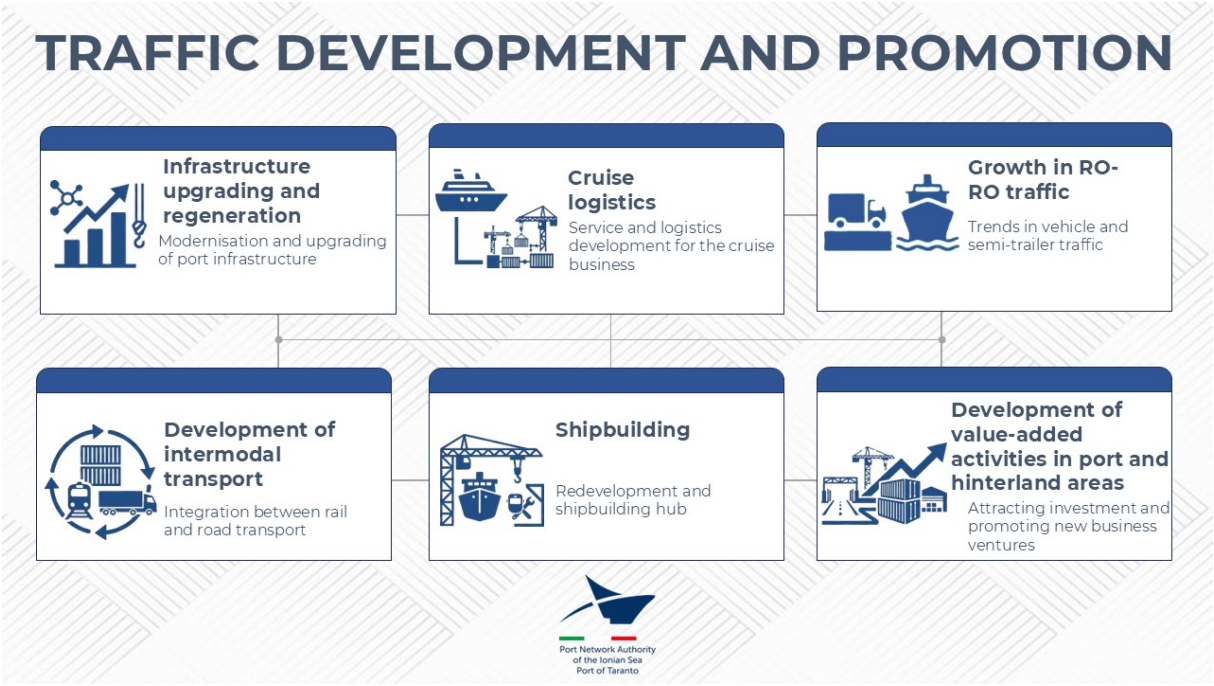

Figure 43 Summary of actions for the Traffic Development and Promotion objective.

4.2.4 Digital Transition (TD)

The projects that will be proposed and managed over the next three years of the POT's validity, even if characterized by annual revisions, will be specifically aimed at impacting the following aspects.

- Maritime domain: management of vessels/voyages, cargo manifests, port call messages, and service organisation.

- Cargo: Overall simplification of processes related to the management of imports/exports, transhipments, dangerous goods, waste reporting, and port tracking.
- Inland transport: road/rail transport integration, rail operations.
- Administration: customs integration, statistics management, invoicing.
- Digital collaborative networks

The investment areas are summarised in the four macro-actions of:

1. Full interoperability ("Paperless Port"): creating the conditions for adopting the applications needed to make the Port "paperless" through an adequate level of digitalization. This involves developing a Smart Port IT architecture that goes beyond the so-called PCS (Port Community System) but creates the conditions for interoperability among various public and private operators.
2. Gate Automation: Improvement of the gate access automation system with the addition of functions related to monitoring the position of vehicles and goods in the port area
3. Connectivity and monitoring: building community through connectivity that enables the use of applications and data collection from sensors and objects operating within the port area (with IoT solutions)
4. Cybersecurity: this is a series of mandatory actions in implementation of the legislation on IT Security (NIS1 and NIS2) but which at the same time represent the tool to make the PCS reliable and therefore provide certainty on the quality of the applications and data to the various users.

TD 01 Full Interoperability ("Paperless Port")

The Port of Taranto's PCS will offer even more new features to digitize, share, and streamline port logistics, serving as a neutral platform for all stakeholders (customs, carriers, freight forwarders, etc.) to exchange data for managing imports, exports, and transhipments, managing customs declarations, monitoring goods and vessels in the port, managing vessel movements, handling dangerous goods, and generating statistics, all through a single point of contact capable of ensuring efficiency and transparency.

- Completion of the Port Community System (PCS): implement new functions and update the PCS; develop a digital platform for the secure exchange of documents and data between companies, with a focus on data quality. Integrate the authorities, terminal operators, carriers, other companies, Customs, and the Coast Guard for 24/7 port management.

- Port-inland interoperability: complete the connection between the port PCS and the IT systems of national freight villages (as envisaged by the National Logistics Platform - PLN) to harmonize information flows along the entire supply chain.
- Artificial Intelligence (AI): Using AI algorithms for predictive infrastructure maintenance and automated terminal management (e.g., autonomous shuttles or remotely operated cranes).

TD 02 Gate automation

- Gate automation: digitize customs procedures and gates (gate automation) to allow the entry and exit of goods without paper documents, reducing waiting times.
- Tracking in the Port - Use of new intelligent cameras to simplify monitoring processes.

TD 03 Connectivity and Monitoring

- 5G Infrastructure and Sensors: Install 5G networks and IoT sensors on docks, cranes, and gates to enable real-time monitoring of freight and vehicle movements.
- Port Modelling, Control, and Optimization through Digital Twin: Creating a "digital twin" of the entire port and hinterland area. This virtual model, powered by real-time data, allows for scenario simulations, optimization of truck traffic, and forecasting of bottlenecks. The system will also enable more integrated management of properties and infrastructure. *This initiative will also leverage existing activities related to the BE:TWIN project, funded by the Port System Authority under the Interreg VI-A Greece–Italy 2021–2027 Program, Priority Axis "Smart and Innovation," Objective SO1.2 – Digitalization, which aims to promote digital innovation and technological transformation in cross-border regions. With BE:TWIN, the Port of Taranto consolidates its role as an innovation laboratory in the Mediterranean, promoting port management based on data, technology, and sustainability. The project will improve decision-making capacity, reduce the carbon footprint and foster international cooperation, laying the foundations for a replicable model of smart and green port development, perfectly aligned with the European Smart Innovation and Digitalisation strategies.*
- Widespread monitoring: create a network of sensors capable of supervising all the parameters necessary for increasing control over port areas
- Green Energy Monitoring: Following the electrification of docks and the use of IoT technologies, it will be possible to monitor resource consumption (water, energy) in real time, as well as energy usage through the so-called OPS by monitoring the consumption of docked ships.

TD 04 Cybersecurity

- Cybersecurity: protecting the integrity and quality of data exchanged between the various players in the supply chain and with administrations, as well as being able to make applications always accessible (business **continuity)**.
- Infrastructure security: increased video surveillance, movement within the Port, and data protection against cyber threats.

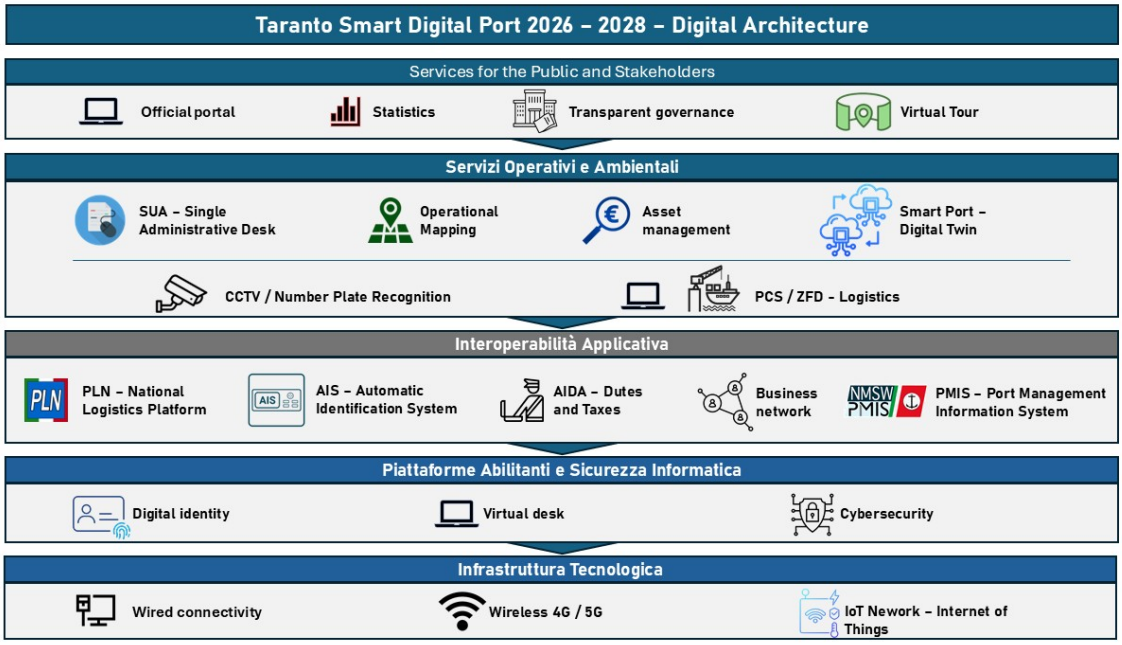

Figure 44 Actions and projects to ensure the Digital Transition 2026-2028.

