FORESIGHT QUESTIONNAIRE

PoWER PLUS is a project funded by the Interreg V-B Adriatic-Ionian Cooperation Programme (ADRION) which involves 8 partners located in 6 different countries.

It aims at performing a foresight process in order to detect the main issues which may be affecting Adriatic-Ionian ports in the short- to mid-term in the light of the Covid19 outbreak and related economic crisis. The results of these processes will be used to update and, therefore, enhance the main results produced by the former PoWER project, i.e. The PoWER Methodology for building innovation supply Chain, The PoWER Strategy for evolving ports into Innovation Hubs, and the ICT Platform "PoWERports".

This questionnaire is the first step of the aforementioned foresight process, dedicated to the collection of experts' views on possible future scenarios related to the port areas involved in the project (Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, and Serbia) also in consideration of the wider situation and trends in the Adriatic-Ionian area.

The questionnaire has been developed with reference Next Generation EU and Agenda 2030 goals – which apply both to sea and river ports - and is articulated in 62 questions divided in four sections:

1. Towards smart ports: digital transition of services and processes in the port system;
2. The port in the territory: valorisation of the waterfront and new opportunities for regenerating the physical spaces in the port - city interface;
3. Ports in the Adriatic-Ionian area;
4. The port environment after the Covid19 pandemic outbreak.

Your precious contribution will help the PoWER PLUS team to grasp the complexity and the specificity of the port areas located on the sea and the rivers of the Adriatic - Ionian Region.

Your participation in the survey is on voluntary basis. Your contribution and those of the other experts involved will be consulted and processed by the PoWER PLUS team in order to draft a project document called "Factsheets on local scenarios". The original questionnaire you filled in will be annexed to the abovementioned Factsheets and made available on the PoWERports platform upon your authorisation.

Thank you very much for your time and cooperation. Your feedback is very important to us!

Disclaimer

This document has been produced with the financial assistance of the European Union. Its content is the sole responsibility of the POWER PLUS project partners and can under no circumstances be regarded as reflecting the position of the European Union and/or ADRION programme authorities.

By filling in and sending back this document to your contact person you authorise the PoWER Plus team to consult it and process it in order to draft the project deliverable T1.1.2 "Factsheets on local scenarios". This document will open-access and will be delivered, for prior validation, to the funding Programme's authorities.

Moreover, the PoWER Plus team would like to annex a copy of this document, in its original version, to the abovementioned Factsheets and to make it available on the PoWERports platform.

If you wish, the filled-in questionnaire can be published in anonymous form.

☐ I give my permission to the PoWER PLUS project team to annex a copy of the questionnaire I filled in to PoWER PLUS Project's deliverable T1.1.2 "Factsheets on local scenarios".

☐ I give my permission to the PoWER PLUS project team to make available a copy of the questionnaire I filled on the PoWERports platform.

☒ I wish my contribution is made available only in anonymous form.

Please, fill in the following table with your data. If you checked the box related to the anonymization of your contact data, they will be consulted only by the PoWER PLUS Project team and not diffused.

Nome	
Cognome	
Ente d'appartenenza	
Ruolo	**ORGANISMO DI PARTENARIATO DELLA RISORSA MARE-** **PARTECIPANTE ESPERTO IN URBANISTICA**

1. TOWARDS SMART PORTS: DIGITAL TRANSITION OF SERVICES AND PROCESSES IN THE PORT SYSTEM

A tentative classification of port services in terms of Technological Readiness Level has been made considering 4 macro sectors characterised by a more advanced digital perspective:

A) Vessel & Marine Navigation;

B) e-Freight & (Intermodal) Logistics;

C) Passenger Transport;

D) Environmental sustainability.

This classification is showed in Tables 1, 2 and 3.

