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Common mechanism enhancing the operation of MED MS Cluster

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Executive Summary

The present document aims to provide to the project Partners an operational tool in order to make as feasible as possible the operation of the PROTEUS Nodes and MED MS Cluster.

In fact, analysing the results of some Deliverables of the Work Package of Studying (in the following WP), we have remarked that not all the Nodes would have had the same features.

As a result, being necessary to be aware of the main features of each Node and also of their specificities in order to assure their correct establishment and operation and the networking in the framework of the MED MS Cluster, we have used a questionnaire to start the design of the Nodes, taking in consideration the results of the WP of Studying and the objectives and activities of the following WP of Testing.

For instance, we have observed that not all the Nodes will have the same territorial scope and also the interest in the different Maritime Surveillance sectors seems to be different from one Partner/Node to another.

In order to provide an effective tool for the implementation of the project activities (with particular reference to the WP of Testing), we have focused on the operation of the Nodes and MED MS Cluster, to increase the Partners' awareness towards the need of considering the feasibility of the possible solutions to be adopted for their Node before the end of the WP of Studying.

In the following pages, we will focus on PROTEUS services for the actors, the Node scope and MS sectors background, the Node actors, the lifecycle and operation of the Nodes, the governance of the Node and, finally, the Cluster structure and operation.

Finally, we suggest that the Partners will share the contents of this document, discuss them and, if necessary, integrate or modify the document, during the first Activities of the WP of Testing with the involvement and the support of the potential relevant candidates of the Nodes.

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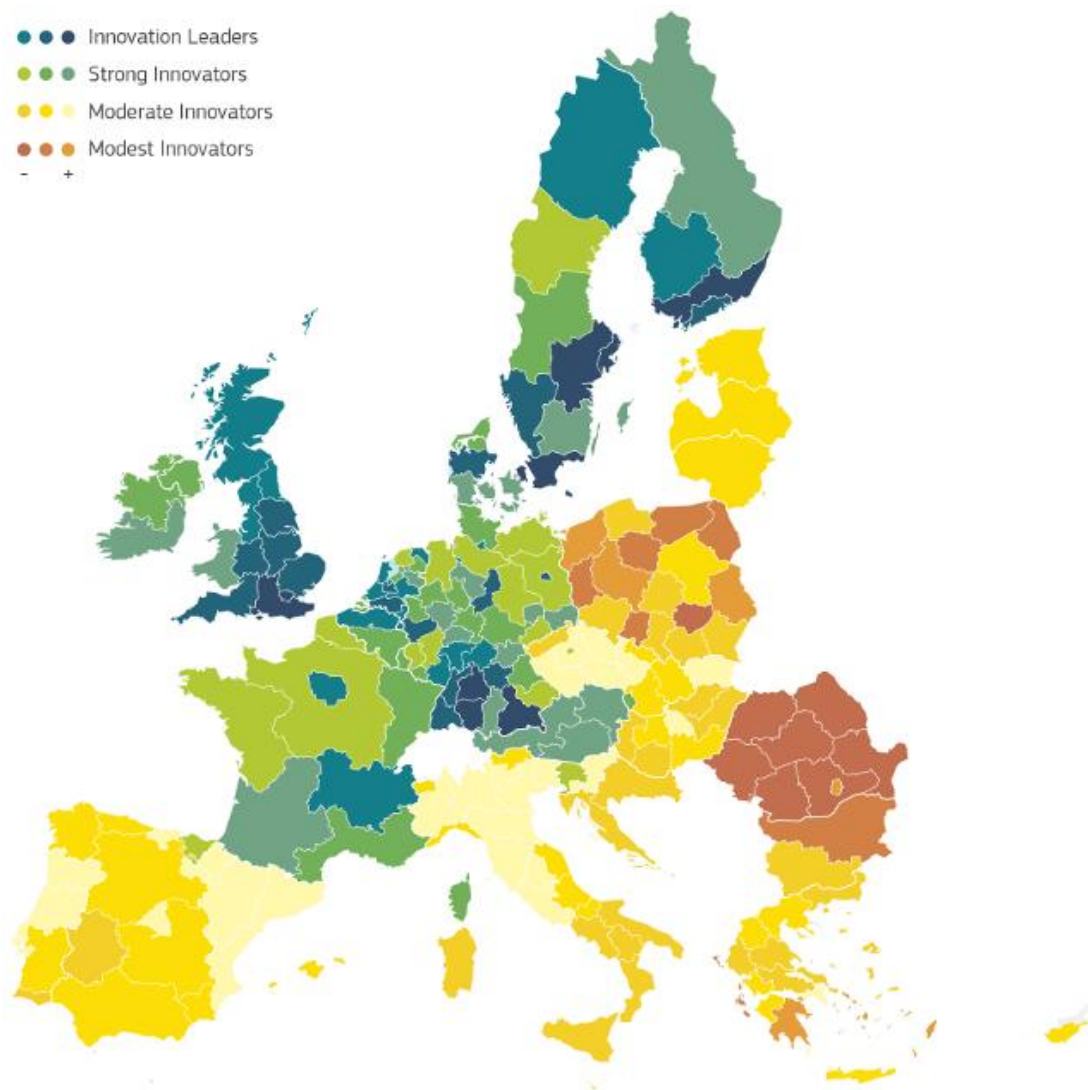
1. THE CONTEXT: PROTEUS FRAMEWORK

1.1 PROTEUS AREA OF REFERENCE

PROTEUS project includes regions of six Member States for which the coastal and maritime vocation is very relevant from the social and economic points of view.

Nevertheless, in this area, both at national than regional level, the regional performances in innovation are quite different, according to the EU Regional Innovation Scoreboard (RIS) in 2017, and are less performing if we consider other regions of the central and northern Europe.

Figure 1: Regional Innovation Scoreboard - 2017



Source: http://ec.europa.eu/growth/industry/innovation/facts-figures/regional_it

The following table describes the scoreboard of the regions involved in PROTEUS project.

Table 1: RIS performances of the PROTEUS territories in 2017

AREA		REGIONAL INNOVATION SCOREBOARD/RIS 2017			
COUNTRY	REGIONS	INNOVATION LEADERS	STRONG INNOVATORS	MODERATE INNOVATORS	MODEST INNOVATORS
ITALY	VENETO			Moderate Innovator +	
	LIGURIA			Moderate Innovator	
FRANCE-MÉDITERRANÉE	PACA		Strong Innovator		
	OCCITANIE		Strong Innovator		
PORTUGAL	ALGARVE			Moderate Innovator -	
SPAIN	ANDALUCÍA			Moderate Innovator	
	COMUNIDAD VALENCIANA			Moderate Innovator +	
GREECE	ATTIKI			Moderate Innovator +	
CYPRUS	CYPRUS	-	-	-	-

Source: http://ec.europa.eu/growth/industry/innovation/facts-figures/regional_it

As we can see, in the area covered by PROTEUS there are not any regions in the group of “innovation leaders” region. There are only two regions considered “Strong Innovators” that are PACA and Occitanie, in France, and six “Moderate Innovator” regions that are, Veneto and Liguria, for Italy, Algarve, for Portugal, Andalucía and Comunidad Valenciana, for Spain, and Attiki, for Greece. About Cyprus the information is not available.

1.2 THE DEFINITIONS OF NATIONAL NODES AND MED MS CLUSTER

In the framework of the Activity 3.4, the University of the Aegean has provided to the project Partners the definitions of National Nodes and Cluster:

✓ The PROTEUS National Nodes are considered as innovation ecosystems henceforth they are expected to be both top down designed and bottom up self-organized as dynamic, purposive communities with strong relationships based on collaboration, trust and co-creation of value and sharing complementary technologies or competencies;

✓ The Cluster is a geographical proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities.

The methodology for the implementation of the Nodes suggests establishing a network of 4ple helix actors, coordinated to produce and capture economic and social value by MS technology and entrepreneurship, able to be a candidate entity to assume the national level cluster activities (incumbent, new or other) within a national specific context. This document also focuses on the six steps of a cluster management cycle: 1. Definition of the cluster, 2. Design the cluster actions, 3. Implementation of the cluster actions, 4. Monitoring the implementation, 5. Evaluation of the results and, finally, 6. Revision. These steps, obviously, are the same both for the Nodes and the Cluster. Concerning the Cluster Governance Model, the typical model for the triple helix network includes the government, the academia and the industry. The methodology for the Nodes also suggests the contents of existing types and models of cluster that can be used for the Node and the MED MS Cluster, their vision, mission, strategy, types of organizing and the main existing legal forms.