The main features that will be developed and, where already present, strengthened with the addition of innovative technological solutions such as AI are:

- Electronic Data Interchange (EDI): secure and standardized exchange of documents such as manifests, declarations, and permits.
- One-stop access: A single portal for all users to submit and access information, reducing bureaucratic burdens.

- Interoperability with Customs and Declarations: digital submission and processing for import/export customs clearance, including dangerous goods. (SUDOCO – Single Customs and Control Office)
- Tracking and Tracing of Goods: Real-time visibility of goods along the entire supply chain (in port, inland).
- Ship and port call management: Management of ship arrivals and departures, berth assignments, and port call data.
- Internal logistics: management of road and rail transport, container handling (loading/unloading), and internal customs clearance.
- Information and Statistics: Providing real-time status updates and generating required maritime/port statistics.

The main advantages for operators who join in using the platform:

- **Automation:** Automate repetitive tasks like data entry and application processing.
- **Data Security and Privacy:** Ensures data protection and compliance.
- **Interoperability:** Connects to other private/public platforms and adheres to international standards.
- **Efficiency:** Reduces bottlenecks, simplifies processes and lowers logistics costs.
- **Transparency:** Improves visibility for all stakeholders, improving coordination.

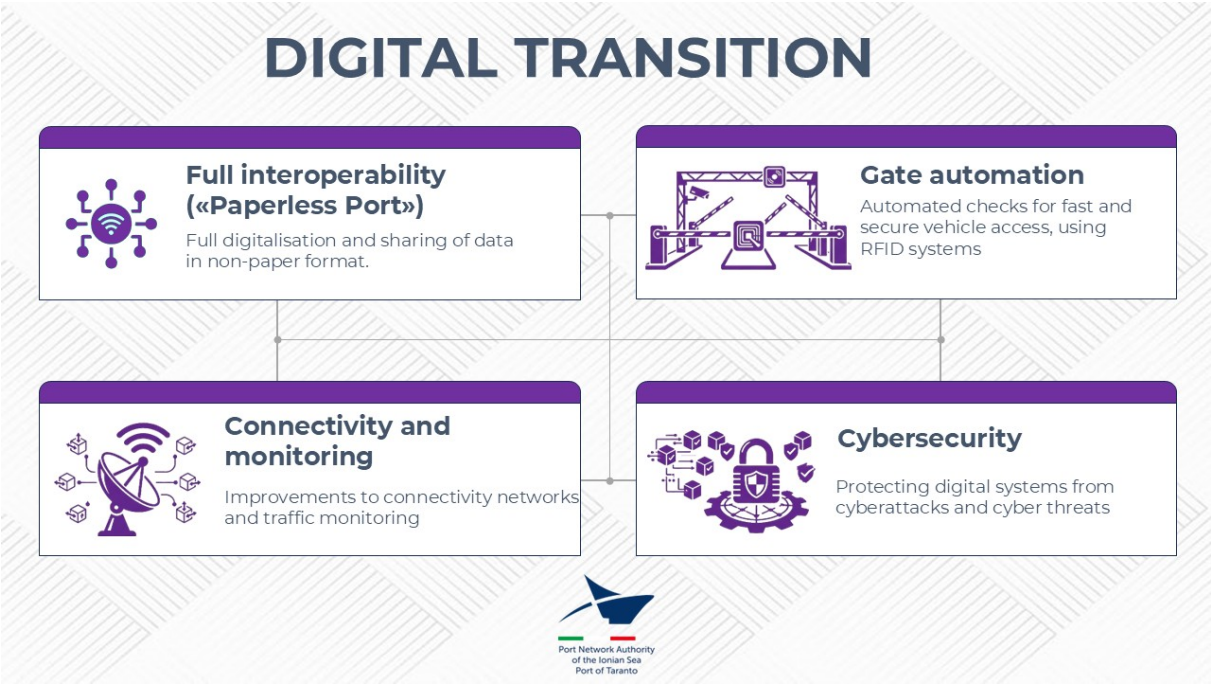

Figure 45 Summary of actions for the Digital Transition objective.

4.2.5 Governance and Cooperation (GC)

The success of the Three-Year Operational Plan depends not only on the implementation of infrastructure projects, but also on the Port System Authority's (AdSP) ability to act as an efficient regulator and facilitator of social development. This section describes the actions aimed at modernizing the port's administrative machinery, investing in human capital, and strengthening the historic and functional ties between the port and the local community.

The governance strategy for the three-year period 2026-2028 is based on three fundamental guidelines:

- Investing in human capital: the Authority is responding to the challenge of the ecological and digital transition by supporting the development of a network dedicated to reskilling and upskilling the port cluster, with a view to ensuring that local workers are ready to seize the opportunities offered by new professions in green logistics and technological innovation.

Institutional Coordination among Public Administrations operating in the port: by updating the ESG identity and integrating the innovation of a service charter, through technical and coordination roundtables, the POT promotes the efficiency, cohesion, and collaboration of the port community to implement the transition.

- Port-city synergy: the port ceases to be a "closed" area and becomes an integral part of the urban fabric. This process is achieved both on an immaterial level, through community engagement and ongoing dialogue with local institutions and associations, and on a physical level, through the development of the *waterfront* and the redevelopment of interface areas.

These actions together aim to transform the Port of Taranto into an engine of growth, not only economic, but also cultural and social, ensuring that the port's development is harmonious, inclusive, and shared with the entire Ionian region.

GC 01 Professional requalification of the port cluster

This initiative aims to bridge the *mismatch* between current workforce skills and new market needs, particularly those related to process digitalization and environmental sustainability.

Reskilling is a complex set of activities aimed at supporting higher education and lifelong specialization. The goal is to contribute to the creation of a centre of excellence that can:

- train new professional figures (e.g. intermodal logistics experts, renewable energy plant operators, port cybersecurity specialists);
- retrain personnel already working in the port cluster to use new technologies (Paperless Port, automation);
- promote the culture of the sea and maritime professions among young people in the area.

The AdSP will act as a catalyst and coordinator, following these guidelines:

- Partnerships: signing memoranda of understanding with schools, universities, technical institutes (ITS), and national and international research centres.
- Synergy with businesses: Direct involvement of terminal operators and cluster companies to define training needs and ensure on-the-job training or internships.
- Physical and digital infrastructure: identification of dedicated spaces within the port-city interface areas (e.g. within the *Waterfront projects)* equipped with technology laboratories and multimedia classrooms.
- This initiative will also be developed within the framework of an existing synergy with the regional administration, international associations, and other stakeholders interested in financially supporting the initiative.
- The initiative will also leverage the activities of the Port System Authority (PSA) through the European collaboration network, which provides access to projects and initiatives supporting

innovation and the adaptation of technical skills to market developments. These initiatives, managed through a dedicated Training and Innovation office, will continue to manage the submission and management of projects, including those seeking financial support. The most significant and noteworthy initiatives within the three-year program are:

- **FAROS** – CDP National Network's Blue Economy Accelerator: the project has been extended until 2026, and a way to continue supporting startups is being evaluated. FAROS has emerged as one of the most active accelerators.
- **PORTABILITY** – Initiative for the development of professional excellence. The PortAbility Project (Strategies for VET to support Port City Economies) towards a Just Transition) aims to contribute to the overall objectives of the CoVE (Centres of Vocational Excellence) within the Erasmus+ project by developing innovative strategies and methods that put Vocational Education and Training (VET — Vocational Education and Training) not only as a contribution, but as a driver for the economic diversification and reconversion of port city regions towards a "Just Transition" towards a climate-neutral, digital and inclusive economy.
- **Territory** (INTERREG Project) - The TERRITORY – sTrengthening project disaster Response capabilities Through drone technologY – is funded by the Interreg Program and aims to define a successful model to accelerate the diffusion of technological innovation in the field of environmental risk management and disaster response. The primary objective is the creation of an integrated system using unmanned aerial systems (UAS) and artificial intelligence (AI) for environmental monitoring aimed at the timely detection of environmental risk phenomena in the port area.