Table 1 Technological readiness - in standardisation

Technological readiness - in standardisation	
Service	**Enabling functions**
A.1 - Vessel Traffic Management	Accurate Vessel Positioning (terrestrial and satellite), Full information about cargo, Low-Rate Vessel-Port bi- directional communication
A.5 - Berth allocation and docking	Accurate Vessel Positioning (terrestrial and satellite), Accurate Bathymetric Data, Low-Rate Vessel-Port bi- directional communication
B.1 - Freight Management and Control	Containerized and General) cargo pervasive monitoring and control in port areas (docks, warehouses, stores).
B.3 - In-port Smart Navigation	Real-time communication Port-Terminals- Trucks

1. **According to your experience and knowledge, do you think the table above (**Table 1**) should be updated? If so, please, propose your version in the table below.**

Technological readiness - in standardisation	
Service	**Enabling functions**

2. **Please, provide a view on the current situation of the services listed in the table above according to your knowledge. You can address only the services you are familiar with.**

Max 1500 characters, spaces included

Table 2 Technological readiness - not yet in standardization, facing technological challenges

Technological readiness - not yet in standardization, facing technological challenges	
Service	**Enabling functions**
A.3 – Water Incident	Accurate Vessel Positioning (terrestrial and satellite), IoT- based distributed network
A.4 – Suspicious Vessel / Maneuver	Accurate Vessel Positioning (terrestrial and satellite), Vessel-Port bi- directional communication
B.2 - Gate Automation	Accounting for users, vehicles and goods
B.4 - Freight Routing	Port-to-Port, Port-to-Road, Port-to-Railways communications
B.5 - Incident at Landside	Distributed monitoring network
C.1 - Info mobility and journey monitor	Journey planner and manager (booking, payment), JIT information delivery
C.2 – Integration with Traffic Control Centres (TCC)	Port-to-road full-fledged data exchange
C.3 - In-port Smart and Autonomous Mobility (including safety)	Real-time communication Port-Vehicles-Pedestrians
D.1 - Pollution Level (including CO_x and noise)	Distributed monitoring network
D.2 - Road Traffic Level	Distributed monitoring network

3. **According to your experience and knowledge, do you think the table above (**Table 2**) should be updated? If so, please, propose your version in the table below.**

Technological readiness - not yet in standardization, facing technological challenges	
Service	**Enabling functions**

4. **Please, provide a view on the current situation of the services listed in the table above according to your knowledge. You can address only the services you are familiar with.**

Max 1500 characters, spaces included

Table 3 Technological readiness - beyond state of the art, not technologically consolidated

Technological readiness - beyond state of the art, not technologically consolidated	
Service	**Enabling functions**
A.2 - Vessel maneuvering in port waters	Accurate Vessel Positioning (terrestrial and satellite), Accurate Bathymetric Data, Real-Time meteo-marine monitoring, HD video sources on vessel & port.
D.3 - Dynamic pricing (all services) to Vessels, Terminals	Distributed monitoring network

5. **According to your experience and knowledge, do you think the table above (**Table 3**) should be updated? If so, please, propose your version in the table below.**

Technological readiness - beyond state of the art, not technologically consolidated	
Service	**Enabling functions**

6. **Please, provide a view on the current situation of the services listed in the table above according to your knowledge. You can address only the services you are familiar with.**

Max 1500 characters, spaces included

7. In your opinion, which of the following sectors need innovation the most?
Please, put an "X" next to them; there is no limit to the number of sectors you can check.

ENERGY

- Efficiency of buildings X
- Efficiency of industrial processes
- Production of renewable energy X
- Port Grid

INNOVATION AND NEW TECHNOLOGIES IN ALL TRANSPORT MODES

- Deployment of alternative fuels infrastructure - Directive 2014/94 /EU - 22 October 2014
- LNG Retrofit (Realization of a network of points of refuelling for LNG (Liquefied Natural Gas)
- Electrification of port docks X
- Construction of LNG-powered ships

SEA-RELATED SOURCES OF RENEWABLE ENERGY

- tidal and sea waves X
- hydrogen
- off-shore wind power X
- on-shore micro-wind power X

ENERGY EFFICIENCY IN PORTS' ACTIVITIES

- more efficient processes
- more efficient behaviours
- more efficient buildings X
- more efficient infrastructures (e.g.: lighting) X

ROBOTICS AND AUTOMATION FOR

- increasing efficiency X
- increasing safety X
- increasing comfortability
- monitoring and improving the flows of goods X
- savings in time X
- savings in fuel X
- savings in personnel

AUTONOMOUS VEHICLES (LAND, AIR, WATER)

- driverless trucks and vans for logistics
- drone planes
- for cargo transport
- for parcel delivery services
- drone ships

INTERNET OF THINGS AND BIG DATA

SIMULATION AND VIRTUAL REALITY

CYBERSECURITY

8. If other, please, specify

Max 1500 characters, spaces included

9. With reference to the sectors you indicated in question(s) 7 and 8, is their innovation hindered from a lack of infrastructure? Please, substantiate your answer.

