Project co-financed by the European Regional Development Fund

Project Acronym: PROTEUS

Project title: Promoting security and safety by creating a MED cluster on Maritime Surveillance

Grant Agreement number: 1MED15_1.1_M12_148

D.3.5.2
Transnational Cooperation Roadmap

WP n°:	**3**
Task n°:	**3.5**
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Type:	**Deliverable**
Dissemination level:	**CO = confidential**
Revision:	**Final Version**
Due Date:	**31/01/2018**
Date of submission:	**31/01/2018**

Executive summary

Based on the previous findings of the Work Package (in the following WP) of Studying, this Roadmap aims at enhancing the transnational cooperation in the framework of the operation of PROTEUS Nodes and MED MS Cluster.

In particular, according to the Application Form (in the following AF), the Activity 3.5 "Development of Common Approaches and Roadmap" is the final Activity of the WP of Studying, including the elaboration of a common mechanism, that will serve as an innovative tool addressed to Cluster members, with the objective to foster their innovative capacity through their incorporation to the network, and a targeted Roadmap, presenting the strategy to be followed in order to address transnationality within the operation of the designed Cluster.

As a result, within this activity, the Partners have elaborated two Deliverables:

- the Deliverable 3.5.1 "*Common mechanism enhancing the operation of MED MS Cluster*";

- the Deliverable 3.5.2 "*Transnational Cooperation Roadmap*".

Liguria Ricerche is the responsible Partner for this Activity and all the Partners have been involved by means of a questionnaire that has been used both for the D 3.5.1 and D 3.5.2, as it was necessary to consider the Activity as a whole, being these Deliverables strictly connected.

At the end of the WP of Studying, it is appropriate to share the experiences, knowledge and ideas that every Partner has achieved during the project life. In particular, we have focused on the elaboration of the project **Roadmap aiming at enhancing transnational cooperation in the framework of the operation of Nodes and MED MS Cluster**.

Also in this case **our challenge is to strike the balance between what we think is desirable and what is achievable or possible**.

Based on the previous findings, the Deliverables that we have taken in particular consideration are: the Deliverables 3.2.1 (*Regional reports on Mapping of Maritime surveillance sectors, challenges and involved actors*), 3.2.6 (*Policy Framework of Maritime*

Surveillance in MED Area), 3.3.3 (*Database with MS technologies*) and, finally, the questionnaires completed by the Partners for the implementation of the Activity 3.5.

In addition, we have considered the Application Form contents concerning the WP of Testing.

The Activity 3.5 ends by the end of January 2018, together with the WP of Studying. Nevertheless, the abovementioned deliverables are very important for the implementation of the WP of Testing. As a result, in our opinion, it is necessary not to consider them finalised but to share and check their contents and results with all the Partners. That will assure the feasibility of the recommendations included in the Roadmap.

In addition, according to the discussion during the Technical meeting in Milan, the Roadmap should be discussed and, if necessary, integrated and or modified, during the first Activities of the WP of Testing with the involvement and the support of the potential candidates of the Nodes.

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1.   THE CONTEXT: PROTEUS FRAMEWORK OVERVIEW

1.1   INTRODUCTION TO THE ROADMAP

Before starting the elaboration of the Roadmap, it is appropriate to remember the definitions of "Roadmap" and "Transnational cooperation".

The term "Roadmap" commonly means "a plan for how to achieve something[1]". In PROTEUS Project it is a plan describing how enhancing transnational cooperation in the framework of the operation of Nodes and MED MS Cluster.

To define the terms "Transnational cooperation", it is appropriate to consider the ERDF goal in the framework of the European Territorial Cooperation that in our case aims to achieve a higher degree of territorial integration of the territories concerned.

As a result, **in PROTEUS Project**, we suggest to consider **the Roadmap** as follows: **a plan for how to achieve a higher degree of territorial integration of the territories and the public and private actors concerned for the establishment and operation of the MED Cluster on Maritime Surveillance**.

Before elaborating the Roadmap, it is appropriate to reflect carefully on some results already achieved by the project, in terms of data and information. In particular, these results concern the Maritime Surveillance sectors and the study of the megatrends, the European and national policies and the actors and the technologies mapped in the framework of the previous activities of the WP of Studying.

For elaborating PROTEUS Roadmap, in terms of transnational cooperation, it is also necessary to examine the activities that will be implemented by the Nodes and the MED Cluster in the framework of the WP of Testing and to find the best options for their operations and synergies.

According to the Application Form (in the following AF) the Activities can be divided in three main groups:

1   the Activities and Deliverables for the preparation of the pilot activities of testing;

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[1]See: https://dictionary.cambridge.org/dictionary/english/road-map

2   the Activities and Deliverables for the implementation of the pilot activities of testing addressed to the National Nodes and/or MED MS Cluster;

3   the Activities and Deliverables for the Evaluation of the pilot activities of testing.

The first two groups are relevant for the elaboration of the Roadmap, being the evaluation an external and independent activity.

The Deliverables that prepares the implementation of the pilot activities and that are mainly implemented by the Partners are:

- D 4.1.1, Methodology for the implementation of pilot activities;

- D 4.1.2, Design and Development of the MS Platform;

- D 4.1.3, Scientific Committee Working Group Evaluation.

These Deliverables will be implemented in a phase during which the Partners probably will contact the potential actors of the Nodes. As a consequence, it is not appropriate to think that the Partners will be able to involve those actors. In any case, the actors of the Nodes could provide useful inputs for the first step of design and development of the MS Platform (even if this phase mainly will consider the integration within the Platform of the results of the WP of Studying).

The second group includes the following Deliverables:

- D4.1.4, Launching of National Nodes (Nodes);

- D4.2.1, Definition of the clusters' members, needs and scopes, including a survey addressed to the actors of the Nodes (Cluster);

- D4.3.1, Collection and evaluation of available technologies/applications/product (Nodes and Cluster);

- D 4.3.2 Identification of ideas/technologies and assessment of their potential exploitation;

- D 4.3.3 Identification of New Market/ Business Opportunities - Linkages with MS;

- D 4.3.4 Elaboration of Business and Exploitation Plans (following the respective seminars and coaching in Activity 4.4);

- D 4.4.1 Local technical seminars focusing on latest development in Maritime Surveillance;

- D 4.4.2 Local Capacity building seminars ;

- D 4.4.3 Local Technical seminars on the elaboration of business and exploitation plans;

- D 4.4.4 Coaching of Clusters' members in Business skills;

- D 4.5.1 MS Platform Marketplace;

- D 4.5.2 Offer and demand matching service via the MS Platform;

- D 4.5.3 Funding Opportunities for Maritime Surveillance;

- D 4.6.1 International Exchange of Maritime Surveillance experts.

Obviously, all these Deliverables consider the participation of the actors of the Nodes. According to the different subject of each activity or service, we need to highlight the most appropriate initiatives, activities or tool to be used in order to involve the actors of the Nodes or of the Cluster in the testing activities.