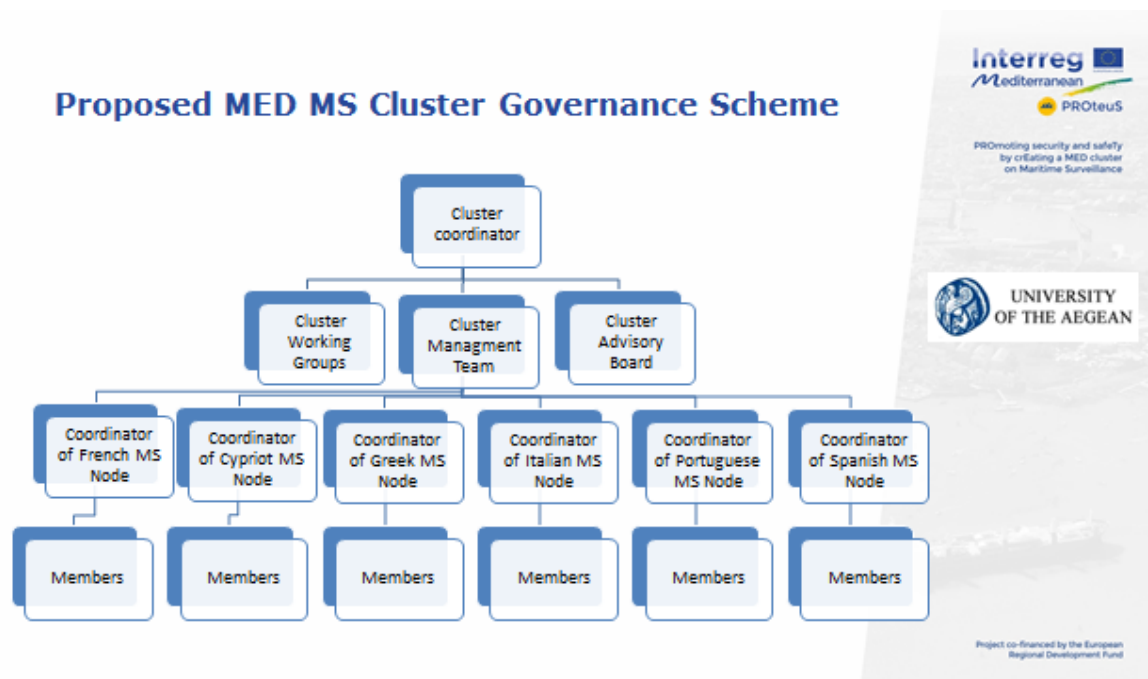
Furthermore, the methodology includes the description of the administrative framework generally adopted by clusters and relevant for the Nodes and the cluster: the general assembly, the board of directors and its coordinator, the thematic committees and their potential members in terms of identification, engagement, approaching and selection.

Finally, the methodology suggests the KPIs for the monitoring of the Nodes and the activities of networking and dissemination.

Concerning particular themes related to the MED MS Cluster, the methodology provides the identified legal frameworks of clusters in the EU: Association (non-profit or for-profit), Private limited company, Economic Interest Group, Cooperative, Partnership and Hybrid forms (a mix of association and public or private limited company). Among these models, the methodology suggests the Partners to consider the Economic Interest Group and the Hybrid forms.

Then the methodology for the establishment of the cluster suggests a governance scheme, described in the following scheme.

Figure 2: MED MS Cluster Governance Scheme



Source: University of the Aegean's presentation of the D.3.4.2

Finally, the methodology provides a description of the role of each player/group of players of this scheme.

1.3 PREREQUISITE FOR THE OPERATION OF THE MED MS CLUSTER

During the Studying WP some "Recommendations for the establishment of the Mediterranean MS Cluster" have been formulated in the framework of the Deliverable 3.2.3. These recommendations have to be taken in consideration in the different steps for the establishment of the MED MS Cluster from a chronological point of view.

1) Define the main strategic sectors for each participating country, as the Maritime security seems to be of key importance for most of the studied countries focusing on topics and challenges such as sensitive zone protection, port and coastal surveillance, piracy and terrorism protection, illegal trafficking fight, search and rescue operations, vessel traffic management, maritime safety and security, fishing and aquaculture etc.

2) **Identify the potential members to reach a critical mass** focusing on the 4 helix approach and, as a result, including the relevant actors from the public sectors, enterprises, business associations and research centers and academia. In this case, the tool suggested is the definition of a list of potential members of the MS Cluster, including the contacts of these stakeholders.

3) **Set a governance and clear objectives.** It means that the governance team is responsible of defining and establishing the governance mechanism, the managing rules and regulations, the strategic lines of action in consonance with the cluster membership priorities.

4) **Deploy a set of support services and encourage collaborative projects/joint activities between its members providing support.** There are different services that can be implemented such as networking opportunities, training, training or up-grading cluster members' skills and capabilities, presentation of the cluster in the framework of international conferences, organization of conferences, lobbying, market intelligence or other not for profit activities.

- Assessing business model and business plan and recommendation for improvement;
- Identifying funding opportunities and complementarities that could leverage driven projects, and support to access funding;
- Assessing potential of technology or know-how in relation with emerging industries targeted ;
- Protecting foreground and results in collaborative projects with support to negotiate a consortium agreement and protect results (IPR).

5) **Communicate toward the stakeholders and potential members** in each participating country.

6) **Presentation of the MS Cluster proposal to the potential stakeholders** made by PROTEUS Partners. The Partners need to define the potential benefits from participating to the MED MS Cluster. In this framework it is necessary to involve the stakeholders in PROTEUS dissemination activities.

7) **Develop synergies with existing clusters** which support the maritime industry in the different countries. These clusters can contribute directly and also participate to the MED MS Cluster.

8) **Define a business model.** The MED MS Cluster members will have to set the different financing tools. In particular, that means establishing the membership fee/fees and their criteria and identifying public funding programmes.

9) **Develop marketing and advertising activities.** This responsibility is mainly in charge of the governance team that will define the business and communication strategy to increase its members involved.

1.4 CLUSTERS MAPPED AT NODE LEVEL

The mapping of the existing clusters in the countries of the participating Partners, are useful models for the design of the PROTEUS Nodes and the MED MS Cluster. Furthermore, these clusters represent experiences recognized at European level and some of them are considered as best practices. The following table shows the results of the mapping activities with reference to PROTEUS territory.

Table 2: The Clusters mapped at Partners' national level

COUNTRY	N.	CLUSTERS MAPPED	BEST PRACTICES
ITALY	1	mareTC FVG	
	2		Federazione del Mare
	3	DLTM	
FRANCE	4		Pôle Mer Méditerranée
PORTUGAL	5		Fórum Oceano – Associação da Economia do Mar
	6	Maralgarve – plataforma mar do Algarve	
SPAIN	7	The Basque Maritime Forum	
	8	Asociación Cluster del Naval Gallego - ACLUNAGA	
	9		CTN - Marine Technology
	10	NYM AEI Naval y del Mar	
	11	Clúster Marítimo Español	
	12	CMMA - Andalusian Maritime Cluster	
	13		Cluster Marino Marítimo de Canarias
GREECE	14	ECOMASYN	
	15	STRATEGIS	
CYPRUS		N.A.	N.A.

Source: D.3.2.4

Obviously, these practices have been considered as useful models by the Partners in completing the questionnaire on their own node at least for the phase of its emerging/consolidation.

1.5 PUBLIC AND PRIVATE ACTORS AND TECHNOLOGIES MAPPED AT PARTNERS' NATIONAL NODE LEVEL

In the framework of the Deliverables 3.2.1¹ and 3.3.2, the Partners have already mapped a relevant number of public and private actors and of technologies related to the MS sectors. The lists of the private actors do not correspond in these deliverables. Nevertheless, it is recommended to create a list of all these actors and to try to involve them in the project activities. In fact, this is an opportunity for coordinating the results of the two deliverables and allows the Partners to increase the number of private actors to contact and include in the WP4 of Testing.

Table 3: The Public and Private actors mapped at Partners' national node level

COUNTRY	PUBLIC ACTORS	PRIVATE ACTORS
ITALY	17	74
FRANCE	17	97
PORTUGAL	9	7
SPAIN	14	19
GREECE	18	36
CYPRUS	N.A.	N.A.

Source: D.3.2.1

In the case of public actors, some Partners have considered as “actor” different Offices of a same entity. Nevertheless, the resulting number is very interesting and contact details are already available.

¹ We have not considered the EU and international entities suggested by the Partners as the focus of the questionnaire is on Country level.

In the same way, the mapping of the technologies has provided a list of companies to consider for selecting the potential candidates for the Node. In fact, it seems that these companies do not necessarily correspond to the ones mapped previously.

Table 4: The Technologies mapped at Partners' national Node level

COUNTRY	NUMBER OF TECHNOLOGIES MAPPED
ITALY	34
FRANCE	39
PORTUGAL	6
SPAIN	13
GREECE	19
CYPRUS	N.A.

Source: D.3.3.2

It is appropriate that the Partners will define a list of the mapped actors and collect all the relevant contacts in a common scheme to share at MED MS Cluster level.