Each port constitutes both a transport infrastructure and an advanced productive activity.

Integrated functions that are performed there necessarily imply the adoption of the highest avant-garde technologies, both for transport and for processing and handling, all extremely concentrated in time and space.

The port often appears as a stand-alone unit as compared to the urban context, which would take a significant advantage from a remarkable energetic and functional autonomy.

First of all, this should happen through the reduction of own consumptions, of infrastructures, constructions and vehicles in motion. Key-topic is energy, both saved and produced through the efficiency of buildings, industrial processes and renewable energy self-production.

Innovation must be related to the adoption of new technologies for different transport modalities. Moreover, it is necessary to adopt more self-production systems for all those elements that are able to, from photovoltaic roofs to lighting elements, from micro-Eolic to off-shore Eolic, up to wave motion exploitation.

The port of Brindisi area besides in front of the ASI zone might be a case in point, with Taranto and Civitavecchia.

Automation system will do the rest with their extended usage in activities' control, as well as security and custom checks.

This will bring a wide-ranging resources economy: human, economy-, time- and materials-related-

10. With reference to the sectors you indicated in question(s) 7 and 8, which are the main developments and improvements you consider relevant? Please, substantiate your answer.

Max 1500 characters, spaces included

11. With reference to the sectors indicated in question(s) 7 and 8, which are the Key Enabling Technologies (KET)[1] scientific research should focus on? Which KET could bring the most disruptive innovation? Please, substantiate your answer.

[1] The Commission defines KETs as "knowledge intensive and associated with high R&D intensity, rapid innovation cycles, high capital expenditure and highly skilled employment. They enable process, goods and service innovation throughout the economy and are of systemic relevance. They are multidisciplinary, cutting across many technology areas with a trend towards convergence and integration. KETs can assist technology leaders in other fields to capitalise on their research efforts" https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0341:FIN:EN:PDF

Max 1500 characters, spaces included

12. **Which are the innovative interventions you consider most urgent and relevant according to you? Which results you expect they would have?**

Max 1500 characters, spaces included

13. **A digital twin (DT) is a realistic digital model simulating or ‘‘twinning’’ the life of a physical asset; each digital twin is linked to its physical twin allowing to establish a bijective relationship between the DT and its physical twin; a DT follows the lifecycle of its physical twin to monitor, control, and optimize its processes and functions and to predict future statuses.**
How can the digital twin and other technologies be useful for making ports smart?

Max 1500 characters, spaces included

14. **If you have additional comments, please write them here.**

Max 1500 characters, spaces included

15. **If your previous contributions are referred to a specific port or area, please, let us know.**

16. **Briefly describe a FUTURE SCENARIO (25-30 years) related to ports as Innovation Hubs, also in the light of the topics addressed in the previous questions.**
With “scenario” we mean a narrative story describing how the situation should be in the future also including your hopes and fears.
You can either refer to a specific port area or, more in general, to Adriatic-Ionian Ports.

Max 4000 characters, spaces included

17. **Which are the main forces that could drive to the scenario you described? Which would be the main actors involved? Which actions should be taken to realize the future scenario you described?**

Max 1500 characters, spaces included

18. What are the main obstacles and risks to the scenario you described? (within 1500 characters, spaces included)

Max 1500 characters, spaces included

2. THE PORT IN THE TERRITORY: VALORISATION OF THE WATERFRONT AND NEW OPPORTUNITIES FOR REGENERATING THE PHYSICAL SPACES IN THE PORT-CITY INTERFACE

1. Which is your opinion on the relationship between a city and its port? If you are referring to a specific city/port please let us know.