1.2 THE MAIN CHALLENGES OF THE MARITIME SURVEILLANCE SECTORS FOR PROTEUS PROJECT AT THE END OF THE WORK PACKAGE OF STUDYING

After the disasters caused by the Erika and Prestige oil tankers, the EU has adopted a set of IMO rules in particular in the field of Maritime Safety and Security and of the Marine Environment Protection. Then, considered the tonnes of cargo and oil that yearly are carried by vessel in the EU, it is not surprising that the EU and its Member States are improving continuously their legislations and that the policies have evolved in the direction of the Maritime Surveillance sectors, reaching a high degree of complexity.

During the implementation of the policy framework we have focused on the main initiatives implemented mainly in the last three decades by the International Maritime Organisation, the European Union and finally by the Member States in the framework of the Maritime Surveillance.

The result of this analysis has allowed us to deepen the contents of the EU policies in the Maritime Surveillance sectors and, then, to identify the main challenges that PROTEUS project can face within the Nodes and the MED MS Cluster.

In particular, we have observed that some of them are cross-cutting, as their impact concern more than one sector. In addition, we have also considered the involvement of the

actors belonging to the so-called quadruple helix and their potential positive impacts on some challenges that may seem too much ambitious for a transnational cooperation project.

Nevertheless, these challenges will be useful in order to increase the awareness of the SMEs and Large companies on the key role that they are able to play in the Maritime Surveillance domain. In fact, we have also to taken in consideration that generally the clusters in the maritime matters of the Mediterranean area are often focused on the traditional industrial sectors and are not aware of the potentialities of the Maritime Surveillance opportunities in terms of new markets.

Table 1: Maritime Safety and Security Lines of action

PROTEUS LINES OF ACTION IN MARITIME SAFETY & SECURITY	
Maritime Safety and Security	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
	Line of Action 2: Implementing the use of existing systems and solutions, without creating new systems
	Line of Action 3: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
	Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
	Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
	Line of Action 6: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislation

Source: D 3.2.6

Table 2: Marine Environment Protection Lines of action

PROTEUS LINES OF ACTION IN MARINE ENVIRONMENT PROTECTION	
Marine Environment Protection	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
	Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
	Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
	Line of Action 4: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
	Line of Action 5: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
	Line of Action 6: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information

Source: D 3.2.6

Table 3: Border control Lines of action

PROTEUS LINES OF ACTION IN BORDER CONTROL	
Border control	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
	Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
	Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
	Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
	Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
	Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
	Line of Action 6: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea

Source: D 3.2.6

Table 4: Customs Lines of action

PROTEUS LINES OF ACTION IN CUSTOMS	
	Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
	Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
Customs	*Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
	Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
	Line of Action 5: Founding "national poles of information" to collect and consolidate all the data and to face to their disruption and duplication
	Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6

Table 5: Fisheries control Lines of action

PROTEUS LINES OF ACTION IN FISHERIES CONTROL	
	Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems
	Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
Fisheries control	*Line of Action 3: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies*
	Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
	Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
	Line of Action 6: Developing technical roadmaps and milestones to achieve a more efficient use of resources at sea

Source: D 3.2.6

Table 6: General Law Enforcement Lines of action

PROTEUS LINES OF ACTION IN GENERAL LAW ENFORCEMENT	
General Law Enforcement	*Line of Action 1: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities*
	Line of Action 2: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
	Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
	Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
	Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
	Line of Action 6: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
	Line of Action 7: Exploring how to harmonize initiatives between the Node's members and how to promote an industrial cooperation

Source: D 3.2.6

Table 7: Defence Lines of action

PROTEUS LINES OF ACTION IN DEFENCE	
Defence	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
	Line of Action 2: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
	Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
	Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
	Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6

1.3   CONSIDERATIONS ON THE NATIONAL NODES AND THE MED MS CLUSTER

In the document on the Common mechanism enhancing the operation of MED MS Cluster, we have seen that the scope of Nodes is different and, in particular, that some Partners have adopted the national coverage (Cypriot, French, Greek and Portuguese Partners) and other Partners have preferred the supra-regional scope (Italian and Spanish Nodes).

The preference depends on the solutions adopted for making the Nodes operational from the beginning of the Work Package of Testing.

As a result, the MED MS Cluster will consist of six Nodes whose scopes depend on the Partners analysis. Nevertheless, it has not to be considered a gap as the associated Partners of the project and some of the quadruple helix actors indicated by the Italian and Spanish Partners potentially can be considered "as national actors".

Regarding the actors, each Node has indicated the number of actors to engage in the Node for each group of stakeholders. This number is different from one Node to another. Nevertheless, we have to observe that it is coherent with the thirty actors thought by the project in order to have a sufficient number of actors at Node level and an adequate number at MED MS Cluster level for the operational phase.

In addition, the different structures suggested by the coordinators of the Nodes has not to be considered illogical as they are based on the idea that we have to focus on the feasibility of the testing activities and, as a result, on the choice of the best solutions for providing an advantage for the public and private actors that will be the final users of the project services.

2. PROTEUS ROADMAP FOR THE DESIGN AND THE LAUNCHING AND OPERATION OF THE NATIONAL NODES AND THE MED MS CLUSTER

2.1 OVERVIEW OF PROTEUS NODES

At Node level, it is necessary to focus on the main features that have been designed by the Partners by means of their answers in the framework of the questionnaire. We have deepened some key elements to be discussed and implemented with a strong involvement of the actors of the Node in the first steps of the launching of the Nodes and, then, in their working phase. These elements concern:

1. The form of the Nodes,

2. The geographical coverage of the Nodes,

3. The ranking in terms of Maritime Surveillance sectors proposed by the Partners,

4. The final decision about the priority sectors for each Node,

5. The analysis of the technologies mapped and if necessary their integration, according to the previous decisions, for implementing the project platform matching the demand and offer of technologies and

6. The analysis of the Lines of actions proposed in the framework of PROTEUS for each Maritime Surveillance sector, in order to implement the different services provided by the project and tailor them to the needs of the members.

In particular, this element is strategic for the establishment of thematic committees and/or working groups at Node and MED MS Cluster levels, for the concrete involvement of the Node actors and their participation to the project Cluster. In fact, as we have seen, it is appropriate to define the roles of the actors within the thematic committees and/or working groups and, if possible, to determine the actors that will coordinate them with the support of the coordinators of the Nodes and of the Cluster.

The following tables represent a proposal of Lines of actions defined, taking in consideration the results of the study on the policy framework of Maritime Surveillance in MED area and, in particular, in the Partners' territories[2]. In addition, these Lines of action have been reported at the Node level, according to the ranking of the Maritime Surveillance sectors proposed by the Partners. As a result, the following tables represent an important achievement to be discussed with the actors of the Nodes and, if necessary, adapted to the framework in which the members work.

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[2] For more information, see the D 3.2.6.