2. GUIDELINES FOR ENHANCING THE OPERATION OF THE NATIONAL NODES AND MED MS CLUSTER

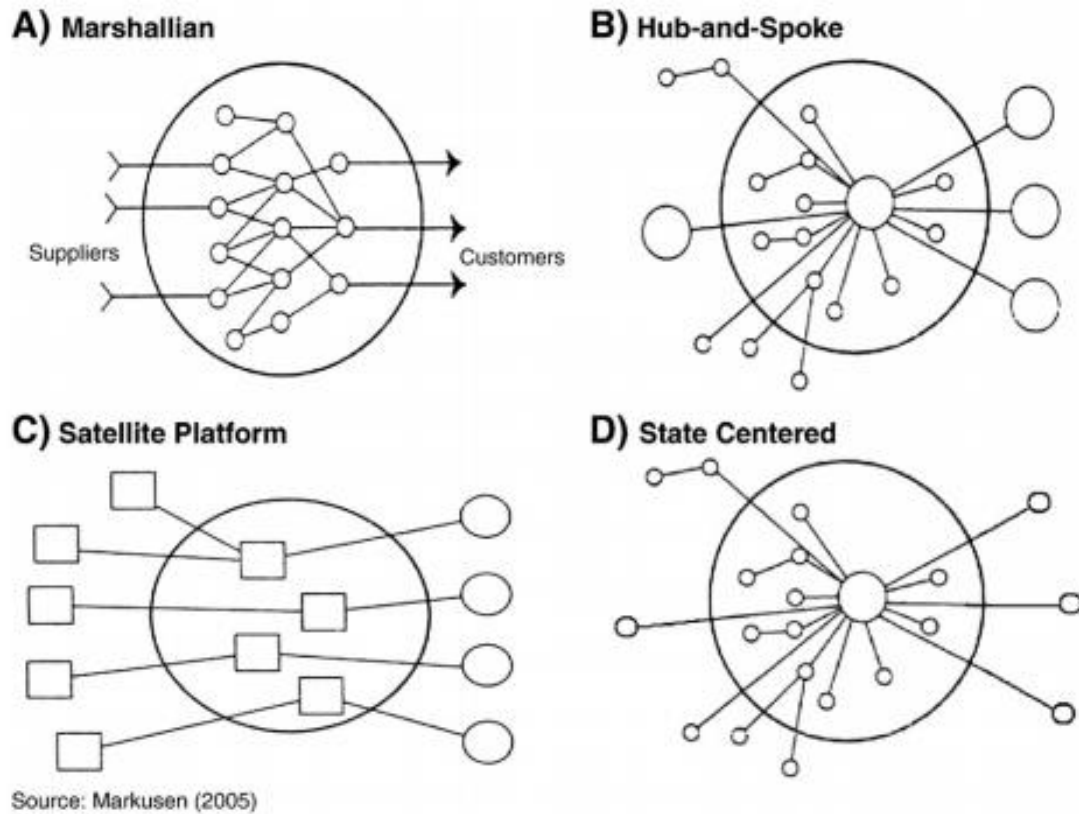
2.1 THE SCOPE OF PROTEUS NODES

For establishing and making the nodes operational, first of all, it is important to identify the most **appropriate territorial scope** and the **MS sectors** on which they will mainly work.

At the beginning, in the economic literature², Alfred Marshall described the notion of “industrial district” as an agglomeration of firms situated in a geographic area that operate in one industrial sector. After this first notion, several terminologies were used for describing similar environments and it happened that terms such as cluster, industrial district, technology district and innovative milieu, became synonyms. Nevertheless, the research on these agglomerations of firms has shown that each cluster is different from one to another even if four main models can be defined: the Marshallian model, the Hub and Spoke model, the Satellite Platform and the State Centered model. Originally, the **Marshallian model** was an agglomeration of firms that take advantage of external economies, such as transaction costs and specialisation, operating in a same area and in a same industry sector. Later, the economy literature observed an evolution of the Marshallian agglomeration of firms and modernised the notion including the role of social relations between firms both in terms of cooperation and competition. The Marshallian model is also referred as the Italian version of Marshallian model. The remaining main relevant models were observed by Markusen. In particular, the **Hub and Spoke model** is characterized by the role played by the leading firms/firms within the cluster scope. The dominant firm trades with the smaller companies of the cluster and with external suppliers and customers. This model includes two main types: the single-hub-based and the multi-hub-based clusters. The **Satellite Platform model** is a congregation of local facilities of multi-plant firms located externally to the cluster region. As a result, there is not any relation within the cluster, being the local facilities strictly connected to their remote headquarters. Finally, we find the **State Centered model**. Similar to the Hub and Spoke model, in this structure one or more public or non-profit entities dominate the cluster and are surrounded by smaller companies. Over the time, the success of the cluster depends on the presence of the public entities. The following figure shows the abovementioned models.

² The typology of technology clusters and its evolution – Evidence from the hi-tech industries, Elsevier, Science Direct, Technological Forecasting & Social Change, Jiang He, M. Hosein Fallah, 2011.

Figure 3: Cluster models



In PROTEUS the territorial reference of the Nodes is the national level. Nevertheless, during the implementation of the WP of Studying, Partners' analysis has shown different territorial approaches³. In particular, these approaches have considered the regional, supra-regional or national level.

According to PROTEUS goals, in our opinion, it is not so significant to establish or not "national Nodes". In fact, the most important thing is to establish Nodes able to operate and create a network (that is the MED MS Cluster) and, possibly, grow during the project life. Furthermore, in the economic literature, the relevant area of clusters generally is at region or city level, regardless of the cluster model applied. For instance, the Silicon Valley apply the Marshallian model, the Detroit auto manufacturers the Hub-and-Spoke model, the North Carolina Research Triangle Park the Satellite Platform model and, finally, some cluster situated in USA cities, such as Wisconsin, applied the State Centered model⁴. Nevertheless, it is important to highlight that existing clusters in reality do not apply a unique model, as their structure is very complex and the result is the combination of two or more models of which one usually is the characterizing model.

³ See the D.3.2.1 results.

⁴ The typology of technology clusters and its evolution – Evidence from the hi-tech industries, Elsevier, Science Direct, Technological Forecasting & Social Change, Jiang He, M. Hosein Fallah, 2011.

Generally, companies spontaneously cluster together to take advantage with regards to local labor market pooling, suppliers, information flows, knowledge spillovers. Then the cluster emerges and develops through a dynamic lifecycle process⁵. The origin of these clusters is not planned.

In modern economic literature, clusters are regional ecosystems⁶, geographic concentrations of related industries closely related by skill, technology, supply, demand and/or other linkages⁷. Associated institutions are also included in these territorial ecosystems. The emerging of a cluster depends on the existence of different opportunities provided by a specific location. These opportunities make the companies investing, succeeding and growing.

Obviously, the public investments are very important for creating the real business environment in which clusters can grow.

In PROTEUS vision, the Nodes are the building blocks of the MED MS Cluster and the participating quadruple helix actors can expand the territorial dimension of the Nodes thanks to the networking activities at national levels. Assuring the feasibility and the concrete operation of the Nodes is the main goal of this document: as a result, the Partners have to decide the best option to propose to the territorial actors that they are going to involve in the project, as they only are aware of the environment in which they will emerge and grow and of the objectives that they wish to achieve with the establishment of the Nodes.

As a result, at least in the launch phase of PROTEUS Nodes, the territorial scope of the Nodes will consider the national and supra-regional level, as showed in the following table.

Table 5: The scope of PROTEUS Nodes

	ITALY	CYPRUS	FRANCE	GREECE	PORTUGAL	SPAIN
NODES SCOPE	Supra-regional	National	National	National	National	Supra-regional

Source: Partners' questionnaire

⁵The typology of technology clusters and its evolution – Evidence from the hi-tech industries, Elsevier, Science Direct, Technological Forecasting & Social Change, Jiang He, M. Hosein Fallah, 2011.

⁶Smart Guide to Cluster Policy, European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship in cooperation with the Smart and Sustainable Growth unit of the Directorate-General for Regional and Urban Policy, 2016.

⁷Defining clusters of related industries, National Bureau of Economic Research, NBER Working Paper Series, Working Paper 20375, M. Delgado, M. E. Porter and S. Stern, 2014.

It is useful to remark that some Partners that have investigated the regional dimension, then decided to create a national Node and vice versa⁸. For instance, the University of Algarve has been focused mainly on the Algarve region; nevertheless, the PROTEUS Portuguese Node has to have a national scope since the region of Algarve has not enough actors (private and publics) not technology offer to justify a regional node. The Spanish Partners have decided to prefer the supra-regional dimension of the node, since it involves all the MED Spanish regions (Andalucía, Murcia, Comunidad Valenciana, Cataluña and Baleares). The Italian Partners have decided to establish a supra-regional node even if the investigation concerned the national territory.

As a result, PROTEUS MS MED Cluster will consist of four national nodes and two supra-regional nodes.

2.2 THE MARITIME SURVEILLANCE SECTORS OF PROTEUS NODES

The second element to be defined by the Partners is the relevance of the MS sectors for the Node that they are going to establish. This choice is mainly based on the different examinations developed (regional reports, mapping of actors and technologies, etc.).

Thanks to this analysis, the coordinators of the Nodes will be able to identify the quadruple helix actors to involve in the project activities and propose them the framework in which they will be invited to actively participate thanks to their expertise as public or private actor.

As we know, the Maritime Surveillance is a very complex and subject as it is based on seven sectors, Maritime safety & Security, Marine Environment, Fisheries control, Customs, Border Control, General Law Enforcement and Defence. In addition, the policies and regulations in these frameworks are very dynamic and need to be updated continuously to the IMO international law amendments and new conventions and to the innovations in the field of ICT.

The following table represents the results of the Partners' analysis at the end of the WP of Studying.

⁸See the D 3.2.1.