The majority of ancient civilisations have developed along coasts, rivers or their estuaries. Their porsts were shaped by superficial and underground water flows' erosion and carryover and often include the ancient cities' ruins or archaeological sites, factors which are able to interfere with the realisation harbour works.

The Apulia Region has 900 km of coasts on two seas, is based on the city-port culture, and has two port system authorities: the Ionian one, to which Taranto belongs, and the Southern Adriatic Sea one, which includes Bari, Brindisi, Manfredonia, Barletta and Monopoli.

Though in different contexts, ports present the same criticalities, but even during the Coronavirus pandemic peak, they have never stopped thanks to their polyfunctionality.

Apulian ports are inextricably linked to densely inhabited urban tissues, which have contributed to their social-economic development by intercepting and steering the back territory economy, by sometimes determining conflicts with the populations which were, in the past, engaged, in port working activities and are now penalised by the inconveniences caused by big flows.

Conformation and, therefore, opportunities are different.

The city of Bari has engulfed its port, incorporating it in its urban tissue.
Brindisi has developed its port features in difference contexts matching different urban and port functions: historic port, commercial port, industrial port in front of the ASI zone.

2. Which is your opinion on waterfront enhancement as an opportunity to reconnect cities with their ports?

It is necessary to retrieve a synergic relationship with the citizens, but the integration of a city and its port is a complex challenge.

To reduce inconveniences it is necessary to:

- Improve terrestrial infrastructures, in order to lighten city traffic, by avoiding points of conflict;
- Define port-city interaction areas, by detecting backport spaces to assign to the citizens, thus mutually enriching both parties.

In 2019, the ADSMAM (Southern Adriatic Sea Port System Authority) has approved the Port System Strategic Planning Document, the first phase of the Port System Master Plan, which is a prelude to the Port Master Plans.

It sets development objectives and contents, choices, criteria, regulations and procedures to draft single port plans, starting from considerations on current Port Master Plans and from financed works according to single ports' missions and detecting areas dedicated to port, back-port, port-city interaction functions.

The Port of Bari, for example, is interested by traffic primarily towards the Balkan peninsula and to the Middle-east. In 2018 and 2019, 1 million passengers were conveyed. It is a core port in the European transport network. Its prospects, as related to the city, are:

- Implementation of the "camionale" - financed, among others, through PNRR funds – which stems in the port to intercept the 200.000 trucks that travel through the city each year;
- Return of some areas to the city, among which those in front of the Norman-Swabian Castle, to build the Castle's park.

3. Is a territorial waterfront with an integrated transport system consisting of the three-track coastal light rail (tramway), cycling and pedestrian roads, and coastal navigation a good solution for transport and mobility along the territorial waterfront? Please, substantiate your answer.

The Brindisi port is the one that lends itself most to a both inner and intermodal integrated transports system. It is the reference gate for relationships with Greece, Balkans, Turkey and the Mediterranean's oriental basin. It is divided in three parts, from the morphological and functional point of view:

- Inner port: mainly with military, recreational and cruise functions;
- Middle port: with commercial functions;
- Outer port: neighbouring with industrial development areas (IDA) and Special Economic Zons (SEZ), with industrial functions;

In the port-city relationship, the citizens complain about the inner port's usage freedom and the absence of a city-port access and they claim the usability of the S. Apollinaire's beach. Its prospects steam from the three ports' missions.

The port has a highly recognisable functional and landscape gradient, which corresponds to its high potential, scaling for the landscape and growing for productive functions.

The inner port belongs to the city, it the centre of its life, due to its position and morphology, it hosts the touristic port: it surrounds the historical centre and it is, on its turn, surrounded by the city, which closes it with the Pigonati canal. It is dedicated to leisure boating, fishery and small cruised. Here, cycle paths, and coastal navigation find their ideal collocation.

The middle port has broader functional and technical spaces up to Morena Coast, which are suited to big cruised movements, besides to commercial and RORO movement, it can be internally linked directly to the airport, intermodal system in compliance with the Regional Transportation Plan. It foresees passengers' sea transport from the airport to cruises, with the possibility to make routes and stops for excursions. Surrounding areas can be functional to the opening to the city and to the entertainment of tourists on a layover.

4. In case you are involved in a port development process, please, describe your experience in relation to Blue Economy development.