2.1.1 THE ITALIAN NODE

Table 8: Italian Node main feature

ITALIAN NODE		
PROTEUS Partners	*Node Coordinators*	**CHAMBER OF COMMERCE, INDUSTRY, CRAFTS AND AGRICULTURE OF VENICE ROVIGO DELTA - LAGUNARE - CCIAA DL and** **Liguria Ricerche S.p.A.**
	Contacts	**To be defined at the beginning of the WP of Testing**
	PROTEUS associated Partner	**Italian Maritime Cluster- Federazione del Mare** **Liguria Region**
	Contacts	**To be defined at the beginning of the WP of Testing**
Quadruple Helix Actors (size and typologies)	*Size*	**At least 25 actors - Maximum 30 actors**
	Typologies of actors	**Quadruple helix:** **Public actors: 5** **Academia and other Research Centers: 4** **Enterprises: SMEs and Large companies: 8 SMEs** **Large companies: 4** **Business associations: 4**
Form of the Node	*Formal Node*	*Specifications: Informal node at the beginning; then signature of the Strategic Partnership Agreement*
Coverage	*Geographical coverage*	*Supra-regional*
	Ranking of the MS sectors	**1) Maritime safety and security** **2) Marine environment** **3) Border control** **4) Customs** **5) Fisheries control** **6) General law enforcement** **7) Defence**
	MS areas covered (recommended)	**Maritime safety and security** **Marine environment** **Border control**
	MS areas covered (to be integrated in the future)	**Customs** **Fisheries control** **General law enforcement** **Defence**

Source: D 3.2.6 and Partners' questionnaire

ITALIAN NODE		
Main technologies mapped per MS area covered	*Maritime Safety & Security*	Rete Nazionale AIS, Vessel Traffic Service (VTS), MAREΣ- Mediterranean AIS Regional Exchange System, ELIT-SEA Static Frequency Converters for Shipboard Operation, TDS System, Self-mooring buoys, Data Transmission Buoy, RPAS-Drones, Ship EDF-EM Risk Management, BB50 Ka-Band | Telenor THOR-7, BBIG30 Ku/Ka-Usat Airborne, BB150 Ku-Band, NADIR Radar, ZENITH satellite antenna VFlat ku/ka-band, IA-17 Manta, FlySecur, MARINE INFORMATION SYSTEM, DRONE APP, Embedded Real Time Systems , ARS (Augmented Reality System), Remote Sensing
	Marine environment protection	Rete Nazionale AIS, Vessel Traffic Service (VTS), MAREΣ- Mediterranean AIS Regional Exchange System, Folaga AUV, UMA - Underwater Modular Arm, X-300 AUV, BARNY SENTINEL Underwater Plattoforms, Self-mooring buoys, Data Transmission Buoy, RPAS-Drones, Environmental Monitoring Services, FlyFast 2.0, FlySmart, satellite antenna VFlat ku/ka-band, HYDROPHONE 0330, E.A.R.S.RPAS-Drones, Environmental Monitoring Services, FlyFast 2.0, FlySmart
	Border control	RPAS-Drones, FlyFast 2.0, FlySmart, NADIR Radar, IA-17 Manta, FlySecur, DRONE APP
	Customs	MAREΣ- Mediterranean AIS Regional Exchange System, RPAS-Drones, FlyFast 2.0, FlySmart
	Fisheries control	Rete Nazionale AIS, Vessel Traffic Service (VTS), MAREΣ-Mediterranean AIS Regional Exchange System, Self-mooring buoys, RPAS-Drones, FlyFast 2.0, FlySmart
	General law enforcement	Rete Nazionale AIS, Vessel Traffic Service (VTS), MAREΣ-Mediterranean AIS Regional Exchange System, TDS System, RPAS-Drones, FlyFast 2.0, FlySmart, IA-17 Manta, FlySecur, DRONE APP
	Defence	RAG-A200 - Gamma Radiation probe network, ATC-A100 - Test Equipment for Naval Systems, ETS-A100 - Test Equipment for Underwater Defense systems, Folaga AUV, UMA - Underwater Modular Arm, X-300 AUV, TDS System, Data Transmission Buoy, RPAS-Drones, FlyFast 2.0, FlySmart, NADIR Radar, ZENITH, satellite antenna VFlatku/ka-band, IA-17 Manta, FlySecur, DRONE APP, Embedded Real Time Systems, ARS (Augmented Reality System), Remote Sensing

Source: D 3.2.6 and Partners' questionnaire

ITALIAN NODE		
PROTEUS Line of Actions	*Maritime safety and security*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Implementing the use of existing systems and solutions, without creating new systems
		Line of Action 3: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
		Line of Action 6: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislation
	Marine Environment Protection	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 5: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 6: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information

Source: D 3.2.6 and Partners' questionnaire

ITALIAN NODE		
PROTEUS Line of Actions	*Border control*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
		Line of Action 7: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
	Customs	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Founding "national poles of information" to collect and consolidate all the data and to face to their disruption and duplication
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partners' questionnaire

ITALIAN NODE		
PROTEUS Line of Actions	*Fisheries control*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Developing technical roadmaps and milestones to achieve a more efficient use of resources at sea
	General law enforcement	*Line of Action 1: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities*
		Line of Action 2: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 7: Exploring how to harmonize initiatives between the Node's members and how to promote an industrial cooperation

ITALIAN NODE		
	Defence	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partners' questionnaire

2.1.2   THE CYPRUS NODE

Table 9: Cypriot Node main feature

CYPRIOT NODE		
PROTEUS Partners	*Node Coordinator*	**Maritime Institute of Eastern Mediterranean - Mar.In.E.M.**
	Contacts	**To be defined at the beginning of the WP of Testing**
	PROTEUS associated Partner	**No associated Partners**
	Contacts	**To be defined at the beginning of the WP of Testing**
Quadruple Helix Actors (size and typologies)	*Size*	**At least 30 actors**
	Typologies of actors	**Quadruple helix:** **Public actors: 7** **Academia and other Research Centers: 3** **Enterprises: 12 SMEs and 5 Large companies** **Business associations: 3**
Form of the Node	*Formal Node*	**-**
Coverage	*Geographical coverage*	*National*
	Ranking of the MS sectors	**1) Maritime Safety & Security** **2) Marine environment protection** **3) Defence** **4) Border control** **5) General Law Enforcement** **6) Customs** **7) Fisheries control**
	MS areas covered (recommended)	**1) Maritime Safety & Security** **2) Marine Environment** **3) Defence**
	MS areas covered (to be integrated in the future)	**4) Border Control** **5) General Law Enforcement** **6) Customs** **7) Fisheries Control**
Main technologies mapped per MS area covered	*Maritime Safety & Security*	**n.a.**
	Marine environment protection	**n.a.**
	Defence	**n.a.**
	Border control	**n.a.**
	General law enforcement	**n.a.**
	Customs	**n.a.**
	Fisheries control	**n.a.**