GC 02 Institutional coordination between PPAAs operating in ports

The Port Authority (AdSP MI) orients its activities toward sustainable and responsible growth. The environmental dimension focuses on energy efficiency measures, emissions reduction, and sustainable waste management. The social dimension concerns the development of human capital, occupational health and safety, and strengthening community ties. Finally, governance concerns the institution's ethical and transparent management, technological innovation, and traffic diversification.

In line with the UN 2030 agenda on the management of nodal transport and logistics infrastructures, the development of a *Port Services Charter* It allows for the introduction of industry performance standards, sharing them with port stakeholders, setting common objectives, measuring performance, and introducing a continuous improvement system that enhances the port's attractiveness and competitiveness.

A service charter should be structured on the following pillars:

- Definition of quality standards (KPIs).
- Transparency on the services offered.
- Digitalization

The dimensions to be measured and included in the map include, but are not limited to, the following:

- Operational efficiency and times
- Quality of Service
- Security (Security & Safety)
- Environmental sustainability

GC 03 Port-City Synergy

The revitalization of the Port of Taranto cannot be achieved without an integrated vision that bridges the historical divide between the industrial port and the urban fabric. The Port Authority identifies the **Port-City synergy** as a cross-cutting and priority objective, aimed at transforming the port area into a place of participation, culture, and shared social development. This effort is articulated through the active involvement of institutions and citizens, alongside the physical regeneration of the interface spaces.

The action aims to establish a permanent dialogue with the territory through two main lines:

- **Community Engagement:** activating participatory processes with local stakeholders to define the port's identity as a common good.
- **Waterfront Redevelopment:** the transformation of the border areas between the port and the city into usable, modern, and attractive public spaces capable of hosting tourism, recreational, and cultural functions.

To translate these objectives into concrete results, the AdSP adopts an approach based on institutional cooperation and quality planning:

- **Permanent coordination tables:** Reconstitution of a new port-city coordination table to harmonize urban development plans with port plans, ensuring consistency in traffic and urban decor interventions.

- **Physical integration projects:** continuation of architectural and landscape restoration projects along the waterfront, aimed at creating cycle and pedestrian paths, green spaces, and open plazas that allow residents to visually and physically reclaim their view of the Ionian Sea.
- **Communication and cultural actions:** organization of events, port *open days and "Port* Education " initiatives to spread knowledge of maritime activities and raise awareness on sustainability issues also through the virtual exhibition centre *Open Port* already provided by the Organization.

The project will begin in 2026 with the consolidation of the memoranda of understanding with the Municipality and the launch of design competitions for the new *Waterfront lots. The Waterfront* infrastructure works will be completed over the next two years (2027-2028). The projects will draw on a mix of the Authority's own resources, CAP funds earmarked for urban regeneration, and regional funding for tourism development.

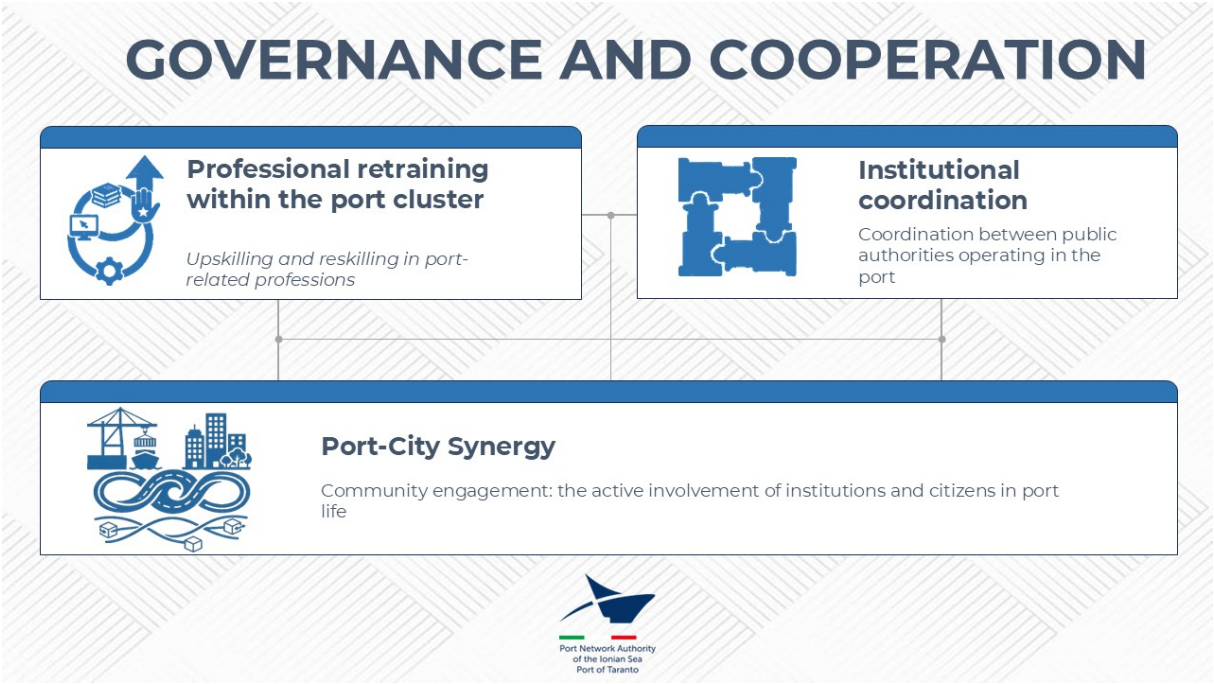

Figure 46 Summary of actions for the Governance and cooperation objective.

5 Flagship Projects

5.1 Setting Priorities

To ensure an objective, transparent, and consensus-based decision-making process, the definition of priorities for the Three-Year Operational Plan was supported by a **Multi-Criteria Analysis (MCDA).** This methodology allows for the synthesis of various strategic perspectives into a single value indicator. The starting point was the involvement of the Port Authority's managers, who were asked to rank the (alternative) actions derived from the SWOT matrix for each strategic objective. This allowed us to capture the operational vision of those who manage port processes daily. The preferences expressed were evaluated using three key criteria, given equal weight (33.3% each) to ensure a balance between the different dimensions of port development:

1. Competitiveness: the ability of the action to generate market value and attractiveness.

- Sustainability: positive environmental impact, social impact, and technical reliability.
- Profitability: efficiency in the relationship between investments and expected benefits.

To transform the qualitative data (the " ranks " of the questionnaires) into processable quantitative data, the following technical procedure was applied:

1. Inverse linear transformation: Ranking positions were converted into cardinal scores (e.g. on a scale from 1 to 6, first place was weighted with the maximum value).

- Average aggregation: the scores obtained by the different managers were averaged to neutralize any outliers and reflect the collective consensus.
- Normalization 0-10: the results have been reported on a decimal scale to facilitate reading and immediate comparison between different objectives.

The top-ranked actions represent not only individual preferences, but also the projects that scientifically best balance the three selected criteria. This ranking forms the basis for financial and temporal planning of interventions for the three-year period 2026-2028.

5.2 Analysis of results by objectives

5.2.1 Green Transition

Green Transition	Media RANK	RANK Standardization	Invert Rank	Priority
On-shore Power Supply (OPS)	1.4	0.13	0.87	1
Offshore Wind Hub	1.6	0.20	0.80	2
Energy Hub	3.4	0.80	0.20	3
Circular Economy	3.6	0.87	0.13	4

This is the area with the highest and most consistent scores in the top positions. The strong consensus on **Onshore Power Supply (0.87)** and **Offshore Wind Energy (0.80) indicates a clear vision: decarbonizing port operations and opening to new energy markets are considered** the cornerstones of the green strategy.