Table 6: The relevance of the MS Sectors per Node

RELEVANCE OF MS SECTORS PER NODE	ITALY	CYPRUS	FRANCE	GREECE	PORTUGAL	SPAIN
1	Maritime safety & Security	Maritime Safety & Security	Defence	Maritime Safety & Security	Marine Environment	Defence
2	Marine environment	Marine Environment	Maritime Safety & Security	Defence	Maritime Safety & Security	Maritime Safety & Security
3	Fisheries control	Defence	Border Control	Border Control	General Law Enforcement	Marine Environment
4	Customs	Border Control	Customs	Marine Environment	Fisheries Control	Border Control
5	Border control	General Law Enforcement	General Law Enforcement	General Law Enforcement	Defence	General Law Enforcement
6	General Law Enforcement	Customs	Fisheries Control	Fisheries Control	Border Control	Customs
7	Defence	Fisheries Control	Marine Environment	Customs	Customs	Fisheries Control

Source: Partners' questionnaire

Maritime Safety and Security is the most relevant sector for three Nodes, Defence for two Nodes and, finally, Marine Environment for one Node. Then, in the second place, we can find Maritime Safety and Security for three Nodes, Marine Environment for two and Defence for one. In the third place, we can find Border Control for two Nodes, followed by Defence, Fisheries Control, Marine Environment and General Law Enforcement (everyone for one Node).

Most of the Partners have chosen the order of relevance on the challenges at national level; only two Partners have chosen on PROTEUS results.

The following figure shows the ranking according to the relevance assigned by PROTEUS Partners to each sector (from 1 to 7).

Table 7: The relevance of the MS sectors in PROTEUS territory

RELEVANCE OF MS SECTORS	1	2	3	4	5	6	7
MARITIME SAFETY & SECURITY	3	3					
DEFENCE	2	1	1	1	1		
MARINE ENVIRONMENT	1	2	1	1			1
BORDER CONTROL			3	2		1	
GENERAL LAW ENFORCEMENT			1		4		1
FISHERIES CONTROL				1	1	2	2
CUSTOMS				1		3	2

Source: Partners' questionnaire

The Partners agrees that Maritime Safety & Security is the most important sector, having reached a score of 1 or 2 respectively by each Node. This sector is followed by Defence and then by Maritime Environment and Border Control. Finally, General Law Enforcement, Fisheries Control and Customs have reached a lower score.

In our opinion, General Law Enforcement is a sector specifically addressed to the public actors, as they are competent in this field. The term General Law Enforcement is also referred to the implementation of the international conventions and the EU legislation by the Member States.

In the case of **Italian Node**, the reason of the importance and less importance for each sector depends on the criteria used for the selection and in particular on: the number of actors operating in the sector according to the supra-regional mapping; the priorities as encoded in the RIS3; the ability to reach the actors selected; the innovation attitude; the marketing opportunities and internationalisation attitude. As a result, in the field of the **Maritime Safety & Security** sector, ports and public organisations related with maritime traffic are important users of maritime technologies and maritime security and safety systems. The introduction of digital technologies and the implementation of the digital single market strategy made this sector even more interesting and competitive for Italy. In the field of **Marine Environment**, in addition to the waste generated by the vessels strictly related to the maritime surveillance, the industrial and urban discharges impact on an ecosystem that has become fragile to which important economic sectors are linked. Research and development of new technologies are growing, business models are under strong reformation together with the internationalisation of the economic actors involved. The third relevant MS sector

for Italy is **Fisheries controls**. In fact, fishery activities have repercussions on common and shared resources, the correct management involves ecology, economy, law and sociology. The MS technologies can play an important role. Italy plays a strong role in fishery sector even if the attitude to innovation is still quite low, there are disputes at borders on the monitoring systems, control on safety and security is growing. Fishery sector needs strong investment to remain competitive and contribute to the National GDP. Concerning the **Customs** sector, at present, the main challenges regard the prevention activities and fights against crimes, such as: illegal trade of counterfeit products or of products not complying with health and safety legislation, arms, drugs, items of cultural heritage illicit trafficking of waste. In order to face the events, it is necessary to improve the activities of safety and security risk analysis ensured by laboratories and X-ray imaging technology. Digital Technologies and Open Data/Big Data strengthen the entrepreneurial aspects: many youths with start-ups can be counted here with innovative business models. The **Border control** sector represents a very important humanitarian problem because of the illegal immigration in the Mediterranean Sea which involves both military and humanitarian bodies. In this field, tracking and safety technologies know here a big growth. Nevertheless in this sector companies are hardly engaging and it should be in fifth position for the Italian Nodes even if Military technology is an important part of MS technologies. The **Law enforcement** sector is the penultimate sector in the Italian list of relevance being carried out by various public organisations. The technologies used are those ones of the other sectors of the MS such as border control, customs and defence sectors. Finally, the **Defence** sector is strategic but suppliers are hardly engaging because the Government is the only competent authority.

In the case of **Cyprus Node**, the **Maritime Safety & Security** sector is crucial due to the maritime routes of the Eastern Mediterranean Area (Suez Canal). Also Cyprus Port Authorities have to implement measures, included technologies, to mitigate the risk of Safety & Security breach. Another sector of great relevance is the **Marine Environment** thus public and private entities cooperate in parallel to coordinate actions to reduce the risk of environmental pollution either from sea vessels (maritime transport, oil & gas platforms, fishing vessels) but also from maritime tourism activities (yachting, water sports, diving tourism, etc.). The **Defence** sector has reached the third position, being characterized by its high growth and its significant investments in vessels and infrastructures the last years. Stakeholders engaged to this sector are limited to governmental. **Border control** represents another relevant sector. In fact, security in Cyprus is particularly critical since many of the immigrants of the neighbouring countries use Cyprus as their destination. With the implementation of the National Coastguard in the next years many issues will be resolved. The **Law enforcement** is in fifth position. At present, it is mainly carried out only by Port Police. In the

next future it will also be strengthened by the National Coastguard. **Custom** sector has reached the penultimate position. The surveillance is contacted by the Customs Authority in cooperation with other governmental bodies to control (goods, animals, freight, plants etc.). Finally, in Cyprus, **Fisheries Controls** sector is less important due to the environmental characteristics of the island ecosystem.

In the case of **French Node**, the **Defence** sector is the most relevant. In fact, there are four important military ports of which two dedicated to new construction and two to ship maintenance; in addition, the last two ports are also called port base. As a result, for this Node it is very important to secure their access. The second and third sectors of interest are respectively the **Maritime Safety & Security** and the **Border Control**. The French Navy is engaged through FRONTEX in Operation SOPHIA, which fights against illegal immigration by sea, but which also has the main mission of saving lives by rescuing boats in distress. In addition to its mission Sophia, the French Navy but also the maritime gendarmerie must ensure that terrorists do not penetrate on French soil by sea. The **Custom** sector is in fourth position. In particular, drugs but also the counterfeit goods are transported most often by the sea way before arriving on the French soil. The **General Law Enforcement** represents the following sector as a lot of offenses committed at sea are subject to fines and must therefore be enforced (such as prohibited fishing, degassing, excessive speed, and so on). Even if fishing is an important economic sector, the Fisheries Control is less relevant and it is necessary to regulate it to conserve resources. In addition, France has to ensure at French fishermen the protection of their fishing area. Finally, the last sector is the **Marine Environment**, even if the protection of the environment and natural sites is a very important challenge.

In the case of the **Greek Node**, it is not available an analysis related to the relevance of each sector but the result is based on the criteria used for the selection, that are: the strategic importance/prioritization, the number of actors operating in the sector according to the National Mapping (main selection criterion), the ability to reach the actors selected and availability to be involved and, finally, the capacity of the sector to meet trends and megatrends identified (additional selection criterion). As a result, according to these criteria the most relevant sector for the Greek Node is the **Maritime Safety & Security** sector, followed in descending order by the **Defence**, **Border Control**, **Marine Environment**, **General Law Enforcement**, **Fisheries Control** and **Customs**. It is important to point out that this classification is based on PROTEUS results.

In the case of the **Portuguese Node**, the **Marine Environment** sector is the most relevant because tourism is very important for Portuguese economy and crucial for Algarve region. The environmental assets, the existence of protected areas and biodiversity, and the excellence of the coasts (both western and southern coasts) are important strengths for tourism. Therefore, there is a

need to preserve the Marine Environment. The second relevant sector is **Maritime Safety & Security** because of the importance of tourism in Algarve region. Since the coastal area and beaches are the most valuable economic assets necessarily the MS sectors crucial for the region are the ones that affect maritime and nautical tourism and related recreational activities, providing safety and security for tourists, but also preventing risks of accidents and environmental catastrophes. The third sector in order of relevance is the **General Law Enforcement**. It is always important because it requires transformations in order to accomplish the law. In this sense, it can be said that it is an important motor of innovation. The administrative regions in Portugal don't have political autonomy as the regional bodies are dependent on the central (national) administration. The **Fisheries Control** sector represents an important sector if we consider the extension of the Portuguese coast and the population consumption habits. In fact, fishing is a traditional sector of great importance in Portugal and in Algarve. Some of the main issues are the following: unsustainable fast consumption of living marine resources; over-exploitation illegal, unregulated and unreported fishing; robbery in Offshore and Onshore Aquacultures, and preservation of marine biodiversity. In fifth position we can find the **Defence**. In Portugal the maritime spaces occupy an extraordinary dimension. The value of the strategic position occupied by Portugal is reflected, among other things, in the fact that 53% of the EU's external trade passes through Portuguese jurisdictional waters. In addition, around 60% of all Portuguese foreign trade takes place by sea and about 70% of national imports uses the same route, including all of the oil and almost 2/3 of the natural gas consumed. The Navy is a branch of the Armed Forces, endowed with administrative autonomy, which is integrated into the State administration, through the Ministry of National Defence. Therefore, the stakeholders are all governmental. The **Border Control** and, in particular, the Maritime Border Controls are not so important because there is not such a geographical proximity as there is in other territories. It is difficult to reach the Atlantic western coast for instance; and also the southern coast (Algarve) is not so close to maritime borders of North Africa, as in other Mediterranean countries. Finally, the **Custom** sector is not so relevant for the above mentioned reasons about the Border Control.