Source: D 3.2.6 and Partner's questionnaire

CYPRIOT NODE			
PROTEUS Line of Actions	*Maritime Safety and Security*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*	
		Line of Action 2: Implementing the use of existing systems and solutions, without creating new systems	
		Line of Action 3: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange	
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities	
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information	
		Line of Action 6: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislation	
	Marine Environment Protection	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*	
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea	
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities	
		Line of Action 4: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange	
		Line of Action 5: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies	
		Line of Action 6: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information	

Source: D 3.2.6 and Partner's questionnaire

CYPRIOT NODE		
PROTEUS Line of Actions	*Defence*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
	Border control	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
		Line of Action 7: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea

Source: D 3.2.6 and Partner's questionnaire

CYPRIOT NODE		
PROTEUS Line of Actions	*General Law Enforcement*	*Line of Action 1: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities*
		Line of Action 2: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 7: Exploring how to harmonize initiatives between the Node's members and how to promote an industrial cooperation
	Customs	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Founding "national poles of information" to collect and consolidate all the data and to face to their disruption and duplication
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partner's questionnaire

CYPRIOT NODE		
PROTEUS Line of Actions	*Fisheries control*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Developing technical roadmaps and milestones to achieve a more efficient use of resources at sea

Source: D 3.2.6 and Partner's questionnaire

2.1.3 THE FRENCH NODE

Table 10: French Node main feature

FRENCH NODE		
PROTEUS Partners	*Node Coordinators*	Pôle Mer Méditerranée - PMM
	Contacts	To be defined at the beginning of the WP of Testing
	PROTEUS associated Partners	Command of the maritime gendarmerie - Headquarters CS Systèmes d'Information
	Contacts	To be defined at the beginning of the WP of Testing
Quadruple Helix Actors (size and typologies)	*Size*	At least 30 actors
	Typologies of actors	Quadruple helix: Public actors, Academia and other Research Centers, SMEs and Large Enterprises, Business associations
Form of the Node	*Formal Node*	Specifications: PMM suggests adopting a formal organisation based on its existing cluster. In fact, PMM wants to integrate the Maritime Surveillance Node in its current organisation. Not for profit association
Coverage	*Geographical coverage*	National
	Ranking of the MS sectors	1) Defence 2) Maritime Safety & Security 3) Border Control 4) Customs 5) General Law Enforcement 6) Fisheries Control 7) Marine Environment
	MS areas covered (recommended)	1) Defence 2) Maritime Safety & Security 3) Border Control
	MS areas covered (to be integrated in the future)	4) Customs 5) General Law Enforcement 6) Fisheries Control 7) Marine environment protection

Source: D 3.2.6 and Partner's questionnaire

Main technologies mapped per MS area covered	*Defence*	UAV IT180 -Unmanned aircraft systems, SEASCOPE 360 Camera, MWPS Maritime Warning & Protection System, Cyber Defence Courses and Training, Electronic Navigation Chart S57, Operational Evaluation, STYRIS, Multi Purpose Launcher 30, EXAMILCAM, SEAEXPLORER, Integrated Alarm Monitoring Control System, STRADIVARIUS, KINGKLIP - Hull Mounted sonar, SYLENA Decoy Launching System, AUTOPROTECTION Management System, Suprafix - SUB 150, ASV 200, Intelligence Autonomous Underwater Vehicle A9-S, C-CAP Wi 55, SmartFind M5 AIS Class A Transponder, SAVaS, ASV Software Suite, ADVANSYS Mission Management Systems for XXV
	Maritime Safety & Security	POLARIS®, UAV IT180 -Unmanned aircraft systems, SEASCOPE 360 Camera, Mobilis Data Buoy, POLE TRANSPORT, Electronic Navigation Chart S57, Operational Evaluation, STYRIS, Multi Purpose Launcher 30, DVBot, EXAMILCAM, CONSTELLATION-SDI, NAÏADE ENVIRONMENT, RSV, ROV OIS 306, Deep Sea Versatile Data Logger, SeaCHIRP, SARGOS, CAT-Surveyor, SEAEXPLORER, Integrated Alarm Monitoring Control System, STRADIVARIUS, KINGKLIP - Hull Mounted sonar, SYLENA Decoy Launching System, AUTOPROTECTION Management System, Suprafix - SUB 150, VHS 27 Very High Speed Patrol boat, ASV 200, Intelligence Autonomous Underwater Vehicle A9-S, C-CAP Wi 55, SmartFind M5 AIS Class A Transponder, SAVaS, ASV Software Suite, ADVANSYS Mission Management Systems for XXV
	Border control	UAV IT180 -Unmanned aircraft systems, SEASCOPE 360 Camera, MWPS Maritime Warning & Protection System, Multi Purpose Launcher 30, EXAMILCAM, SARGOS, STRADIVARIUS, KINGKLIP - Hull Mounted sonar, SYLENA Decoy Launching System, AUTOPROTECTION Management System, Suprafix - SUB 150, VHS 27 Very High Speed Patrol boat, ASV 200, Intelligence Autonomous Underwater Vehicle A9-S, C-CAP Wi 55, SmartFind M5 AIS Class A Transponder, SAVaS, ASV Software Suite

Source: D 3.2.6 and Partner's questionnaire

FRENCH NODE		
Main technologies mapped per MS area covered	*Customs*	UAV IT180 -Unmanned aircraft systems, SEASCOPE 360 Camera, MWPS Maritime Warning & Protection System, POLE TRANSPORT, SARGOS, STRADIVARIUS
	General law enforcement	UAV IT180 -Unmanned aircraft systems, SEASCOPE 360 Camera, MWPS Maritime Warning & Protection System, Cyber Defence Courses and Training, CEFREM, POLE TRANSPORT, Multi Purpose Launcher 30, DVBot, EXAMILCAM, CONSTELLATION-SDI, NAÏADE ENVIRONMENT, RSV, ROV OIS 306, SARGOS, CAT-Surveyor, SEAEXPLORER, Underwater Vision Profiler, STRADIVARIUS, ASV 200, Intelligence Autonomous Underwater Vehicle A9-S, C-CAP Wi 55, SmartFind M5 AIS Class A Transponder, SAVaS, ASV Software Suite
	Fisheries control	UAV IT180 - Unmanned aircraft systems, SEASCOPE 360 Camera, Mobilis Data Buoy, DVBot, CONSTELLATION-SDI, NAÏADE ENVIRONMENT, RSV, ROV OIS 306, CAT-Surveyor, Underwater Vision Profiler, VHS 27 Very High Speed Patrol boat, ADVANSYS Mission Management Systems for XXV
	Marine environment protection	UAV IT180 -Unmanned aircraft systems, Mobilis Data Buoy, CEFREM, CEREGE, Electronic Navigation Chart S57, Operational Evaluation, STYRIS, DVBot, CONSTELLATION-SDI, NAÏADE ENVIRONMENT, RSV, ROV OIS 306, Deep Sea Versatile Data Logger, SeaCHIRP, CAT-Surveyor, SEAEXPLORER, Underwater Vision Profiler, ASV Software Suite, ADVANSYS Mission Management Systems for XXV