5.2.2 Traffic Development and Promotion

Traffic development and promotion	Media RANK	RANK Standardization	Invert Rank	Priority
Ro-Ro Traffic Development	2.2	0.24	0.76	1
Intermodal Traffic Development	2.6	0.32	0.68	2
Shipbuilding	3	0.40	0.60	3
Infrastructure enhancement and redevelopment	3.2	0.44	0.56	4
Cruise Logistics	4.8	0.76	0.24	5
Development of value-added activities in the port and hinterland areas	5.2	0.84	0.16	6

Here we can see a preference for commercial diversification. **Ro-Ro Traffic Development (0.76)** emerges as the top priority, followed by **Intermodal Development (0.68).** This suggests that management is focusing on speed and land-sea connectivity as a lever for immediate growth.

5.2.3 Digital Transition

Digital Transition	Media	RANK Standardization	Invert	Priority

	RANK		Rank	
Full interoperability ("paperless port")	1	0.00	1.00	1
Gate automation	2.4	0.47	0.53	2
Connectivity and monitoring	3.6	0.87	0.13	3
Cybersecurity	3.6	0.87	0.13	3

The highest absolute score for the entire plan was recorded: **Total Interoperability or "Paperless Port" (1.00).** This data is unequivocal: the digitalisation of document flows and integration with other PPAAs is perceived as the "sine qua non" condition for the modernisation of the port.

5.2.4 Governance and Cooperation

Governance and Cooperation	Media RANK	RANK Standardization	Invert Rank	Priority
Institutional coordination between the PPAAs operating in the port	1.8	0.27	0.73	1
Physical Integration: Waterfront Development	2.6	0.53	0.47	2
Professional requalification of the port cluster	2.8	0.60	0.40	3
Port-City Synergy	2.8	0.60	0.40	3

Coordination **(0.73)** clearly outperforms the other actions. There is strong internal demand for simplified authorization processes and more fluid dialogue between institutions, intended as a driver for unlocking infrastructural potential. Finally, following the evaluation, it was decided not to separate the intangible dimension of cooperation from the physical dimension of the works for the actions "Physical Integration: Waterfront Development " and "Port-City Synergy", in fact they are already aggregated in chapter 4.2.5.

From the overall analysis, three distinct action profiles emerge:

- **Flagship Projects:** Projects such as dock electrification (OPS) and the paperless port enjoy near-unanimous support. These initiatives present the lowest political and management risk and the highest perceived utility, thus deserving priority in terms of funding and timelines.

- **Balance between infrastructure and services: Despite the importance of physical work, services and flow-** related initiatives (intermodal, ro-ro, cybersecurity) score higher than major civil works. This indicates that management favors a ″smart″ and ″connected″ port rather than simply a ″bigger″ one.
- **Monitoring Areas (Low Priority):** Actions such as *cruise logistics* and the *circular economy* currently occupy the lowest positions. This doesn′t mean they aren′t important, but rather that, in the perception of managers, they are subordinate to the consolidation of trade and the primary energy transition.

The results show a Port System Authority moving toward a Logistics and Green Hub Port model. Priority is given to digital and institutional integration to make the port efficient, while supporting the energy transition to ensure long-term sustainability.

5.3 Overall Roadmap

Translating the strategic vision into tangible results requires rigorous timelines and financial planning. This chapter presents the **2026-2028 implementation roadmap,** a dynamic management tool that integrates the priorities emerging from the multi-criteria analysis with the operational and accounting reality of the institution.

The synoptic table below forms the heart of the programming and provides an overview of four key dimensions:

- **Priority:** derived from management and stakeholder consensus (expressed through the MCDA ranking).
- **Completion Period:** The expected time frame for completing each intervention.
- **Budget:** the estimate of the investments required to fully achieve the established objectives.
- **State of the art:** A fundamental distinction is made between actions already **underway or under construction** (with a budget already allocated) and those newly planned, for which the **fundraising** procedures will be initiated through national (e.g., MIT) or European (e.g., CEF) funding channels.

flagship projects for the AdSP MI will be reported.

This mapping allows the Port System Authority to monitor not only what is being done, but also how economically sustainable and quickly it is being executed, ensuring transparent and results-oriented governance.

Table 12 Plan of actions.

Strategic objective	Action	Completion period
Digital transition	Interoperability total ("paperless port")	12/2028
Green transition	On-shore Power Supply (OPS)	12/2027
Traffic development and promotion	Ro-Ro traffic development	12/2028
Governance and cooperation	Institutional coordination between the PPAAs operating in the port	12/2028

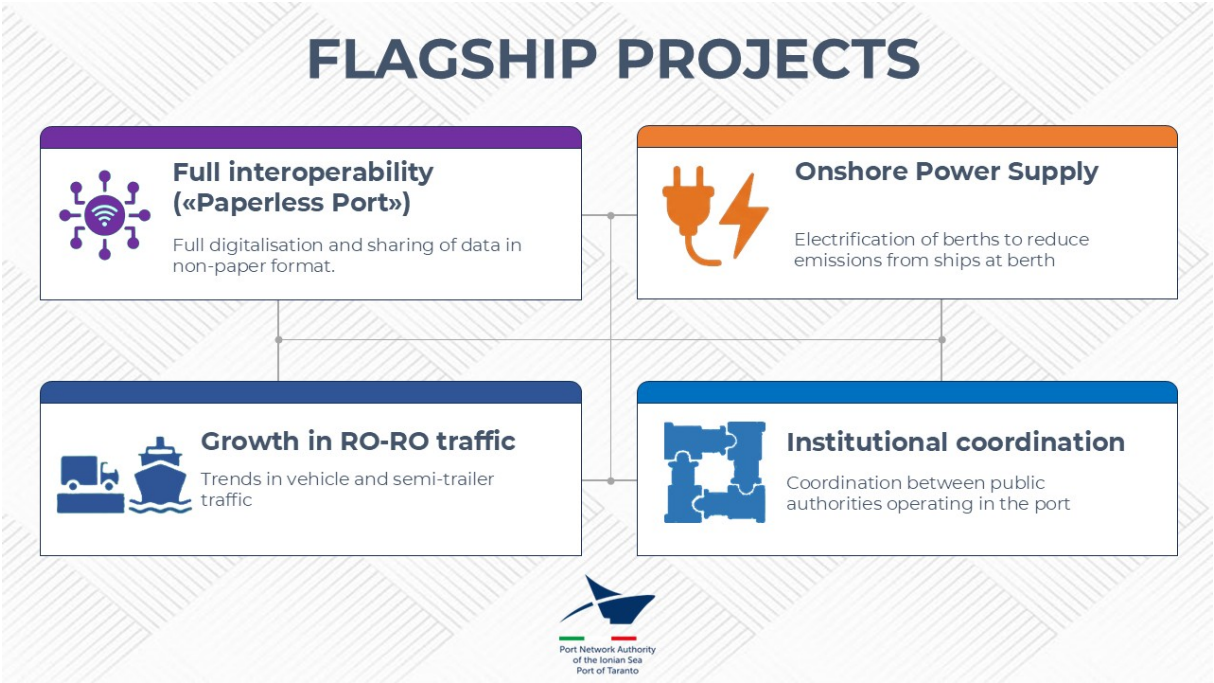

Figure 47POT flagship projects.

6 Roadmap for the Floating Offshore Wind (FOW) Hub

6.1 Strategic opportunities and requirements for the port of Taranto

The strategic opportunity for the Port of Taranto to become a FOW hub is real, but the scale is uncertain. The strategic premise of a potential implementation roadmap is that the Italian offshore wind pipeline be predominantly floating and concentrated in areas where a well-positioned southern hub can play a national role. Taranto enjoys a solid starting position thanks to its geographic location, industrial base, available land, and political designation as a strategic port hub. However, analyses show that port infrastructure represents a bottleneck, and that port investments for floating wind projects are hampered by uncertainty regarding technology choices and timelines. This makes the phasing of interventions, flexibility, and risk-free preliminary work essential for the POT.

Three demand scenarios have been defined, summarised in Table 13.

Table 13 Assembly and integration demand scenarios expected for the port of Taranto.