In the case of the **Spanish Node**, the **Defence** sector is the most relevant as it is widely developed in Spain. The sector is characterized by its high growth and its significant investment in R&D. Spain uses offsets on defence orders to support and develop its defence industry. The majority of companies/entities detected working on MS work on Defence sector. The second significant sector is the **Maritime Safety & Security**. In fact, the ports and other public organisations related with maritime traffic are important users of MS technology. According to the Spanish National Maritime Security Strategy, several risks and threats are connected to Maritime Security for Spain. The third **Marine Environment** is particularly sensitive and fragile in Spain, even more for

ecosystems of special vulnerability by pollution. Tourism is the main sector in the Spanish economy and its environmental situation is crucial for the development of the sector. The fourth sector is **Border Control**. In fact, the border security in Spain is particularly critical since most of Spain borders the sea. Spain has increased the number of personnel assigned to border control operations in recent years and is increasing the use of technology in borders security. The illegal immigration in the Mediterranean Sea has become a very important humanitarian problem for the MED European countries and also for Spain. The following sector is the **General Law Enforcement** that in Spain is carried out by various organisations, not all of which operate in the same areas. In particular, with reference to this Maritime Surveillance sector there is not a single specific organisation. In sixth position there is the **Customs** sector. In this field the surveillance is usually done on the nature of the merchandises and the passengers. Finally, the **Fisheries Controls** sector is not considered significant as, even if the Fisheries sector in Spain is considered very important, in general, there is not any special surveillance on Spanish coasts.

Taking in consideration the complexity of the Maritime Surveillance and of the sectors that it includes, it is important to stress that one of the most significant opportunities, for the actors of the quadruple helix that will participate to the Node activities, is sharing knowledge and information that will be able to provide knowledge spillovers. In our idea, this linkage will be the main objective to consider in defining the different services provided by PROTEUS to all the participant actors.

2.3 THE PUBLIC AND PRIVATE ACTORS

After having defined the Node scope and the relevance of the MS sectors, it is crucial to focus on the Node actors.

In fact, at the beginning of the WP of Testing, for the establishment of the Node, the quadruple helix approach will be adopted and 30 actors will be selected among enterprises, business associations, research institutes and public authorities.

Some actors have been already mapped in the Regional reports⁹ and in the framework of the database of technologies per Country¹⁰, that includes the owners' technologies.

The target number will not exceed 30 actors for each Node, including key actors from public sector, academia, business and associations. In the framework of the WP of Testing, the quadruple helix approach will be adopted. In this step, we have selected the most appropriate approach to be

⁹ See the D.3.2.1.

¹⁰ See the D.3.3.3.

followed at Node level for involving the relevant actors, the criteria for selecting the business enterprises and their size/s.

During the project life, some Partners have already started to involve relevant actors of their territory. In any case, everyone has already mapped a significant number of actors and technologies at Node level and these actors will be the first to be contacted as potential members of the national Nodes. Nevertheless, it may be appropriate to involve other actors taking in specific consideration the results of the analysis concerning the relevance of each MS sectors at national Node level.

In any case, it is important to consider that the actors that will be involved will take part to the MS MED Cluster.

Considered that the public actors, as potential candidates to involve in the national Nodes and then in the MED MS Cluster, have been already identified at national and regional levels during the WP of Studying, it has been assessed some appropriate criteria to be adopted for selecting the business actors (i.e. size of the enterprise, enterprises already member of a local cluster, etc.). This assessment has led to the following guidelines that we have distinguished in three main groups according to their importance: essential, appropriate and preferable.

Table 8: Guidelines on the Node actors

Essential

1. It is essential to involve a relevant number of enterprises including all the sizes: Micro, Small, Medium-sized, Large Firms
2. It is essential that these enterprises are in line with the priority sectors selected by each Node
3. It is essential that these enterprises offer technologies or services at least in one Maritime Surveillance sector
4. It is essential that the enterprises have the availability, willingness and commitment to the Node activities
5. It is essential that the enterprises have the attitude to cooperate with other actors at the Node level
6. It is essential that the enterprises have the attitude to cooperate with other actors at the MED MS Cluster level

Appropriate

7. It is appropriate to evaluate the market position of the potential candidates
8. It is appropriate that the potential candidates have the attitude to innovation
9. It is appropriate that the potential candidates have the attitude to develop R&D activities and projects
10. It is appropriate that the potential candidates have the attitude to internationalisation

Preferable

11. It is preferable that the potential candidates are already member of an industrial district, cluster or association
12. It is preferable that the potential candidates already participate to technology centers, networks and/or national/transnational associations
13. It is preferable that the potential candidates diversify their activities on Maritime Surveillance sectors
14. It is preferable that the potential candidates have expertise in Innovation – R&D activities
15. It is preferable that the potential candidates are interested in international development
16. It is preferable that the potential candidates have experience as member of clusters, technology centers, group of companies or trade associations

Source: Partners' questionnaire

In terms of actors, the expected participation to the Node activities amounts to 30 actors to be selected among enterprises (SMEs and Large companies), business associations, academia research centers and public authorities. This number has been judged appropriate for the operation of the national Nodes and of the MED MS Cluster. Nevertheless, each Node can choose the best solution in balancing the number of participating actors per group.

The following table shows the results of the Partners' consultation at Node level and the expected number of potential actors participating to the Node activities, both per group and in total.

Table 9: The number of expected actors to involve per Node

ACTORS	ITALY	CYPRUS	FRANCE	GREECE	PORTUGAL	SPAIN
Public actors	5	7	PMM is confident to reach 30 actors	3/4	6	5
Academia and other Research Centers	4	3		4/5	10	5
Enterprises: SMEs and Large companies	8 SMEs 4 Large companies	12 SMEs 5 Large companies		15/17 SMEs 2/3 Large companies	12 SMEs and Large companies	12 SMEs 5 Large companies
Business associations	4	3		1/2	2	5
TOTALS	25	30	30	23/31	30	32

Source: Partners' questionnaire

Each Node expects to reach an appropriate number of actors for its operation. The French Node has not calculated the number of expected actors per group. In any case, taking in consideration the objectives of PROTEUS, the number of companies that will be involved seems to be appropriate both for the functioning of the Nodes and the MS MED Cluster.

Nevertheless, it is recommended to the Partners to select both public and private actors according to the relevant MS sectors for their Node. The involvement of actors competent (if public)

or interested (if private) in more than one sector represents an advantage for the project objectives, as we have seen that one of the priorities of the EU and Member States is to make the ICT platforms and systems interoperable. In addition, we have also noted that some technologies are used in different sectors of the MS¹¹.

After having selected the relevant actors, obviously, it is essential to involve them in the Nodes activities and the in the MED MS Cluster. PROTEUS will provide to these actors a set of services that will improve their capacities. As a result, it is important that the Partners coordinating the Nodes ask to the actors their contributions in terms of planning of the Node activities and, obviously implementation. As a result, it is recommended to consider the following guidelines in the phase of planning the Node activities.

Table 10: Guidelines on the involvement of the actors

Essential

1. It is important to have a direct contact with the actors during all the project life.

For this purpose, it is strongly recommended to define a common tool consisting of an “Actors’ Address Book and Planner”, also functioning as a tool for supporting the planning of the activities to implement with each actor. This model that should be adopted by the responsible of each Node and by the coordinators of the MS MED Cluster. This model will enable the Partners to collect all the useful information about the actors, such as contact details (address, phone, email, website), MS sector of interest, activities planned and carried out, and so on. In addition, this tool will be also useful for coordinating the activities at MED MS Cluster level.

2. It is crucial to define a basic document for presenting PROTEUS project and including a focus on the national Node that will be established.

This document should be used by the responsible Partners of the Nodes for presenting the project objectives and activities to all the potential candidates. In particular, it should define the MS sectors of interest, give information about the opportunities provided by PROTEUS in terms of services, clustering, marketing, implementation of an annual action plan, and so on. This document should be presented to the potential candidates during the meetings or event organised by the Partners and will provide them tailored made information.

3. It is essential to organise an event for the launching of the Nodes.

It is strongly recommended to organise a demonstration event introducing the Node activities. In addition, it would be preferable that the event were planned together with another regional event. If that were not feasible, the responsible Partners of the Nodes should decide to organise their events in conjunction. In this case, it will be feasible to plan a videoconference networking all the national events.

¹¹ For more information see the D 3.5.2 on the Roadmap.

Appropriate

4. It is useful to provide to the actors of the Nodes all the communication materials of the project.

These communication materials (such as brochures, newsletters, etc.) will give to the actors of the Nodes all the information about the implementation of the project activities and, if feasible, news from all the PROTEUS Nodes and MED MS Cluster.