Source: D 3.2.6 and Partner's questionnaire

FRENCH NODE		
PROTEUS Line of Actions	*Defence*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
PROTEUS Line of Actions	*Maritime safety and security*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Implementing the use of existing systems and solutions, without creating new systems
		Line of Action 3: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
		Line of Action 6: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislation

Source: D 3.2.6 and Partner's questionnaire

FRENCH NODE		
PROTEUS Line of Actions	*Border control*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
		Line of Action 7: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
PROTEUS Line of Actions	*Customs*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Founding "national poles of information" to collect and consolidate all the data and to face to their disruption and duplication
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partner's questionnaire

		Line of Action 1: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
		Line of Action 2: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
	General law enforcement	*Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 7: Exploring how to harmonize initiatives between the Node's members and how to promote an industrial cooperation
PROTEUS Line of Actions	*Fisheries control*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Developing technical roadmaps and milestones to achieve a more efficient use of resources at sea

Source: D 3.2.6 and Partner's questionnaire

PROTEUS Line of Actions	*Marine environment protection*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 5: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 6: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information

Source: D 3.2.6 and Partner's questionnaire

2.1.4   THE GREEK NODE

Table 11: The Greek Node main feature

<table>
<tr><td colspan="3" align="center">GREEK NODE</td></tr>
<tr>
<td rowspan="5">PROTEUS Partners</td>
<td>Node Coordinators</td>
<td>PIRAEUS PORT AUTHORITY SA - PPA
and University of the Aegean – Department of Shipping, Trade and
Transport</td>
</tr>
<tr>
<td>Contacts</td>
<td>To be defined at the beginning of the WP of Testing</td>
</tr>
<tr>
<td>PROTEUS associated Partners</td>
<td>Hellenic Institute of Marine Technology</td>
</tr>
<tr>
<td>Contacts</td>
<td>To be defined at the beginning of the WP of Testing</td>
</tr>
<tr>
<td colspan="2"></td>
</tr>
<tr>
<td rowspan="2">Quadruple Helix Actors (size and typologies)</td>
<td>Size</td>
<td>At least 32 /31 actors</td>
</tr>
<tr>
<td>Typologies of actors</td>
<td>Quadruple helix:
Public actors: 3/4,
Academia and other Research Centers: 4/5,
Enterprises: 15/17 SMEs and 2/3 Large companies,
Business associations: 1/2</td>
</tr>
<tr>
<td>Form of the Node</td>
<td>Formal Node</td>
<td>Not for profit association</td>
</tr>
<tr>
<td rowspan="4">Coverage</td>
<td>Geographical coverage</td>
<td>National</td>
</tr>
<tr>
<td>MS areas ranking</td>
<td>1) Maritime Safety & Security
2) Defence
3) Border Control
4) Marine Environment
5) General Law Enforcement
6) Fisheries Control
7) Customs</td>
</tr>
<tr>
<td>MS areas covered (recommended)</td>
<td>1) Maritime Safety & Security
2) Defence
3) Border Control</td>
</tr>
<tr>
<td>MS areas covered (to be integrated in the future)</td>
<td>4) Marine Environment
5) General Law Enforcement
6) Fisheries Control
7) Customs</td>
</tr>
</table>

Source: D 3.2.6 and Partners' questionnaire

GREEK NODE		
Main technologies mapped per MS area covered	*Maritime Safety & Security*	**Maritime Surveillance Solution (MARSS), HCUAV RX-1-HELLENIC CIVIL UNMANNED AIR VEHICLE, Man overboard, Safe-on-Board, ATTISAT FL500, Flat Satellite Antenna, Security Training, Maritime Security Services, CUMULUS UAV, Aratos Remotely Piloted Aircraft Systems (RPAS), M2IMS - Maritime Mission Integration & Management System, Se@Nnet, Laros platform, GUARDIAN ship protection system, Greek Maritime Security-Antipiracy Courses, Marine Traffic, Integrated Maritime Surveillance Platform**
	Defence	**HCUAV RX-1- HELLENIC CIVIL UNMANNED AIR VEHICLE, Hellenic Aerospace Industry's Training Center, ATTISAT FL500, Flat Satellite Antenna, Security Training, CUMULUS UAV, Aratos Remotely Piloted Aircraft Systems (RPAS), M2IMS - Maritime Mission Integration & Management System, Se@Nnet, GUARDIAN ship protection system, Greek Maritime Security-Antipiracy Courses, Marine Traffic, Integrated Maritime Surveillance Platform**
	Border Control	**HCUAV RX-1- HELLENIC CIVIL UNMANNED AIR VEHICLE, ATTISAT FL500, Flat Satellite Antenna, Aratos Remotely Piloted Aircraft Systems (RPAS), M2IMS - Maritime Mission Integration & Management System, Marine Traffic, Integrated Maritime Surveillance Platform**
	Marine environment protection	**HCUAV RX-1- HELLENIC CIVIL UNMANNED AIR VEHICLE, Hyperspectral Camera CASI 550 - Compact Airborne Spectrographic Imager, rheticus marine, Integrated Maritime Surveillance Platform**
	General Law Enforcement	**HCUAV RX-1- HELLENIC CIVIL UNMANNED AIR VEHICLE, Security Training, Aratos Remotely Piloted Aircraft Systems (RPAS), M2IMS - Maritime Mission Integration & Management System, Marine Traffic, Integrated Maritime Surveillance Platform**
	Fisheries Control	**HCUAV RX-1- HELLENIC CIVIL UNMANNED AIR VEHICLE, M2IMS - Maritime Mission Integration & Management System, rheticus marine, Integrated Maritime Surveillance Platform**
	Customs	**HCUAV RX-1- HELLENIC CIVIL UNMANNED AIR VEHICLE, M2IMS - Maritime Mission Integration & Management System, Integrated Maritime Surveillance Platform**

Source: D 3.2.6 and Partners' questionnaire

GREEK NODE		
PROTEUS Line of Actions	*Maritime safety and security*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Implementing the use of existing systems and solutions, without creating new systems
		Line of Action 3: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
		Line of Action 6: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislation
	Defence	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partners' questionnaire

GREEK NODE		
PROTEUS Line of Actions	*Border control*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
		Line of Action 7: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
	Marine environment protection	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 5: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 6: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information

Source: D 3.2.6 and Partners' questionnaire

GREEK NODE		
PROTEUS Line of Actions	*General Law Enforcement*	*Line of Action 1: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities*
		Line of Action 2: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 7: Exploring how to harmonize initiatives between the Node's members and how to promote an industrial cooperation
	Fisheries Control	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Developing technical roadmaps and milestones to achieve a more efficient use of resources at sea
	Customs	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Founding "national poles of information" to collect and consolidate all the data and to face to their disruption and duplication
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partners' questionnaire