In the Port System Strategic Planning Document and its recent extended programming, the ADSMAM (Southern Adriatic Sea Port System Authority) has shown specific attention to this development topic, especially for the Bari and Brindisi international ports.
The blue economy, besides green economy, puts forward new solutions for activities linked to oceans: fishery, aquaculture, food transformation industry, shipbuilding, leisure-boating-related services, coastal tourism and mining activities.
It creates new markets, technologies and maritime services s. a. ocean energy and marine biotechnology aiming at:

- Reducing carbon emissions;
- Revitalising traditional economic sectors and detecting new emerging sectors, boosting occupation;
- Ensuring that marine ecosystems stay safe and safeguarded.

Blue economy is an ever-present topic and is always enunciated in interventions and punctual works.

5. A renewed development of port economy, that considers the city with the port in the same system, would be able to drive overall competitive economic development in the current global economic challenge. What is your opinion?

The Brindisi port may be a case in point as the port-city morphological, functional and economic identity is concerned. The port's reorganisation and completion of the docks in the drain sediment tanks would allow to accommodate the natural inclinations of the three ports and the three urban contexts.

Freeing the historical part of the port from big cruise ships' encumbrance and complex manoeuvres and from Military Marine ships' problematic activities would allow the city to gain the space surrounding the historical centre, where the city's landmarks are: Via Appia's roman column, the sailor's monument and the most beautiful buildings that belonged to the aristocracy and bourgeoisie of the former "capital of Italy".

The shape of the city is given by the shape of the water, gathered within the buildings' curtains: the "liquid" square, image of today's society.

In the commercial middle port, the "former Montecatini" warehouse, example of high-quality industrial archaeology, whose renovation is already planned, might have a significant economical role as cruisers' reception facility, events-space, exhibitions-spaces, thus renewing the relationship between the port of Brindisi and the Sea.

The new berths in St. Apollinaire, which is located near the "Punta delle Terre" archaeological area (historical beach in fifty years ago Bridinsi tradition, sacrificed to industry since decades) may constitute an element of retrieval and opening between the port and the city as the archaeological site's park. For this reason, the Port System Authority has planned the retrieval of the "Skirmunt" with didactical-museum functions, to host a port culture's museum storing valuable remains found in the Adjacent area "Punta delle Terrare".

The outer port is an industrial space, the farthest one from the city.

At the Eastern "Morena" Coast, the broad docking, the existing facilities and the further docks foreseen in the drain sediment tanks for the seabed up to 15-18 mt are essential to the competitiveness at international level, for bigger and bigger passenger and cargo ships.

6. Did you experience Integrated Logistics Areas (ILA) or Special Economic Zones (SEZ)? Do you think that ILA and SEZ can be considered as complementary to the port systems? Please, substantiate your answer.

The Apulia Region is one of the seven Ten-T network (Scandinavian-Mediterranean) corridors, which links, along the Brennero axis, northern to southern Italy through Verona, Bologna, Firenze, Roma, Napoli, Bari, Calabria, Sicilia, and ending in Malta.

Brindisi is a complete port belonging to this corridor. All SEZs are to be considered as an integration to the ports' productive system, even when not adjacent, but still functionally linked. Bari's SEZ is mainly in the IDA (industrial development area, distant but linked. Brindisi's SEZ is mainly in the ASI adjacent to the port.

The ports of Bari and Brindisi are specialized in ferry, RORO and ROPAX connections along the "Autostrade del Mare" segment, included in the north-south axis, from the high Adriatic to Sicily, and the east-west axis, connecting the Tyrrhenian sea (Spain) to the Ionian and Aegean Sea (Greece and Turkey). Both ports are main hubs for ROPAX ferries from/to Albania, thanks to the routes to Durazzo and Valona, as well as from/to Greece and its Ionian isles, supporting cross-border touristic fluxes, especially during the summer.

The port of Brindisi plays an important role in supporting industrial and energy-related activities of the Salento area, while Bari is the main port for wheat transport in southern Italy. The ports of Manfredonia, Barletta and Monopoli are bound to the production of liquid and dry bulks and plant engineering. The

port of Termoli is specialized in liquid bulks and ROPAX ferries to Croatia and Termiti islands. The port of Molfetta is bound to dry bulks.