5. It is appropriate to plan the activities to be developed by the Nodes during the project life.

These activities have to be related to the ones implemented during the WP of Testing. In addition, it is appropriate to define a Node Annual Action Plan in order to share with (at the beginning) and then inform (at the end) the actors about the activities to be carried/carried out by the Node. This tool will be very useful for involving the actors in the different activities of the Node's that from their point of view are services. This Plan should include a detailed working plan describing the contents of the planned activities (networking actions such as exchanges between SMEs, Large enterprises and Research organisations, seminars, workshops), the participating actors, the expected results and the deadlines. In addition it is appropriate to elaborate a common table of the contents to be completed by the coordinators of the Nodes. In this framework the coordinator of the MED MS Cluster can play a very significant role for the cooperation between the Nodes.

6. It is appropriate to get in touch with the potential actors that have decided to participate to the Node and also with local clusters and business associations.

These activities might allow including new actors to the Nodes during the project life.

Preferable

7. It is preferable to adopt tools and methodologies already experimented at Node level to make the actors working.

For instance, regarding the Portuguese Node, the University of Algarve thinks to adopt the model of a Community of Practice (CoP) (adapting it to the project objectives) in order to: animate the CoP through regular and diverse activities with the support of a qualified expert; feed the Node / CoP with thematic events and subjects of their interests; and animate regularly the CoP through social networks and digital media.

Source: Partners' questionnaire

2.4 CYCLE LIFE AND OPERATION OF THE NODE. GOVERNANCE OF THE NODE

This section focuses on some key elements of the life cycle, operation and governance of the Nodes. Considered that at Mediterranean level there are both formal and informal clusters and that not all the potential candidates of the Node, especially the enterprises, might have experience in being member of a cluster, we have focused on the most appropriate solutions for establishing and making the Node operational. In doing that, we have also considered the on-going results of the National Nodes' Methodology¹².

At the beginning of the testing activities the Nodes will be in the emerging phase of their cycle life and maybe also at the end of the WP of Testing.

For each national Node it is foreseen a national coordinator. In the case in which there is more than one project Partner at Node level, it is recommended to define the coordinator or a system of co-coordination that involve every Partner.

At project level, there will be six Node coordinators and three Partners involved in the scientific support (University of the Aegean, University of Algarve and Valencia Port Foundation).

As we know, there are two main groups of clusters: the formal and the informal ones. A recent study implemented for the DG Maritime Affairs and Fisheries¹³, has mapped 117 clusters between the Mediterranean and the Black Sea areas, adopting four criteria: the critical mass, the existence of several maritime economic activities, the existence of research, training and other supporting infrastructures and, finally, the potential for future development. In fact, the objective of this analysis was to understand the potential for smart sustainable and inclusive economic and employment growth related to the Blue Growth. From the inventory of the maritime cluster, it resulted that these basins included a very interesting variety of actors and activities in the framework of the maritime sector. In fact, if compared with the Northern Europe, the Southern Europe clusters are disadvantaged by the macro-economic conditions, their small size and limited critical mass, the degree of maturity being in the emerging phase and the presence of a relevant number of informal clusters. In addition, the economic and the financial crisis have had a very negative impact on the clusters and their participating companies.

This study is very interesting because it makes us think on a sensitive issue related to the early stage of the establishment of the Nodes: the form of cluster. We have started from the

¹²D.3.4.1.

¹³See the study "Support activities for the development of maritime clusters in the Mediterranean and Black Sea areas", Final Report, implemented for the DG Maritime Affairs and Fisheries in 2014.

scenario of the possible combinations: formal Node during all the project life; informal Node during all the project life; at the beginning informal Node and then formal Node. The objective is to adopt feasible solutions for creating the Nodes, making them operational and finally consolidating them. In addition, these solutions have to be based on the knowledge of the environment in which each Node will operate. As a result, from the Partners' consultation it appears the following suggestions.

Table 11: Guidelines on the Nodes

Italian Node

The Node could be informal while the MS Cluster at the beginning informal but in the medium term it should become formal. Informal doesn't mean without concrete and very well defined plans, but without a strict legal basis that could be defined in the following steps, even looking at the opportunities of growth and the number of partners concretely interested to participate and to contribute.

Cypriot Node

The MED Cluster has to be a formal entity. During the implementation of the project the national Nodes can be informal and after the finalization of the project, if the activities continue and the stakeholders are active, the Nodes can proceed and formalize their entity.

French Node

The French Node will adopt a formal organisation based on the existing cluster. The Maritime Surveillance Node will be fully integrated in the existing organisation.

Greek Node

A formal legal type will be required at least to later stages if the Cluster wishes to attract or bid for any kind of funds. However this could be established in a later stage.

Portuguese Node

For the national Node there is no need to create a formal cluster, at least in the beginning. It is more important to establish an effective Community of Practice where members create the habit of meet together for common purposes. Later on, the Node' structure can be formalized, if needed.

Spanish Node

The Spanish Node assumes that the Cluster will be formal and the Node could be informal. We have the experience on other clusters operating like this. Once the Node has been established and starts operating, the structure of the organisation can be formalised.

Source: Partners' questionnaire

As a result, the coordinators of the Nodes are recommended to share these first reflections with all the actors involved after the launching event. A meeting should be organised and in the agenda this crucial point should be discussed.

According to the methodology proposed for the Nodes¹⁴, if a formal Node is established, the appropriate forms to be adopted are the following ones: association (non-profit or for-profit), private limited company, Economic Interest Group, Partnership (it is not a legal entity), Hybrid forms (mix of association and public or private limited company).

The Partners involved in the **Italian Node** propose to adopt the form of association for the MED MS Cluster and to sign a Strategic Partnership Agreement for the Node. In fact, for the formal cluster, it has to be taken into account the legal position of the member. Being public actors, the profitable aspect must be carefully managed. According to the experience gained, the idea of an Association/Foundation with a “service provider” (profit side) could be a good option. The latter body could see the active participation of those partners that can have a marketing mission, meanwhile the public actors could benefit (royalties? Services at low price?).

The Partner of the **Cypriot Node** think to adopt the form of the Limited Liability Company by Guarantee as it is the legal entity that is foreseen by the national law and the only legal entity under which public bodies can be register is.

For the **French Node**, the form to be adopted is the one of the Partner’s current organisation, that is the non for profit association.

In the case of the **Greek Node**, Partners think to adopt the non for profit association form at least at for the initial stage.

Finally, the Partners participating to the **Portuguese and Spanish Nodes** propose to adopt the Economic Interest Group form for the MED MS Cluster, the model created by the European Commission with the EEC Regulation Nº 2137/85, being considered very adequate for the European clusters.

The Partners have proposed the forms based on their experience. In the majority of cases, the different proposals agree to consider that at the beginning the Nodes should be informal and then transformed in the most appropriate form. Differently, for the MED MS Cluster the adoption of a specific form is suggested from the beginning of its operation.

First of all, it is recommended to discuss at project level the different proposals (in particular for the MED MS Cluster), making a SWOT analysis of each form to be adopted and relating it to the

¹⁴ See D.3.4.1.

expected activities and services provided by the Nodes and the Cluster and the expected opportunities for the actors.

Secondly, it is recommended to discuss the different forms, both for the Nodes and the MED MS Cluster, with the actors at Node level and, then, at Cluster level.

In short, the forms proposed are represented in the following table.

Table 12: The forms proposed for the Node and the Cluster

NODES	FORMS	MED MS CLUSTER
ITALY	STRATEGIC PARTNERSHIP AGREEMENT	ASSOCIATION
CYPRUS	LIMITED LIABILITY COMPANY BY GUARANTEE	-
FRANCE	NOT FOR PROFIT ASSOCIATION	MoU
GREECE	NOT FOR PROFIT ASSOCIATION	-
PORTUGAL	Community of Practice	ECONOMIC INTEREST GROUP
SPAIN	-	ECONOMIC INTEREST GROUP

Source: Partners' questionnaire

Another important element to take in consideration is the type of governance to adopt for the Nodes. Also in this case the feasibility must be the objective to reach.

First of all, it is appropriate to contextualize the term “governance” to PROTEUS project. Related to a company, it generally means “the way in which it is managed”¹⁵. In PROTEUS case, it means the way in which the Nodes and the MED MS Cluster are managed.

The governance changes according to the model adopted (Marshallian model, Hub-and-Spoke model, Satellite Platform or State Centered model).

The Marshallian model is one of the models considered pertinent: in fact, it includes firms that collaborate with each other, are in direct competition or in a supplier-producer relation. In this model, none of the firms has the size and the force to control directly the cluster and only the common market and the cluster dynamic define its shape and development.