Demand scenario	Activity	2029-2031	2032-2035	2036-2050
Bass	Integration	None	None	250 MW p/a
	Assembly of floats	250 MW total	500 MW p/a	500 MW p/a
Medium	Integration	None	Solo Barium Bay (2 anni a circa 555 MW p/a)	500 MW p/a
	Assembly of floats	250 MW p/a	1000 MW p/a	1000 MW p/a
High	Integration	None	750 MW p/a	750 MW p/a
	Assembly of floats	250 MW p/a	1500 MW p/a	1500 MW p/a

The roadmap developed and discussed in the following section uses a medium scenario consistent with market expectations: approximately 20 GW of offshore wind installed in Italy by 2050, with a trajectory that assumes the advancement of initial projects and the subsequent implementation of approximately 1,000 MW/year starting in 2032. For the planning of the port of Taranto, this medium scenario translates into a substantial but not maximum scale requirement: Taranto's long-term FOW footprint is approximately 80 hectares, with integration occupying approximately 25% of the total space and the assembly/production of floating plants (floaters) dominating the space requirement. A key aspect is that the production/assembly footprint is the constraining factor. The roadmap modelling assumes that

floating plant assembly lines produce approximately 15 floating plants per year per line. The number of lines required varies depending on the scenario and peak years. In the medium scenario, the area dedicated to floating turbine assembly increases from approximately 32 hectares (2 lines) for initial demand to approximately 64 hectares (4 lines), reaching a peak of approximately 80 hectares (5 lines) in the early 2030s, before stabilizing again at approximately 64 hectares as turbine size increases and the number of floating turbines per GW declines. This directly impacts the investment rationale: Taranto must preserve and enhance space for industrial production, not just sorting and integration.

Several options were analysed, summarized schematically in Figure 48.

Parameter	Option 1A Pier 6	Option 1B Pier 6	Option 2 Ex-Belleli	Option 3 Pier 5 Exp.	Option 2/3 Ex-Belleli PLUS
Available quay length	750 m	750 m	400 m	1260 m	825 m
Available yard size	50 ha	50ha	34 ha	84 ha	64 ha
Floaters assembly capacity *(without WTG integration)*	**45 floaters p/a** (3 lines x 15 units)	**45 floaters p/a** (3 lines x 15 units)	**30 floaters p/a** (2 lines x 15 units)	**75 floaters p/a** (5 lines x 15 units)	**60 floaters p/a** (4 lines x 15 units)
Floaters assembly capacity *(with 18 ha area for integration of 30 WTG per year)*	**30 floaters p/a** (2 lines x 15 units)	**30 floaters p/a** (2 lines x 15 units)	*Not feasible due to limited quay length*	**60 floaters p/a** (4 lines x 15 units)	**45 floaters p/a** (3 lines x 15 units)

Figure 48 Overview of location options for key FOW activities (float assembly and wind turbine integration).

In the POT scenario, the Multipurpose Pier (projection 6, Figure 48) appears to be the most viable option in the short term, as it is already envisaged as a FOW terminal (approximately 50 hectares) with a significant quay length and good access to and from the hinterland. In the long term, Option 1A envisages a quay loading capacity of 10–15 t/m², which limits the use of land-based cranes for the integration of WTGs (wind turbine generators), which require loading capacities in the range of 30–40 t/m². Therefore, the integration of floating cranes or self-climbing platforms (high OPEX, less

efficient) becomes the viable option until the quay is further reinforced (Option 1B) to allow the use of large-capacity land-based cranes.

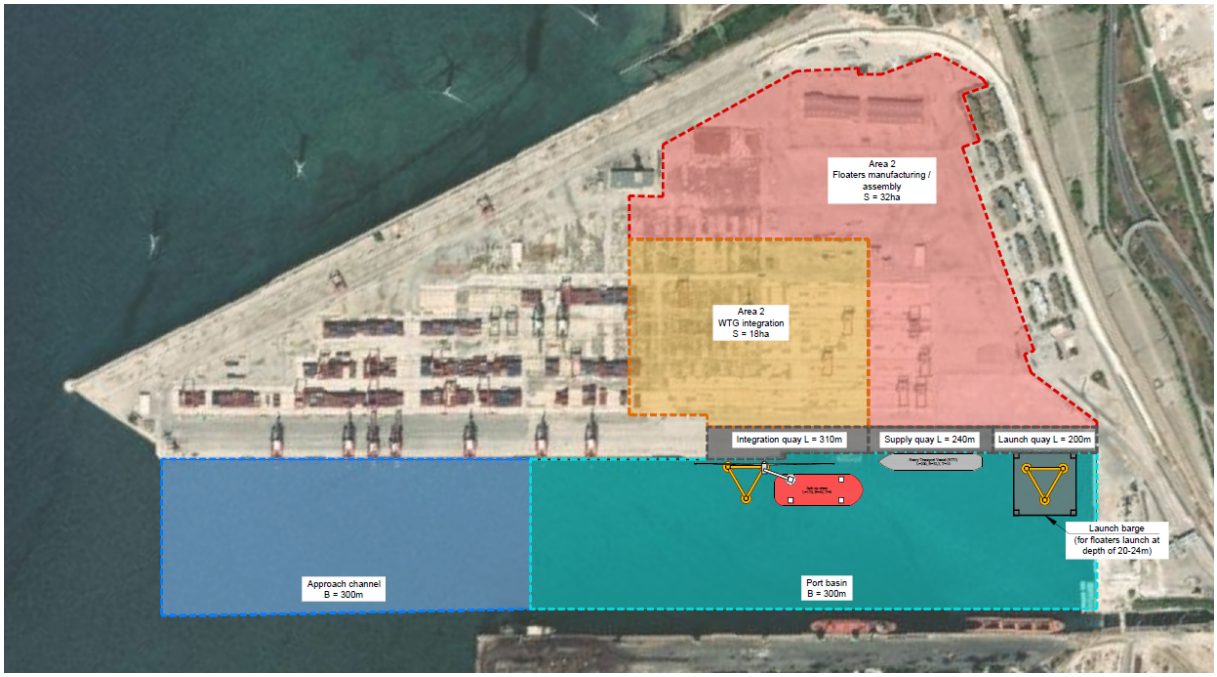

Figure 49 Option 1A – Preliminary high-level layout at the Multi-purpose Pier, Pier 6.

The former Belleli site (Option 2) covers approximately 34 hectares and has a quay length of approximately 400 m but requires substantial dredging and strengthening. The roadmap concludes that it is better suited as an additional site for commissioning, support activities, or overflow rather than as a fully functional, stand-alone FOW terminal, primarily due to the limited quay length, which prevents simultaneous integration and assembly.

Figure 50 Ex-Belleli area and expansion of the projection 5 as Option 2 and Option 3.

The expansion of Pier 5 (Option 3) represents the long-term strategic solution for unlocking capacity, with approximately 84 hectares and extensive quay potential. However, it is also the most capital-intensive and therefore not justified for short-term demand. It should be considered for expansion once Pier 6's capacity has been reached and market demand has been verified.

6.2 FOW Development Roadmap

A strategic roadmap has been developed for the development of the FOW in Taranto, aimed at making the port a Floating Offshore Wind Hub.

Figure Figure 51planned phases are described below.

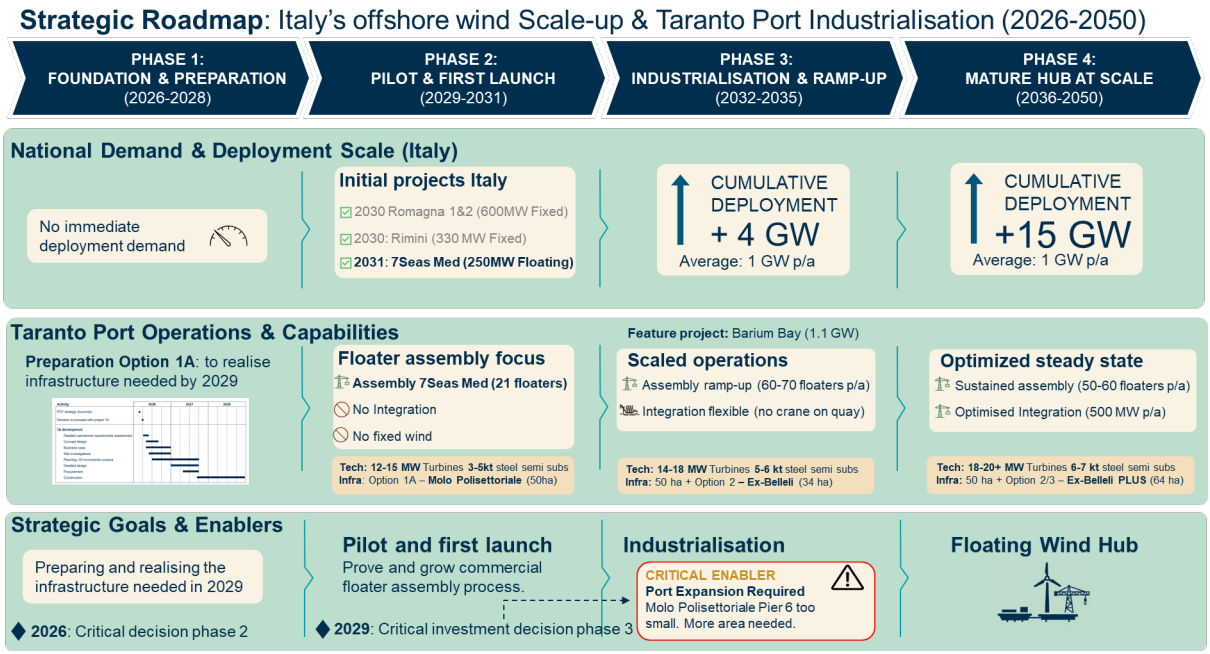

Figure 51 Strategic roadmap for the development of the Taranto Offshore Wind Hub.