7 ports with different specializations, with their SEZs, in mutual relationship.

SEZs are zones, in the Southern Regions, linked to port areas, for which special tax benefits and bureaucratic facilitations are foreseen in order to foster the development of enterprises which are already settled or plan to settle in the area, favouring investments abroad as well.

7. Do you believe that the Special Economic Zones ("SEZ") can represent an opportunity for the development of the territories of the less developed regions? Please, substantiate your answer.

The Adriatic SEZ is divided into poles which are scattered over the regional territory and are focused on one or more port systems, which attract entering and exiting freight's logistic fluxes.

It included the ports of Termoli, Manfredonia, Barletta, Bari, Brindisi, Monopoli e Molfetta, as well as the airport areas of Foggia, Bari and Brindisi, the production areas surrounding Foggia, Barletta, Bari, Brindisi and Lecce as for Apulia and those surrounding the poles of Termoli, Larino, Campobasso-Bojano and Isernia-Venafro as for Molise.

Each of these poles is characterised by:

- A good level of internal cohesion and interconnection, both at the economical and logistic level;
- A significant level of sectoral specialisation;
- A high level of physical and functional connection with one or more gates.

Incentives foreseen in SEZs have administrative, infrastructural and fiscal (tax credit) nature and are bound to new and already-existing societies that "start up an entrepreneurial activities' or incremental investments' programme in the SEZ"

In particular, the incentives are:

- Simplified authorisations regimes: "single authorisation";
- Unique access point for enterprises: the Port System Authority's "one-stop administrative desk", supported by a SEZ office;
- Reduced timings for procedures and simplified customs processes.

SEZs' aim is to promote local SMEs in the regional economy's main sectors s. a. agrifood, automotive, mechanical, rubber, wood-furniture, packaging, ICTs, services, large distribution and tourism, focused on product innovation, supply chain reinforcement and market growth, especially abroad.

8. Do you think that the Special Economic Zones ("SEZ") could be rethought in an ecological key? Please, substantiate your answer.

SEZs represent a tool to encourage regional policies for economic development, competitiveness and production systems' innovation. With its Decrees DGR n.612 of 29/3/19 and DGR n.839 del 7/5/19, the Regional Council has approved the Strategic Plans for the establishment, respectively, of the Ionian and Adriatic Interregional SEZs, pursuant to the Law 123/2017.

In its Regional Landscape Territorial Plan ("PPTR"), the Apulian Region has foreseen a strategy for production areas that can be extended to SEZs.

The Apulian Regional Landscape Territorial Plan, in force since 2015, which includes the "Guidelines for designing landscape- and ecologically-equipped production areas" (*Linee Guida sulla progettazione delle Aree Produttive Paesaggisticamente ed Ecologicamente Attrezzate* – APPEA), has set a regional standard for environmental and landscape quality for the settlement, regeneration and reuse of production

activities and infrastructures, with the objective of reducing environmental, building, urban and landscape criticalities linked to production areas.

Those guidelines could be adopted also for the regeneration of Apulian ports' productive areas, just as their implementation is foreseen in the Bari and Brindisi IDA Consortia's areas, identified as SEZs. Currently, in Apulia, the APPEA model has been activated only in one IDA area in Bitonto. The model can be applied and can be subject to funding.

The regeneration of port areas could be activated when substantiated by the necessity to give new functions to the port's inner activities, and if those work would be fundable and funded.

In the light of the processes' mechanical and digital evolution, it is reasonable to think it will happen.

9. Which subjects should primarily participate in the decarbonisation effort of the Port-City System? Please, substantiate your answer.

Mainly the Government, followed by and together with the Regions, also through EU funds, consistently with the PNRR's (National Recovery and Resilience Plan) objectives.

10. What and how much is currently being done for the depollution and decontamination of the Port areas?

IN Italy, the journey through designing, financing, tendering, and realisation of a public work can last many years, to the extent that the projects are outdated at the time of their realisation. It should be said that the sensitivity and, above all, funding opportunities have been increasing during the years.

In order to get concrete achievements, it is seemingly needed another decade.