In any case we have to consider that normally the lifecycle of the clusters is dynamic. As a result, it is possible to think to adopt a targeted solution appropriate for PROTEUS. In fact, the origin

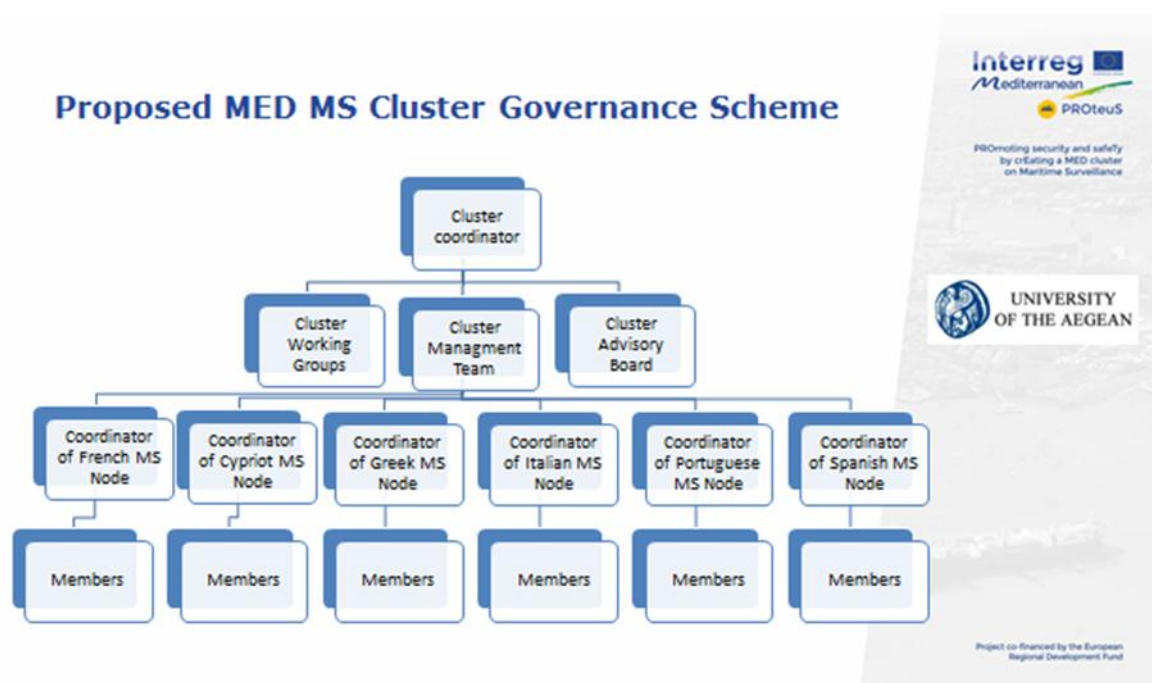
¹⁵See: <https://www.collinsdictionary.com/>

of the Nodes and of the MED MS Cluster are planned by the project as a test activity and it is not a spontaneous economic phenomenon. For this reason, at least at the beginning, the Node coordinators act as a dominant firm as in the Hub-and-Spoke model or as a public or non-profit entities as in the State Centered model. After the establishment of the Node and Cluster it is possible to transform the dominant model adopted into the Marshallian model, in which the social relations, cooperation and competition provide an advantage to the participating firms.

In any case, according to the experience and the knowledge of the local cluster environments, it is recommended to adopt a model among the ones proposed in the methodology for the Nodes and described in the previous pages, taking in consideration that the existing clusters do not correspond to a unique model. In addition, it is recommended to adapt it to the local exigencies of the actors. As a consequence, also in this case it is appropriate to organize a technical meeting with the actors participating to the Node, propose them the model/models that the coordinator believes to represent the best solution/solutions for its Node and, then, to adapt it to the needs of the actors if necessary.

According to the methodology proposed for the governance scheme,

Figure 4: MED MS Cluster Governance Scheme



Source: University of the Aegean's presentation of the D.3.4.2

In the scheme of governance proposed, the cooperation and coordination of the activities between the MED MS Cluster level and the Node level is assured by means of the participation of

the Nodes coordinators to the Cluster Working Groups, the Cluster Management Groups and the Cluster Advisory Group. The Node coordinators participate and represent the territorial actors in these groups. At the top of the pyramid there is the Coordinator of the Cluster.

This scheme is logic and coherent with the State Centered model that in our opinion is the best solution for the launching of the Node activities and the following phase of consolidation.

In addition, it is appropriate integrating some suggestions in order to assure the operating of the Nodes. We have already described the Partners' ideas about the form of the Nodes.

With specific regard to the organisation of the Nodes, we can observe different proposals to be taken in consideration for designing their structures and the related roles.

The main suggestions concern the coordination of the Nodes. Generally, we can observe that all the Partners think that it is necessary to designate a person for the coordination of the actors and the activities. Different names are given to this figure. In fact, in the different proposals this person is called coordinator, manager, facilitator or president. In addition, other structures are suggested in order to enhance the concrete participation of the different groups of actors. The following tables represent a first possible scheme of the Nodes and of the coordinators' responsibilities.

Table 13: The Organisation of the Nodes - Italy

NODE	NODE ORGANISATION	COORDINATION ACTIVITIES
ITALY	COORDINATOR TECHNICAL AND SCIENTIFIC BOARD THEMATIC COMMITTEES	<ol style="list-style-type: none"> 1. PLAYING AN INTERACTIVE ROLE WITH THE TERRITORY 2. COLLECTING THE REQUESTS OF THE PUBLIC AND PRIVATE ACTORS IN THE MARITIME SURVEILLANCE SECTORS 3. PLANNING AND RESPONDING TO EXTERNAL CHALLENGES 4. WORKING AS A LINK BETWEEN THE NODE AND THE MS CLUSTER 5. STIMULATING THE PRODUCTION OF NEW KNOWLEDGE, THE CIRCULATION OF INFORMATION, AND ASSURING LOW TRANSACTION COSTS. 6. REPRESENTING THE NATIONAL NODE TO ANY FORMAL PROCEDURE

Source Partners' questionnaire

The Italian Node proposes a scheme of organisation very simple but coherent with the testing activities. The coordinator plays a key role with the support of the technical and scientific board. This committee can play a strategic role in planning the activities of the Node and assuring the cooperation between the actors interested in a specific MS sector. As a result, it can stimulate a

cross-sectoral approach. In addition, it is also relevant about the information flow and the knowledge sharing. Finally, the thematic committees play a key role as they have to focus on each relevant sector for the Nodes and act as laboratories in which the actors of the different group can discuss about the evolution and the challenges of the MS sectors and sharing their knowledge and expertise.

Table 14: The Organisation of the Nodes - Cyprus

NODE	NODE ORGANISATION	COORDINATION ACTIVITIES
CYPRUS	COORDINATOR STAKEHOLDERS	<ol style="list-style-type: none"> 1. ACTING AS A LINK BETWEEN THE NODE STAKEHOLDERS AND THE MED CLUSTER 2. IMPLEMENTATION OF SOLUTIONS FOR STRENGTHENING THE CLUSTER VIA NETWORKING EVENTS AND WORKSHOPS 3. STIMULATING NATIONAL STAKEHOLDERS TAKING ADVANTAGE OF THEIR EXPERTISE

Source Partners' questionnaire

In Cypriot case, at least at the launching of the Node, the organisation proposed is very simple, consisting of the coordinator and the stakeholders. It is recommended that the Node coordinator will propose to the actors to adopt the organisation structure recommended in following pages to all the Nodes. In addition, we can observe that for this Node it is very important to strengthen the Node and, in particular, the coordinator plays a significant role.

Table 15: The Organisation of the Nodes - France

NODE	NODE ORGANISATION	COORDINATION ACTIVITIES
FRANCE	PRESIDENT BOARD OF ACTORS' REPRESENTATIVESMADE OF 1 REPRESENTATIVE (1 PER TYPOLOGY: SMES, RESEARCH, LARGE ENTERPRISES AND "ECOSYSTEM", THAT IS PUBLIC SOCIETY; BUSINESS SUPPORT ORGANISATION, PUBLIC AUTHORITY) COORDINATOR	<ol style="list-style-type: none"> 1. ANIMATION OF THE CLUSTER TO FACILITATE THE EMERGENCE OF JOINT INNOVATIVE PROJECTS AND CREATE OPPORTUNITIES FOR THE DEVELOPMENT OF ITS MEMBERS. 2. PROVIDING INFORMATION AND OPPORTUNITIES TO THE MED MS CLUSTER

Source Partners' questionnaire

Coordinated by Pôle Mer Méditerranée, the French Node is expected to be integrated in the organisation of the existing cluster with a focus on Maritime Surveillance. The proposed structure can be considered the ones of a formal Node, starting from the beginning, with specific roles: the President, the Board of Actors, representing all the typologies of actors of the Node, and a Coordinator executive task.

Table 16: The Organisation of the Nodes - Greece

NODE	NODE ORGANISATION	COORDINATION ACTIVITIES
GREECE	MANAGER SECTOR-ORIENTED THEMATIC COMMITTEES	<ol style="list-style-type: none"> 1. COORDINATING AND REPRESENTING THE NODE TO ANY FORMAL PROCEDURE 2. BEING A MEMBER OF THE OVERALL CLUSTER MANAGEMENT TEAM 3. COORDINATING ALL THE ACTIVITIES AND SERVICES OF THE NODE 4. IDENTIFYING AND LIAISING WITH THE NODE MEMBERS 5. FACILITATING THE INTERACTIONS AMONG THE MEMBERS 6. MANAGEMENT OF THE FUZZY PHASE IN CLUSTER FORMATION 7. CONFLICT MANAGEMENT 8. TRUST BUILDING, INCENTIVES AND FURTHER FACILITATION 9. ENCOURAGING INFORMATION SHARING AND NETWORKING AMONG THE MEMBERS 10. MONITORING THE NODE'S PERFORMANCE IN ALIGNMENT WITH THE CLUSTER OBJECTIVES AND GUIDELINES ON NATIONAL AND INTERNATIONAL LEVEL 11. REPRESENTING THE NATIONAL NODE TO ANY FORMAL PROCEDURE

Source Partners' questionnaire

In the case of the Greek Node, the organisational structure is very simple and includes a manager and sector-oriented thematic committees. The manager is mainly expected to identify the members of the Node and coordinating all the activities and the services provided. In addition, he facilitates and encourages the networking of the actors involved. The sector-oriented committees seem to be focused on the Maritime Surveillance sectors of interest of the Node and, as a result, able to take advantage from the sharing of knowledge.