2.1.5   THE PORTUGUESE NODE

Table 12: Portuguese Node main feature

PORTUGUESE NODE		
PROTEUS Partners	*Node Coordinator*	**University of Algarve - Division of Entrepreneurship and Technology Transfer**
	Contacts	**To be defined at the beginning of the WP of Testing**
	PROTEUS associated Partners	**Mar Algarve Platform – Association for the Enhancement of Knowledge and Sea Economy in the Algarve**
	Contacts	**To be defined at the beginning of the WP of Testing**
Quadruple Helix Actors (size and typologies)	*Size*	**At least 30 actors**
	Typologies of actors	**Quadruple helix: Public actors: 6 Academia and other Research Centers: 10 Enterprises: 12 SMEs and Large companies Business associations: 2**
Form of the Node	*Formal Node*	**Community of Practice**
Coverage	*Geographical coverage*	**National**
	Ranking of the MS sectors	**1) Marine Environment Protection 2) Maritime Safety & Security 3) General Law Enforcement 4) Fisheries Control 5) Defence 6) Border Control 7) Customs**
	MS areas covered (recommended)	**1) Marine Environment 2) Maritime Safety & Security 3) General Law Enforcement**
	MS areas covered (to be integrated in the future)	**4) Fisheries Control 5) Defence 6) Border Control 7) Customs**

Source: D 3.2.6 and Partner's questionnaire

PORTUGUESE NODE		
Main technologies mapped per MS area covered	*Marine environment protection*	**OFFSHORE ABYSSAL OS, DigitalHyd SR-1, LAUV, AR5, Oil Spill Detection Services, Oversee Environmental Monitoring and Protection**
	Maritime Safety & Security	**OFFSHORE ABYSSAL OS, DigitalHyd SR-1, LAUV, AR5, Oversee Environmental Monitoring and Protection**
	General Law Enforcement	**OFFSHORE ABYSSAL OS, LAUV, AR5, Oil Spill Detection Services, Oversee Environmental Monitoring and Protection**
	Fisheries Control	**OFFSHORE ABYSSAL OS, DigitalHyd SR-1, LAUV, AR5**
	Defence	**AR5**
	Border Control	**AR5**
	Customs	**n.a.**

Source: D 3.2.6 and Partner's questionnaire

PORTUGUESE NODE		
PROTEUS Line of Actions	*Marine Environment Protection*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 5: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 6: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
	Maritime Safety & Security	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Implementing the use of existing systems and solutions, without creating new systems
		Line of Action 3: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
		Line of Action 6: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislation

Source: D 3.2.6 and Partner's questionnaire

PORTUGUESE NODE		
	General Law Enforcement	*Line of Action 1: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities*
		Line of Action 2: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 7: Exploring how to harmonize initiatives between the Node's members and how to promote an industrial cooperation

Source: D 3.2.6 and Partner's questionnaire

PORTUGUESE NODE		
	Fisheries Control	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Developing technical roadmaps and milestones to achieve a more efficient use of resources at sea
	Defence	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partner's questionnaire

PORTUGUESE NODE		
	Border Control	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
		Line of Action 7: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
	Customs	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Founding "national poles of information" to collect and consolidate all the data and to face to their disruption and duplication
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities

Source: D 3.2.6 and Partner's questionnaire

2.1.6 THE SPANISH NODE

Table 13: Spanish Node main feature

SPANISH NODE		
PROTEUS Partners	*Node Coordinators*	**Fundación Valenciaport and Official Chamber of Commerce, Industry and Shipping of Seville**
	Contacts	**To be defined at the beginning of the WP of Testing**
	PROTEUS associated Partner	**Maritime Cluster of Andalusia**
	Contacts	**To be defined at the beginning of the WP of Testing**
Quadruple Helix Actors (size and typologies)	*Size*	**At least 32 actors**
	Typologies of actors	**Quadruple helix: Public actors: 5 Academia and other Research Centers: 5 Enterprises: 12 SMEs and 5 Large companies Business associations: 5**
Form of the Node	*Informal Node*	**At least at the beginning**
Coverage	*Geographical coverage*	**Supra-regional**
	Ranking of the MS sectors	**1) Defence 2) Maritime Safety & Security 3) Marine Environment 4) Border Control 5) General Law Enforcement 6) Customs 7) Fisheries Control**
	MS areas covered (recommended)	**1) Defence 2) Maritime Safety & Security 3) Marine Environment**
	MS areas covered (to be integrated in the future)	**4) Border Control 5) General Law Enforcement 6) Customs 7) Fisheries Control**

Source: D 3.2.6 and Partners' questionnaire

SPANISH NODE		
Main technologies mapped per MS area covered	*Defence*	**HORUS, HIGH-FREQUENCY ACTIVE SONAR DDS-03, ARGOS - SURVEILLANCE OPTRONIC SYSTEM, SAR - SMART ACOUSTIC RECORDER, ARGOS V 5000, NGARO COASTGUARD, P2006T MRI SURVEILLANCE SYSTEM, FULMAR, TTI-DTLINK-KU-1415, SVAP**
	Maritime Safety & Security	**HORUS, HIGH-FREQUENCY ACTIVE SONAR DDS-03, ARGOS - SURVEILLANCE OPTRONIC SYSTEM, SAR - SMART ACOUSTIC RECORDER, ARGOS V 5000, NGARO COASTGUARD, P2006T MRI SURVEILLANCE SYSTEM, FULMAR, SHIPLOCUS, TTI-DTLINK-KU-1415, SVAP**
	Marine environment protection	**HIGH-FREQUENCY ACTIVE SONAR DDS-03, SAR - SMART ACOUSTIC RECORDER, P2006T MRI SURVEILLANCE SYSTEM, BLEEPER - PRO/AT, FULMAR, TTI-DTLINK-KU-1415, ATLAS OF SPECIES, SVAP**
	Border Control	**HORUS, NGARO COASTGUARD, P2006T MRI SURVEILLANCE SYSTEM, FULMAR, SHIPLOCUS**
	General Law Enforcement	**NGARO COASTGUARD, P2006T MRI SURVEILLANCE SYSTEM, BLEEPER - PRO/AT, FULMAR, SHIPLOCUS, TTI-DTLINK-KU-1415, ATLAS OF SPECIES, SVAP**
	Customs	**NGARO COASTGUARD, FULMAR**
	Fisheries Control	**BLEEPER - PRO/AT, SHIPLOCUS, ATLAS OF SPECIES**

Source: D 3.2.6 and Partners' questionnaire

SPANISH NODE		
PROTEUS Line of Actions	*Defence*	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 5: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
PROTEUS Line of Actions	*Maritime safety and security*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Implementing the use of existing systems and solutions, without creating new systems
		Line of Action 3: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
		Line of Action 6: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislation

Source: D 3.2.6 and Partners' questionnaire

SPANISH NODE		
PROTEUS Line of Actions	*Marine environment protection*	*Line of Action 1: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 4: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 5: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 6: Pursuing a common data model to serve as a translation tool between maritime surveillance information system, facing the duplication and the disruption of information
	Border control	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
		Line of Action 7: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea

Source: D 3.2.6 and Partners' questionnaire

SPANISH NODE		
	General Law Enforcement	*Line of Action 1: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities*
		Line of Action 2: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 7: Exploring how to harmonize initiatives between the Node's members and how to promote an industrial cooperation

SPANISH NODE		
	Customs	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems to improve the data exchange*
		Line of Action 2: Investigating technologies and standards for sharing information guaranteeing the data protection requirements according to EU and national legislations
		Line of Action 3: Enhancing the cooperation between civilian and military authorities through their engagement in the activities of the Nodes and the MED MS Cluster
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Founding "national poles of information" to collect and consolidate all the data and to face to their disruption and duplication
		Line of Action 6: Promoting the decentralisation of the operational aspects of such information exchange enhancing the role of national authorities
PROTEUS Line of Actions	Fisheries Control	*Line of Action 1: Investigating standards allowing the interoperability of maritime surveillance systems*
		Line of Action 2: Promoting the real-time sharing of positions of vessels to ensure the fastest possible response to rescue operations and other events at sea
		Line of Action 3: Enhancing the harmonisation of requirements for next generation of vessels and systems to support the promotion of renewable energies
		Line of Action 4: Promoting the operational use of the integrated maritime services to reinforce the cooperation between all relevant authorities
		Line of Action 5: Pursuing a common data model to serve as a translation tool between maritime surveillance information systems
		Line of Action 6: Developing technical roadmaps and milestones to achieve a more efficient use of resources at sea

Source: D 3.2.6 and Partners' questionnaire

3. PROTEUS ROADMAP ON THE TRANSNATIONAL COOPERATION OF THE NODES AND MS MED CLUSTER IN THE FRAMEWORK OF PROTEUS WORK PACKAGE OF TESTING

3.1 PROTEUS ROADMAP ON THE TRANSNATIONAL COOPERATION OF THE NODES AND MED MS CLUSTER

For elaborating PROTEUS Roadmap, in terms of transnational cooperation, it has been also necessary to examine the activities that will be implemented by the Nodes and the MED MS Cluster in the framework of the WP of Testing and to find the best options for their operations and synergies.

This paragraph mainly concerns the services that will be provided by PROTEUS to the members of the nodes and of the MED MS Cluster. In our idea, the term "**services**" means **all the activities that will be implemented in the WP of Testing from which the actors may take an advantage**. Obviously, according to the MED Programme rules, this advantage has not to be profitable.

Considering this prerequisite, we are going to describe the proposals of the Partners about the most appropriate way for involving the actors in the set-up of PROTEUS services and their ideas about the relevance of these services for their node and participating actors.

About the **Italian node**, it is important to involve some key actors in this phase: gathering the actors' needs for defining services and tools is considered a prerequisite for engaging the actors and realising a high level of commitment in the Node and MS Cluster's activities. Surveys and interviews can be used in this first step.

Also for the **Cypriot node** the participation of the actors is essential for knowing their needs and being able to produce tools and services to assist them. In addition, that can assure a higher level of commitment and their presence in long term after the completion of the project. For this reason two main tools are proposed: the organisation of an Open day and the realisation of "solid materials" about the opportunities provided by PROTEUS.

The **French node** agrees on the collections of the stakeholders' needs. That will be useful to analyse and adapt the project services to their wishes.

The **Greek node** suggests using a questionnaire to explore these needs during the WP of Testing. Nevertheless, it is essential to implement the foreseen services in a more targeted and useful way.

The **Portuguese node** thinks that the involvement of the actors from the beginning is useful to understand their motivations and specific needs. In addition, it contributes to their involvement and commitment. The participation of the members in designing an action plan and their indications about some events and activities they would like to organize or participate in are useful information for the Partners.

For the **Spanish node** it is essential to know the needs of the participants and their involvement since the beginning of the WP of Testing could indicate a higher level of commitment. The project events concerning the launching of the Node (in April 2018) and the other meetings planned represent the occasions to define the services with them. Nevertheless, between these two events other contacts could be done with the members interested. The participation of the actors in the Open day to be organised by each partner would be welcome. Probably, a draft of the Platform could be presented in these events and a discussion could be opened on it to collect their suggestions.

As we have seen the Partners think that it is important to involve the actors of the nodes in the design of the project services.

Then, we have asked them to consider the sectors of the MS indicate the most appropriate services provided by the project. In this case, the Partners have not related the MS sectors and the services. For the Italian node, it is appropriate to make the assessment of main actors' needs and then define the most appropriate services. In any case, the services proposed are already organized by the two clusters that the Partners want to involve in the project (that are Mare DLTM and FVG).

In addition, the Portuguese node suggests considering specific services suggested by the actors and the Spanish node focuses on the needs of a coordination of the different activities at project level.

Anyway, the Partners have listed the services and have also thought about their appropriateness and design. The results are represented in the following table.

Table 14: Relevance of PROTEUS services for group of actors

NODES	PUBLIC ACTORS	ACADEMIA AND OTHER RESEARCH CENTERS	SMES AND LARGE COMPANIES	BUSINESS ASSOCIATIONS
ITALY	Participation to national and international networking with enterprises, research centres and other public administrations Participation to international events and in working groups at European level Information services about the trends and demands of the maritime surveillance sector Support for the identification of new marketing opportunities for the members Organization of Matching/Pitching events to attract investors Support the transferring of knowledge and TT actions between the members and beyond	Participation to national and international networking with enterprises and other research centres Information services on the needs of companies in the sector Participation in European innovative proposals, working groups, international tenders	Training International presence (trade fairs, events, etc.) Participation to international tenders and European proposals Support for the internationalisation and entering into new markets	Information about the MS sectors Participation in European working groups Participation in European innovative proposals

Source: D 3.2.6 and Partners' questionnaire

NODES	PUBLIC ACTORS	ACADEMIA AND OTHER RESEARCH CENTERS	SMES AND LARGE COMPANIES	BUSINESS ASSOCIATIONS
CYPRUS	Training seminars Participation at international events, conferences and workshops Participation in EU and International working groups	Prepare national, European and international proposals for R&D projects and other tenders Participation at international events, conferences and workshops, Participation in EU and International working groups	Training seminars Prepare national, European and international proposals for R&D projects and other tenders Participation at international events, conferences and workshops all these will strengthen their link with the public sector	Participation at international events, conferences and workshops
FRANCE	In general all the activities foreseen by the AF can be potentially appropriate for all the actors of the 4Helix	In general all the activities foreseen by the AF can be potentially appropriate for all the actors of the 4Helix	Most of the services described in the previous question are the most appropriate for SMEs and industry actors	In general all the activities foreseen by the AF can be potentially appropriate for all the actors of the 4Helix
GREECE	In general all the activities foreseen by the AF can be potentially appropriate for all the actors of the 4Helix Trends monitoring Trends awareness	In general all the activities foreseen by the AF can be potentially appropriate for all the actors of the 4Helix Real market needs identification Ideation and concept development for non incremental innovation	Business & Exploitation Plans Offer & demand matching service Coaching in business skills	In general all the activities foreseen by the AF can be potentially appropriate for all the actors of the 4Helix