In relation to this critical issue we trust in the boost given by the very recent simplified authorisations regimes and the single authorisation introduced in 2021, also in relation to the facilitation to spend PNRR funds.

11. Is the economic and social development of traditional relations with neighbouring countries via the Adriatic-Ionian ports feasible? Please, substantiate your answer.

Centennial relationships with the other boarder of the Adriatic Sea have been re-activated in the last 30 years, after the end of the Balkan conflicts. Those with the Nations facing the Aegean were never interrupted. This mainly happens thanks to the Apulian entrepreneurship, which is notably vivid and responsive.

In order to retrieve the ancient glories of the *Indian Mail*, this is not enough; internationalisation and flexibility are today's development leverages to keep up with worldwide dynamics, pandemics and wars permitting.

May Bari and Brindisi play again a role in the Silk Road in this way?

12. Do you think that the seas and rivers of the Adriatic-Ionian area could be main players in the Mediterranean geopolitics? Please, substantiate your answer.

Seas and ports in the Adriatic-Ionian area can be main players in the Mediterranean geopolitics, but will never be able to lead it. Europe, NATO, besides Russia and China, are all in the Mediterranean, either with aircraft carriers or with investments in infrastructures and trade.

13. In your opinion, which of the following sectors need innovation the most? Please, put an "X" next to them; there is no limit to the number of sectors you can check.

SOCIAL SCIENCES

- Social innovation X
- Social inclusion and discrimination
- Gender studies
- Inclusive or participation processes
- Facilitation for innovation X
- On field researches X
- Surveys and data analytics X

PUBLIC ADMINISTRATION X

- Economic development strategies
- Public procurement: works
- Public procurement: services

ENTREPRENEURIAL INNOVATION X

- Start-ups
- Internationalization
- Digitalization (e.g. additive manufacturing)
- Industrial design
- Service design
- Internal organization

BUSINESS X

- Investing and trading
- Commerce
- Crafts
- Small and Medium industries
- Large industries
- Services (logistics, software, consultancies, etc.)
- Restoration
- Tourism and Leisure

EMPLOYMENT DECREASE

NEW SUITES OF SKILLS

SEA-RELATED SOURCES OF RENEWABLE ENERGY

- tidal and sea waves X
- hydrogen
- off-shore wind power X
- on-shore micro-wind power X

BLUE GROWTH X

- Fishery and aquaculture
- Green shipping
- Exploitation of marine resources
- Innovation in tourism
- New solutions for environmental resilience

DE-CARBONIZATION OF PRODUCTS AND PROCESSES

SCIENTIFIC RESEARCH X

- Theoretic or base research
- Applied research
- Private R&D investments

CULTURAL PRODUCTION X

- Digital sector
- Traditional sectors (e.g. theatre or cinema)
- Heritage preservation
- Design professions
- Journalism, books and essay writers

SUSTAINABILITY X

- Circular economy
- Innovative products
- Waste management and recycling
- Intelligent mobility
- Disposal of ballast water sediments in the port area - art. 5 of the Ballast Water convention, in progress ratification)

14. If other, please, specify

Everything is useful, most is necessary.

15. With reference to the sectors indicated in questions 13 and 14, which are the main obstacles to their development?

Sometimes the obstacle is the lack of an integrated strategic vision.

The Southern Adriatic Sea Port System Authority, with its Port System Strategic Planning Document, compensated for this lack.

Nevertheless, reality is ever-changing and requires flexibility in solutions' adoption.

16. **With reference to the sectors indicated in questions 13 and 14, which are the Key Enabling Technologies (KET) scientific research should focus on? Which KET could bring the most disruptive innovation? Please, substantiate your answer.**

Max 1500 characters, spaces included

17. **With reference to the sectors indicated in questions 13 and 14, which results would the adoption of the disruptive technologies described in the question above (n. 16) lead to?**

Max 1500 characters, spaces included

18. **Briefly describe a FUTURE SCENARIO (25-30 years) related to ports and their cities/ territories, also in the light of the topics addressed in the previous questions.**
With "scenario" we mean a narrative story describing how the situation should be in the future also including your hopes and fears.
You can either refer to a specific port area or, more in general, to Adriatic-Ionian Ports.