6.2.1 2026-2028: Phase 1 - "Foundation and Preparation Phase"

Objective: to ensure that Taranto is operationally ready for the first reliable FOW campaigns by 2029-2031, while preserving options in terms of scale.

Following the critical decision to proceed with the implementation of Option 1A in early 2026, the priority is to secure and specify the functional zoning for Prominence 6, confirming a subdivision of approximately 32 hectares dedicated to floating assembly and 18 hectares for wind turbine generator (WTG) activities. This includes a detailed operational assessment of the requirements. The chosen integration method, whether floating/ self-propelled crane or land-based crane, must be defined, as this will impact productivity and ongoing operating expenses.

Zero-risk preparatory works: Priority should be given to investments that provide a minimum level of infrastructure to launch the first floating assembly projects. Investments should ideally also benefit from future scenarios and technological pathways. These include targeted quayside reinforcements to support initial FOW logistics, crane integration, improved yard loading capacity for component storage and handling, and modernization of access services and infrastructure (such as power supply, drainage, and road/rail interfaces) to meet industrial operating standards. Preparatory work for Phases 2 and 3 should also be undertaken at this stage.

Mitigating the risk of offshore storage: The plan includes an explicit decision regarding offshore storage, including site selection among candidate areas (AM1 and AM2) with varying depth profiles. Dredging and permitting plans should be aligned to ensure adequate offshore storage and the required depth, while ensuring no interference with existing port traffic.

Aligning governance and stakeholders: A robust governance structure must be established, evolving the role of the port authority from owner to facilitator or enabler, and potentially co-investor, given the uncertain returns from the private sector. Actions include establishing a dedicated governance structure for the FOW program with clear decision-making criteria, defining regulatory frameworks for concessions and technical standards to avoid late changes, and developing a national co-investment strategy focused on the construction of infrastructure projects rather than on specific equipment for each operator.

The action plan outlined below outlines the main actions and milestones for the period 2026-2028, forming an integral part of the port's strategic vision to become a leading floating wind hub. Over the next three years, the focus will be on laying the groundwork for infrastructure development, fostering partnerships with industry stakeholders, and obtaining the necessary permits. This proactive approach will ensure the port is well-positioned to support the expected growth in offshore wind activity and capitalize on emerging opportunities in the renewable energy sector.

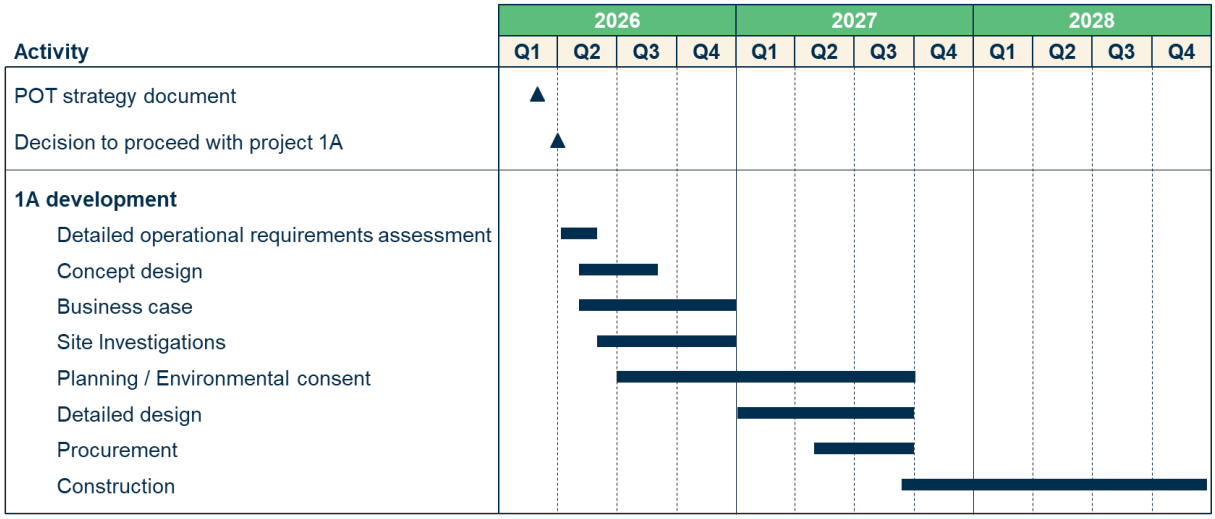

Figure 52 Three-year action plan for the first phase of the roadmap.

6.2.2 2029-2031: Phase 2 - "Pilot and First Launch"

Objective: Demonstrate repeatable and secure FOW operations at commercial scale and validate the scalability of the investment.

The roadmap links initial market activity to a limited number of first projects and emphasizes a near-term hands-on operational role focused on the assembly of floats for the first projects, with integration dependent on distance and project configuration. Integration is expected to be minimal at this stage, as the projects are generally quite remote. This also applies to fixed-pitch wind projects in the northern Adriatic Sea, which are too far to be installed from Taranto. During this phase, Taranto is expected to support the assembly of floats for the first commercial-scale floating offshore wind projects in Italy. A likely candidate for the first project is the 7Seas Med project near Sicily. Integration and final towing will likely be performed from a closer port, such as Augusta. In this regard, the Port Authorities of the Eastern Sicilian Sea and the Ionian Sea have already expressed their willingness to collaborate to better implement the related projects for the benefit of offshore wind development.

Key decision: By this stage, Taranto must make an investment decision on whether to move from the initial configuration of Project 6 to the expansion path (upgrading Option 1B and/or additional sites). The investment decision must ideally be made in time for the expected annual deployment of approximately 1 GW per year starting in 2032, placing it at the beginning of this stage and no later than 2029.

6.2.3 2032–2035: Phase 3 - "Industrialization and Acceleration"

Objective: To expand capacity to meet annual distribution and manage peak demand.

National demand: The medium scenario predicts a dramatic shift in activity levels around the early 2030s, and modelling shows an increase in space requirements to support 1 GW of Italian projects annually. This phase requires a steady industrialized deployment of 60-70 turbines per year.

Port of Taranto: In this scenario, we assume that Taranto is the only port in Italy handling floater assembly, thus covering the entire national demand. For integration purposes, it is assumed that Taranto will support approximately 50% of the national projects. This results in a total area of approximately 80 hectares, greater than that available at Pier 6, which requires the use of additional land within the port.

During Phase 3, a major development is the 1.1 GW Barium Bay wind farm, which could be the first major floating project to be integrated in Taranto. This integration could take two to three years.

Project integration using land-based cranes, floating cranes, or self-climbing platforms will largely depend on the infrastructure and cranes available in Taranto and the project developer's preferences.

Practical implication: It is unlikely that Promenade 6 alone (50 hectares) will achieve the full area capacity envisaged in the medium scenario. Taranto should therefore achieve additional capacity, either by upgrading Promenade 6 itself (for example, to increase integration capacity) and/or by using the former Belleli (34 hectares) for complementary functions and for increased float assembly capacity.

6.2.4 2036-2050: Phase 4 - Final State of the FOW Hub

Objective: to maintain a stable FOW industrial platform, capable of a national deployment of approximately 1 GW/year in the medium scenario.

Modelling indicates that, as turbine size increases, the number of turbines/floaters required per GW decreases, and consequently, assembly line demand stabilizes at a slightly lower level than in peak years. However, component and load requirements are typically higher. This supports a large, operationally stable hub model, provided the initial investment sequence has avoided oversizing.