Source: D 3.2.6 and Partners' questionnaire

NODES	PUBLIC ACTORS	ACADEMIA AND OTHER RESEARCH CENTERS	SMES AND LARGE COMPANIES	BUSINESS ASSOCIATIONS
PORTUGAL	**Thematic workshops and training actions Participation at International events, Seminars**	**Support to Technology Transfer Support to Intellectual Property and Patents Writing of proposals for joint projects, B2R meetings**	**Thematic workshops and training actions Participation in International events Mentoring Support to Technology Transfer Support to Intellectual Property and Patents Writing of proposals for joint projects B2B and B2R meetings**	**Thematic workshops and training actions, Participation in International events Mentoring Support to Technology Transfer Support to Intellectual Property and Patents Writing of proposals for joint projects B2B and B2R meetings**
SPAIN	**Training Participation in international events Participation in working groups at European level Information services about the trends and demands of the maritime surveillance sector**	**Participation in European innovative proposals Participation in European innovative working groups Participation in international tenders Participation in international events Information services on the needs of companies in the sector**	**Training, international presence (trade fairs, events, …) Encouraging the participation in international tenders (specially for SMEs) Encouraging the participation in European proposals Training on innovation and research in the sector Offering information on support services to the sector offered by the public sector Creating a contacts network between companies to generate business opportunities**	**Participation in European working groups Participation in European innovative proposals Training Information about the sector**

Source: D 3.2.6 and Partners' questionnaire

For the Partners all the services provided by the project have to designed in order to provide business opportunities to the actors.

For the **Italian Node**, for instance, networking activities would favour the matching of demand and offer of new technologies, to lead to a technology transfer deal or to find new strategic partners. In addition, the description of these opportunities should become included into a business plan of the MED MS Cluster. In particular, this plan should be developed after the establishment of the Nodes and the Cluster in order that take the necessary decisions. For the Italian Partners, it is also necessary to take into consideration essential synergies and support coming from other MED Project (Horizontal and Modular) that could work together to achieve common results (it could be interesting, for example, to coordinate the establishment of MED Cluster on blue growth, even including "energy" on which PELAGOS project is working.

For the **Cypriot Node**, business opportunities should be originated by the participation the actors in the preparation of national, European and international proposals for R&D projects and other tenders that will boost their expertise and strengthen their clustering strategy.

The **French Node**, focuses on the opportunities of getting funds, accessing to third countries markets and, finally, increasing the awareness of their product and services.

In the opinion of the **Greek Node**, for example, the offer and demand matching service could potentially lead to a technology transfer deal. The business and exploitation plan can possibly facilitate the concerned SME to the acquisition of funding. In addition, finance and mentoring services and spin off possibilities may create business opportunities.

For the **Portuguese Node**, the project services can provide business opportunities for the business actors even if the participation in Technology Transfer events, B2B and B2R meetings and the participation in proposals for jointly projects are considered the most significant.

Finally, the **Spanish Node** focuses on the participation in tenders and project proposals. In addition, even if indirectly, also the participation in working groups, the international presence and the participation in international events may represent business opportunities. Finally, being in contact with companies within the sector and exchanging knowledge and experiences among companies, business to discover collaboration opportunities may create opportunities for the companies participating to the Node activities.

Different tools are proposed by the Partners as appropriate to monitor and evaluate the results and the benefits for the participating actors provided by PROTEUS services in terms of technologies transferring, improvement of knowledge and awareness, sharing of best practices, and

so on. In particular, the Partners have proposed periodic online surveys or interviews, during the project life, and identification of indicators, such as:

- Number of members

- Number of meetings

- Number of qualified information shared

- Number of collaborative projects

- Number of patents

- Qualitative analysis

- Number of projects promoted and with participation of the members,

- Level of participation

- Geographic origin of the members

- Funds obtained

- Services offered and contracted by the members (training, international presence, etc.)

These surveys should be coordinated by the coordinators of the Nodes and of the Cluster.

In addition, in this framework, it is significant to highlight on the key roles of the coordinators in the Partners' point of view. In particular, we think to the enhancement of the cooperation between the Nodes and the Cluster about which the coordinator has to:

1. Work as a link between the node stakeholders and the MED MS Cluster

2. Provide information and opportunities to the MED MS Cluster

3. Be a member of the overall cluster management team

4. Monitor the performance of the Node in alignment with the Cluster objectives and guidelines on national and international level

5. Encourage the participation of the national entities in the working groups and activities of the MED MS Cluster (board of directors, working groups, thematic committees, events, projects, etc.)

6. Intermediate communication between the Node and the MED MS Cluster

Finally, the Partners have focused on the appropriateness that the Cluster Coordination and Management key roles are in charge of the project Partners and on the possible solutions for making the thematic working groups on the MS sectors at Node level cooperate at Cluster levels.

These solutions mainly concern:

1. The attribution of the responsibility of the thematic groups to the actors of the Nodes and the promotion of the thematic group at MED MS Cluster in order to gather members

from different countries and provide them qualified information, funding opportunities, networking etc.

2.   The creation of the animator/contact person for each Maritime Surveillance sectors

3.   The application of the cooperation scheme indicated for the Node level to the overall Cluster level as well.

4.   The participation of a representative of the thematic working group of each Node to the thematic working group/advisory committee of the overall MED MS Cluster. If it is not possible to create the thematic working group at Node level, it is appropriate to allow the participation of the actors at the Cluster level.

5.   The organisation of some meetings and the connections between the members through the website and technological tools to improve the services.

Finally, all these proposals for enhancing the transnational cooperation have to be considered and shared with the actors in the design of the project services, being them the final users.

CONCLUSIONS

We think that all the suggestions and recommendations included in the present Roadmap will be very useful to the project partners in the implementation of the Work Package of Testing.

In fact, during the elaboration of this Deliverable, we have focused on the concrete design of the Nodes and MED MS Cluster and on the participation of the actors.

In addition, we have proposed some Lines of Actions for each Maritime Surveillance sector, in order to enhance the works from the beginning of the testing activities and set up the services to be provided to the members of the Nodes and MED MS Cluster.

We have to observe that not all the Partners have the same ideas on the structure and functioning of the Nodes but the common element is the need to make the organisation model as simple as possible with a strong role attributed to the coordinators.

The concrete and active engagement of the actors is considered a prerequisite for the establishment of the Nodes and MED MS Cluster and for the correct implementation of the services. The approach is not a top down approach. In fact, the common objective is to stimulate the actors in the design of the services planned by the project.

The validation of the design of the Nodes and services by the public and private actors involved, in particular, is also a prerequisite for their awareness to participate to a multi-level cluster from which they can take advantage.

For these reasons, we think that it is necessary that the Roadmap is validated by the Partners and the members of the Nodes and, if necessary, integrated and adapted to their needs and desires.