Briefly: opening to and integration with the urban contexts, s. a. a shared train station.

19. **Which are the main forces that could drive to the scenario you described? Which would be the main actors involved? Which actions should be taken to realize the future scenario you described?**

Technology will be crucial.

20. **What are the main obstacles and risks preventing the realisation of the scenario described?**

Market's needs and technology will prevail on everything else.

21. **If you have additional comments, please write them here.**

Everything will depend on the general conditions of a by now globalised planed in terms of consumptions, habits, pandemics and conflicts.

3. PORTS IN THE ADRIATIC-IONIAN AREA

1. **In your opinion, what is the untapped potential for enhancing energy efficiency in Adriatic-Ionian ports?**

Max 1500 characters, spaces included

2. **Which are the main drivers towards that enhancement increasing energy efficiency? Which the main obstacles?**

Max 1500 characters, spaces included

3. **With reference to the two previous answers, which are, in your opinion, the main challenges ports, free zones and the global shipping industry will have to face? What should be done to mitigate their negative impacts?**

Max 1500 characters, spaces included

4. **How does the development of ports affect the local community? Please, refer both to the city- and the wider region-level.**

Max 1500 characters, spaces included

5. **Do you think that in the Adriatic-Ionian area water transport is underdeveloped as compared to other types of transport? What if compared to other geographical areas?**

Max 1500 characters, spaces included

6. **Climate change is requiring a quick and resolute transformation in all sectors (e.g. industry, society, organization, urbanization, etc.). How could Adriatic-Ionian ports and their cities contribute?**

Max 1500 characters, spaces included

7. **If you have additional comments, please write them here.**

Max 1500 characters, spaces included

8. **Briefly describe a FUTURE SCENARIO (25-30 years) related to Adriatic-Ionian port areas, also in the light of the topics addressed in the previous questions.**
   With "scenario" we mean a narrative story describing how the situation should be in the future also including your hopes and fears.
   You can either refer to a specific port area or, more in general, to Adriatic-Ionian Ports.

Max 4000 characters, spaces included

9. **Which are the main forces that could drive to the scenario you described? Which would be the main actors involved? Which actions should be taken to realize the future scenario you described?**

Max 1500 characters, spaces included

10. **What are the main obstacles and risks preventing the realisation of the scenario described?**

Max 1500 characters, spaces included

11. **If you have additional comments, please write them here.**

4. THE PORT ENVIRONMENT AFTER THE COVID19 PANDEMIC OUTBREAK

1. **According to your knowledge, which are the main challenges that affected ports and port cities after the Covid19 pandemic outbreak?**

Max 1500 characters, spaces included

2. **What impact had/have lockdown actions on vessel traffic??**

Max 1500 characters, spaces included

3. **What role can port authorities play in managing the emergency? Has their role changed only temporarily or will it be changed for good? Please, substantiate your answer.**

Max 1500 characters, spaces included

4. **How are the relations between port and city changing?**

Max 1500 characters, spaces included

5. **How the port-urban landscape is changing?**

Max 1500 characters, spaces included

6. **What are the previously existing problems, limitations or needs which the pandemic has emphasized?**

Max 1500 characters, spaces included

7. **How could the Covid19-related emergency become an opportunity to grow for port areas?**

Max 1500 characters, spaces included

8. **Is the ecological footprint of port cities going to decrease? Please, substantiate your answer.**

Max 1500 characters, spaces included

9. **Briefly describe a FUTURE SCENARIO (25-30 years) related to port areas' post-pandemic situation, also in the light of the topics addressed in the previous questions.**
   With "scenario" we mean a narrative story describing how the situation should be in the future also including your hopes and fears.
   You can either refer to a specific port area or, more in general, to Adriatic-Ionian Ports.

Max 4000 characters, spaces included

10. **Which are the main forces that could drive to the scenario you described? Which would be the main actors involved? Which actions should be taken to realize the future scenario you described?**

Max 1500 characters, spaces included

11. **What are the main obstacles and risks preventing the realisation of the scenario described?**

Max 1500 characters, spaces included

12. **If you have additional comments, please write them here.**