This final phase supports large-scale floater assembly, with 50-60 floaters per year, supported by four to five assembly lines. Integration capacity stands at 500 MW per year. Shore-based cranes, which are more efficient for integration, require greater port capacity for the floaters and heavy components for larger turbines.

Offshore storage is necessary to harmonize production and integration flows, with reference requirements for sea surface areas in the order of tens of hectares and a depth of between 12 and 20 m.

6.2.5 Demand sensitivity analysis

Low Scenario (10 GW in 2050)

In the low-cost scenario, Italy will reach approximately 10 GW by 2050, with slower annual deployment. Demand for land for the port of Taranto is substantially lower and relatively stable (about 40 hectares, up to 60 hectares in peak years), meaning that the primary risk becomes premature over-construction. In this scenario, the development of Option 1 will likely provide sufficient space. The implication for the Three-Year Plan is to prioritize zero-risk preparatory work on Prospect 6, ensure the feasibility of storage, and stagger any major capacity expansion based on explicit demand drivers (auction outcomes, final investment decisions, or government commitments).

High Scenario (30 GW in 2050)

In the high scenario, Italy will reach around 30 GW by 2050, and Taranto's peak port space requirement will increase dramatically (modelling shows a total peak requirement exceeding 120

hectares in the early 2030s). This scenario implies an early activation of expansion levers and likely requires a multi-terminal operating model with Projection 6 plus additional capacity, with a combined or hybrid deployment of Options 2 and 3. A potential hybrid solution for the high scenario is presented in Figure 53.

Figure 53 General layout of the Taranto Floating Wind Hub in construction option 2/3 – Hybrid option (ex-Belleli PLUS).

The implication for the Three-Year Operational Plan is to reserve the option for the expansion of overhang 5 or for the construction of a hybrid plant (2+3) and to begin the design/authorisation work sufficiently in advance so that the expansion can be accelerated without it becoming a bottleneck.

7 Monitoring and Communication

7.1 Key Performance Indicators (KPIs)

To ensure maximum transparency and operational effectiveness of the strategic guidelines outlined, this Plan adopts a system of **Key Performance Indicators (KPIs).** The inclusion of these metrics responds to the AdSP's need to constantly monitor the gap between planned objectives and actual results achieved.

This is not a mere statistical measurement, but a management compass that allows us to assess the real impact of the actions undertaken on the port's competitiveness. Through the analysis of quantitative and qualitative parameters—such as efficient dock utilization, reduced docking times, or improved environmental sustainability—the Authority can implement dynamic corrective measures, ensuring that the revitalization of the Port of Taranto proceeds according to schedule and the established standards of excellence.

7.1.1 Green Transition

Action	Target	KPI indicator	Description	Survey method	Frequency
On-shore Power Supply (OPS)	Decarbonization	Progress of PNRR works	Level of physical completion of electrical infrastructure with respect to the deadlines set	Verification of the correspondence between the financial schedule and the works carried out.	Half-yearly
Offshore Wind Hub	Transformation into an energy and manufacturing hub	Reskilling Promotion	Number of initiatives launched and/or hours of training provided for professional retraining	AdSP data	Half-yearly
Circular Economy	Efficient resource management	Adherence to Green Management	Number of companies operating in the port cluster that subscribe to environmental or coordinated recycling protocols	AdSP data	Half-yearly

Action	Target	KPI indicator	Description	Survey method	Frequency
			promoted by the Port Authority.		
Energy hub	Increase in renewable energy quota	Percentage of renewable energy produced (%)	Percentage of energy produced from internal sources used for port consumption	Smart Meter Monitoring	Half-yearly

7.1.2 Traffic development and promotion

Action	Target	KPI indicator	Description	Survey method	Frequency
Ro-Ro Traffic Development	Start Ro-Ro traffic	Initiatives aimed at implementing Ro-Ro traffic	Number of projects, agreements developed	Project progress status	Half-yearly
Intermodal Traffic Development	Strengthen rail-road exchange and logistics efficiency	Railway modal share	% of containers or goods entering or leaving the port by train compared to the total	Report from terminal operators and railway infrastructure managers	Half-yearly
Shipbuilding (formerly Belleli)	Productive relaunch of the area and attraction of orders	Area occupancy rate	% of square meters of the area granted for productive activities	Check project progress status	Half-yearly
Cruise Logistics	Improving the quality of service to passengers	Evaluation of passenger feedback	Customer satisfaction (min. 60%)	Administration of evaluation surveys	Half-yearly
Infrastructure redevelopment	Strategic study for the planning of port areas dedicated to renewable energy and offshore wind development.	State of Progress	Content definition and document completion	Project progress evaluation	Half-yearly

7.1.3 Digital transition

Action	Target	KPI indicator	Description	Survey method	Frequency
Total Interoperability ("Paperless Port")	Dematerialize document flows and simplify access to port services.	Completion of procedures	Number of requests processed digitally.	Project Progress Evaluation	Half-yearly
Connectivity and Monitoring	Create a connected ecosystem for real-time control of assets and spaces.	Coverage	Port areas included in the Digital Twin.	Project Progress Evaluation	Half-yearly
Cybersecurity	Ensure the resilience of digital infrastructure and the protection of sensitive data.	Cybersecurity Events	Number of events detected/resolved.	Information Security Procedures	Half-yearly

7.1.4 Governance and cooperation

Action	Target	KPI indicator	Description	Survey Method	Frequency
Institutional Coordination	Optimize cooperation between public administrations and law enforcement agencies in ports.	Active Technical Tables	Number of institutional coordination meetings convened and minuted per year.	Meeting minutes / Secretariat register	Half-yearly
Physical Integration: Waterfront	Redevelop the interface areas for better urban use of the port.	Redeveloped Surface	Square meters of port-city areas returned to citizens or opened to the public.	State of Progress of Work (SAL)	Half-yearly
Professional retraining	Bridging the technical skills gap and professionalizing the port cluster.	Activated Protocols	Number of formal agreements signed with training institutions, universities and ITS.	Register of Memorandums of Understanding	Half-yearly
Port-City	Improve social	Stakeholder	Number of public	Secretarial	Half-yearly

Action	Target	KPI indicator	Description	Survey Method	Frequency
Synergy	and cultural relations between the local community and the port authority.	Engagement Integration Events	meetings, technical discussions, cultural and social initiatives hosted in port areas open to the city, organized with public bodies and associations.	activity log and institutional events calendar	

7.2 Internal POT monitoring system

The AdSP MI's strategic planning lies not only in defining objectives, but also in the agency's ability to consistently measure their implementation. The monitoring system for the 2026-2028 POT is designed as a dynamic governance process, aimed at ensuring transparency, monitoring implementation schedules, and consistently aligning resources deployed with results achieved.

Monitoring consists of the systematic collection and analysis of data relating to the physical, procedural, and financial progress of planned actions. The purpose is twofold:

- Decision support: provide AdSP management with timely information to identify any deviations from the schedule or budget estimates, allowing for the implementation of corrective measures.
- Accountability: reporting to stakeholders, institutions, and citizens the real impact of port activities in terms of public value generated.

The coordination of monitoring activities is entrusted to the Secretary General, assisted by the organization's support structure, in close synergy with the heads of the individual technical and administrative sections (RUP and area representatives).

To ensure timely monitoring without overloading the administrative structure, the system provides for a distinction between detection and analysis:

- Biannually: Area managers collect key performance indicators (KPIs) and intermediate targets, reporting the results to the Secretary General. This activity allows for ongoing technical monitoring of the progress of construction sites and administrative processes, ensuring implementation of the action based on the identified KPIs.

- Qualitative analysis: In addition to the numerical data, the six-monthly measurement includes a brief note on the state of the art to highlight any blocking critical issues (e.g., authorization delays or the need for changes), with the results communicated to the Secretary General.

The monitoring activity culminates in the drafting of the **annual revision of the POT.**

This document aggregates the results of the six-monthly measurements, comparing the KPIs achieved with the targets set for the three-year period. The report may contain comparative analyses and progress graphs for each strategic macro-objective.

The annual review is submitted to the Management Committee and subsequently published on the Port System Authority's institutional portal in the "Transparent Administration" section. This ensures that the port cluster and the surrounding area can consult the port's progress in real time.

The POT is not a static document. The monitoring system directly feeds into the Plan's annual review process. Based on the annual review, the Port System Authority will assess whether the objectives remain current or require recalibration. If an action changes due to new regulatory or financial frameworks, the Authority will update the roadmap.

Annually from the approval of this document, the AdSP presents the updated POT which, integrating the monitoring findings, defines the priorities for the new reference year.

7.3 Dissemination and communication

7.3.1 Communication plan

A communications plan is a strategic and operational document that defines communication objectives (*what you want to achieve*), key messages or takeaways (*what to say*), targets and stakeholders (*who to talk to*), communication channels (which tools to use), actions and content (*what to do concretely*), timescales and responsibilities (*who does what and when*), and performance indicators (*how to measure effectiveness*). This plan allows the Port System Authority to communicate the aims and contents of the POT in a coherent, effective, and coordinated manner.

The main objectives are described below, followed by a proposed report.

Goals

1. Strengthen institutional reputation. Showcase the port as a strategic, modern, and reliable infrastructure. Position the Authority as a competent, transparent, and innovative entity.

2. Improve transparency towards citizens and stakeholders. Communicate decisions, projects, investments, and environmental impacts. Make data, performance, and operational and commercial information accessible.

(EXAMPLE) Proposal for an annual report

Title: *" Taranto Port Pulse – Edition 00 "*

Executive Summary: "The New Course." A single-page opening with a powerful message from the President of the Port Authority.

- **Vision:** Taranto as a privileged gateway to European corridors (TEN-T).
- **The highlight of the quarter:** the most important milestone achieved (e.g., the opening of a new terminal or the signing of an international agreement).

3. Support the POT's flagship projects. Assist with communications on infrastructure projects, digitalization, sustainability, the NRRP, and other POT actions.
4. Foster dialogue with the port community and residents. Reduce conflict and misunderstandings. Promote the port as an integral part of the city.
5. Promote the port nationally and internationally. Attract investment. Promote logistics services and the development opportunities identified in the Port Operational Plan.
6. Digital Hub: The Invisible Infrastructure. Shipowners seek efficiency. Here we show how technology reduces costs.
   - Smart Port Integration: Update on the digitalization of customs procedures (Paperless Port).
   - Connectivity: Status of 5G network implementation and IoT sensors for real-time freight tracking.
   - Cybersecurity: A brief note on data and supply chain protection.
7. Green Ecosystem: Beyond sustainability. Here we speak to those who need to reduce emissions from their fleet (maritime ETS).
   - **Cold Ironing Progress:** map of electrified docks (being able to turn off engines in port is a huge plus for shipowners).
   - **Energy Transition:** Updates on offshore wind farms or the use of hydrogen/LNG.

- **Circular Economy:** industrial redevelopment and symbiosis projects within the port area.

8. Operational Excellence (the numbers). A clear comparison table showing growth.

KPI (Key Performance Indicator)	Current Quarter Value	End of Year Target	State
Average dock time	-5% compared to Q4 2025	-10%	✅ Online
TEUs handled	+X%	+Y%	📈 Growing
Green Tonnage	X Ton	Y Ton	🌿 New Entry

9. Intermodal Logistics and Infrastructure.

- **Rail:** Update on last-mile rail connections.
- **ZES (Special Economic Zone):** active tax benefits for those who decide to invest or establish logistics bases in Taranto.

Distribution Tools ("Delivery"). To make this report truly effective, the PDF alone is not enough:

- landing page: A section of the site with animated graphics that load as the user scrolls.
- LinkedIn carousel: a summary of the 5 key points posted on the institutional profile to generate hype.
- Physical QR Code: Printed on promotional materials and in terminals to allow cruise passengers and visitors to see "what's happening behind the scenes."

Recommendation: For the zero edition, we suggest including an **"Early Adopters Success Stories" section:** a short testimonial from a shipowner or company that has already chosen Taranto, to create "social proof" and reassure other investors.

7.3.2 FOCUS: Stakeholder engagement for digitalization

The technical implementation of a SMART PORT or PCS alone is not sufficient to ensure the success of the Port's digital and operational activities. There are actions that must be undertaken during the Digital Transition process to ensure its usability and suitability for use:

Action 1: Create a common understanding of Smart Port and PCS

It is important that all stakeholders have a shared understanding of the roles and functions of the Smart Port and PCS along with the rules underlying the operational processes.

Action 2: Motivate why to go beyond the PCS

Stakeholders should understand the reasons for creating the PCS. Some of these reasons may include:

- Reduce inefficiencies at the port by simplifying processes
- Facilitating data exchange
- Integrate and achieve compliance with national and international standards

Action 3: How to start the development of the PCS - the community

It is essential to obtain the consent of the port community, which will involve:

- Gain membership in the project community that includes government agencies, customs, port authorities, shipping companies, and users.
- Identify a leader who will be responsible for bringing the port community together to establish the PCS that will work in the community's best interests and independently of their own interests.
- Identify business and legal models, including financing, that will establish the PCS as an honest and trustworthy intermediary in the eyes of the community.

Action 4: Ambassadors

Identify ambassadors or an ambassador responsible for promoting the PCS concept and its implementation abroad and locally. Ambassadors will also be responsible for researching how other PCS systems work and how they can be implemented or how they relate to local circumstances.

Action 5: Communication

It is essential to adopt a two-way approach to communication, involving all stakeholders, such as customs, ports, port users, government ministries, shipping companies, etc., asking for opinions and gathering examples.

The use of KPIs to demonstrate the competitive advantage of the Smart Port was born precisely for this reason.

Action 6: Identify key digital processes to address

Some of the important processes to identify are:

- Reaching agreement on key digital processes for the port community
- Outline the challenges inherent in current processes and the benefits that can be derived from simplified electronic systems

Action 7: Customs integration

- Transfer of interested parties to Authorised Economic Operators (AEO) or equivalent

- Digitize customs procedures
- Collaborating with the World Customs Organization (WCO) Guidelines on the Development of the PCS System

Action 8: Legal framework

Consider the legal frameworks that will govern the functioning of the EU port system. For example, the PCS must consider directives, laws, and regulations such as customs laws and procedures, data protection laws, and maritime directives and laws in the following contexts:

- World/International
- Local/regional, including municipal regulations of specific interest

Action 9: Organization of the PCS

This will involve aspects such as:

- Governance
- Model: public, private or public/private partnership (PPP)
- Financing

Action 10: Development groups

It's crucial to identify key community stakeholders who will participate in developing and resolving issues. This will involve identifying experts for each business process and managing the processes and timelines for those processes.

Action 11: Best practices

Utilize existing knowledge of Smart Ports and existing PCSs, gather and share experiences and knowledge, and import working systems where necessary.

7.3.3 Key Takeaways

Institutional	Technicians	Strategic
The POT presents a new strategic and positioning direction for the Port of Taranto	The Port of Taranto represents one of the most significant infrastructural assets of the Italian port system, strategically positioned in the heart of the Mediterranean Sea.	The Port of Taranto becomes a Mediterranean energy hub for renewables.
The POT is built on participatory actions of all stakeholders	The analysis of spatial data highlights a first-rate land endowment, with management divided between public functions and specialized concession regimes	Italy's wind power pipeline is largely floating offshore, but its implementation is uncertain.
The POT establishes priority and realistic flagship projects	As regards container traffic, the port of Taranto is mainly used as a transhipment port, not excluding a marginal gateway component.	Growing need for the port to be flexible, adaptable and able to intercept diversified flows in a context of high uncertainty
The POT is positioned as an implementation tool consistent with the new European framework, aimed at enhancing the strategic positioning of the port of Taranto within the continental corridors and contributing to the objectives of sustainability, resilience and balanced development of the transport system.	The current railway infrastructure of the port of Taranto is defined as optimal, representing a significant strategic advantage in the context of central-southern Italy.	The ability to attract traffic and investment increasingly depends on the quality of infrastructure, the efficiency of logistics services, intermodal integration, and the ability to meet environmental sustainability requirements.
Institutional Coordination among Public Administrations operating in the port: by updating the ESG identity and integrating the innovation of a service charter, through technical and coordination roundtables, the POT promotes the efficiency, cohesion, and collaboration of the port community to implement the transition.	The specialization of piers and traffic flows is the key to providing customized responses to a market that requires speed and reduction of cargo breaking costs.	The port strategy must be oriented towards new emerging supply chains, such as those linked to renewable energy and green materials
	The priority project is the modernization of the Molo Polisettoriale dock, aimed at allowing the unloading and assembly of turbines and floating platforms.	Italy plays a key role in the Trans-European Transport Network (TEN-T).