Table 17: The Organisation of the Nodes - Portugal

PORTUGAL	FACILITATOR (PROTEUS PROJECT LIFE) COORDINATOR (ROTATION AFTER THE END OF PROTEUS)	<ol style="list-style-type: none"> 1. ANIMATING THE NODE'S ACTIVITIES 2. STIMULATING THE PARTICIPATION OF MEMBERS, TOWARDS TO A PARTICIPATORY GOVERNANCE AND THE EMPOWERMENT OF ITS MEMBERS 3. STIMULATING THE ACTIVE PARTICIPATION OF THE MEMBERS 4. ORGANISING EVENTS 5. COLLABORATING IN THE DESIGN OF AN ANNUAL ACTION PLAN 6. ENCOURAGING THE PARTICIPATION OF THE NATIONAL ENTITIES IN THE ACTIVITIES OF THE MED MS CLUSTER 7. INTERMEDIATING COMMUNICATION BETWEEN THE NATIONAL NODE AND THE MED MS CLUSTER
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Source Partners' questionnaire

In the case of Portugal, as we have seen, the best solution is the establishment of a Node focused on the Community of Practice. In the launching phase, the activities of this Node are based on the facilitator figure, whose objective is the animation of the actors in order to assure their participation to the activities of the Node, for instance organising meetings and events. In a second stage, it is foreseen the figure of the coordinator that will have more designed tasks.

Table 18: The Organisation of the Nodes - Spain

NODE	NODE ORGANISATION	COORDINATION ACTIVITIES
SPAIN	COORDINATOR WORK GROUPS (OVER 60 MEMBERS)	<ol style="list-style-type: none"> 1. ACTING AS A LINK BETWEEN THE NODE AND THE CLUSTER 2. SYNCHRONIZING THE ACTIVITIES OF THE NODE WITH VALENCIA PORT AND WITH THE MAIN STAKEHOLDERS (THE MARITIME CLUSTER OF ANDALUCÍA AND CTN) 3. COLLABORATING WITH THE TECHNOLOGY AND INNOVATION COMMISSION OF THE MARITIME CLUSTER OF SPAIN 4. ENCOURAGING THE PARTICIPATION OF THE NATIONAL ENTITIES IN THE DIFFERENT MEANS OF PARTICIPATION OF THE CLUSTER (BOARD OF DIRECTORS, WORKING GROUPS, THEMATIC COMMITTEES, EVENTS, PROJECTS,...) 5. DEFINING, TOGETHER WITH VALENCIA PORT, THE DIFFERENT ACTIVITIES TO BE DEVELOPED BY THE NODE

Source Partners' questionnaire

Finally, for the Spanish Node, the organisational structure is very simple, consisting of a coordinator and work groups. In this case, the coordinator is expected to play a role of networking both with the territory of reference and the existing clusters and with the PROTEUS Cluster.

Table 19: The Organisation of the Nodes

<p>Essential</p> <p>It is recommended to design a solid but simple governance strategy for the Nodes during the WP of Testing, in order to make the Nodes able to act as a link between the Node actors and the MED MS Cluster.</p> <p>It is recommended to adopt a scheme of governance as simple as possible, light, simple, less bureaucratic, sufficiently flexible (to adjust the strategy according with technical, scientific, political and social changes), open to receive the experiences of other territories.</p> <p>It is recommended to design an organisational structure including:</p> <ol style="list-style-type: none"> 1. a coordinator, 2. a technical and scientific board, consisting of one representative for typology of actors, 3. thematic committees, that is one for each MS sectors relevant for the Node. <p>It is recommended that during the WP of Testing the role of coordinators of the Nodes will be play by the project Partners.</p> <p>It is recommended that, inside the Node, the coordinators play the following role:</p> <ol style="list-style-type: none"> 1. identifying and liaising with the Node members 2. management of the fuzzy phase in cluster formation 3. coordinating all the activities and services of the Node 4. collecting the requests of the public and private actors in the maritime surveillance sectors 5. stimulating the production of new knowledge and project ideas, the circulation of information 6. implementation of solutions for strengthening the Node via networking events and workshops 7. stimulating national stakeholders taking advantage of their expertise 8. coordinating and representing the Node to any formal procedure <p>Appropriate</p> <p>It is appropriate to:</p> <ol style="list-style-type: none"> 1 monitor the Node's performance 2 stimulate the participation of members, towards to a participatory governance and the empowerment of its members 3 organise Node meetings and events
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Preferable

It is preferable to:

- 1 coordinate the design of an annual action plan
- 2 synchronize the activities of the Node with other clusters operating in the same area and MS sectors

Source Partners' questionnaire

Generally, the Partners seem to agree on the role of the coordinators of the Nodes. On the contrary, on the attribution of specific tasks to the participating actors, their ideas are quite different:

- the Italian Partners think that it may be necessary to attribute some roles to the actors if they become members of the thematic committees (Italian Partners);
- the Cypriot Partner says that this can be implemented only for stakeholders who are actively engage in the activities of the project with preference on the private sector;
- the French Partner strongly thinks that the members should be involved in the governance but also, some actors can provide some dedicated employees to work in the cluster, at an operational level. This would guarantee a concrete commitment of the members;
- the Greek Partners note that the actors informally are already divided into 2 main categories such as technology providers and technology seekers. Also MS market related or technology related knowledge providers;
- the Portuguese Partners suggests that it will be appropriate to attribute some roles to the actors but it will depend on the need and the motivations of the actors to be involved. At this stage it is premature to describe which will be these roles and to whom;
- the Spanish Partners prefer to attribute some role to the actors at MED MS Cluster level and not at Node level, in order not to duplicate governance structures and activities. Only if the Node grows up to 60 entities or if anyone of the actors asks for a specific role at Node level, they can consider implementing a governance system at that level.

Table 20: The role of the actors in the Nodes

<p>Essential</p> <p>It is recommended to discuss with the actors involved what could be their role in the Nodes and in the MED MS Cluster after the launching of the Nodes. In fact, this topic is very crucial for the following testing phase of the Node.</p> <p>Appropriate</p> <p>According to our experience, it is appropriate to create an open environment in which all the actors can participate actively to the implementation of the Node strategy and activities. In particular, the common definition of the annual programme is an interesting experimentation for joining concretely the actors.</p> <p>Preferable</p> <p>It is preferable to involve the actors at Node level and to let them decide their representatives in the MED MS Cluster. This may represent a significant tool for making them participating actively.</p>
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Source Partners' questionnaire

Different tools are proposed by the Partners as appropriate in order to monitor and evaluate the results of the Node activities and the benefits for the participating actors in terms of technologies transferring, improvement of knowledge and awareness, sharing of best practices, and so on. Most of the proposals have been described in the methodologies elaborated in the last project activities. In particular, the Partners have focused on periodic online surveys or interviews, in the different phases of 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 the Node's members,
- 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.)

2.4 CLUSTER STRUCTURE AND OPERATION

This paragraph aims to **identify the most appropriate structure of the MED MS Cluster**.

As proposed by the University of the Aegean, the Cluster Governance Scheme is clearly described the MED MS Cluster structure¹⁶.

Most of Partners agrees on adopting the proposals defined in the methodological document dedicated to the MED MS Cluster. In addition, somebody proposes that being difficult to achieve the objective of establishing a formal MED MS Cluster it might be more appropriate to adopt a Memorandum of Understanding. Other Partners suggests to adopt or the form of association or the one of European Group of Interest (the last one according to the European framework on this topic).

About the model, somebody thinks that the adoption of the Marshallian model allows the equal participation of all the actors and in particular of the private companies under the coordination of the Node coordinators.

In addition, all the Partners agree on two main elements: it is possible that the Nodes do not cover all the Maritime Surveillance sectors but it is appropriate that the MED MS Cluster covers all the Maritime Surveillance sectors.

About the coordination between the Nodes on the one hand and the MED MS Cluster on the other hand the Partners focuses on the participation of the Node actors to the Cluster structures dedicated to the different tasks of the Cluster on Maritime Surveillance sectors and on the role of the Nodes coordinators.

With reference to the Node coordinators a set of proposals has been defined for enhancing the cooperation between the Nodes and the Cluster. In this framework, the coordinators play a very significant role and in particular they have 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

¹⁶ See the Figure 4, page 32.

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

In any case, we can observe that in the Partners' ideas the MED MS Cluster functioning is well defined in the project framework in terms of potential structure and services both for the public and private actors.

All the proposals have to be discussed and deepened in the first activities of the Work Package of Testing and in particular it is necessary to harmonize them with the methodologies proposed in the Activity 3.4.

The final recommendation concerns the need of a constant common evaluation of the feasibility of the solutions that will be adopted during the project life for making the participating actors take an advantage from PROTEUS. In fact, this is the most relevant motivation for deciding to participate or not in any cluster.

CONCLUSIONS

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

For this reason, it is not simple to affirm that the one is more important than another.

As abovementioned, they are divided in essential, appropriate and preferable. Obviously, the essential ones have been considered the most relevant taking in consideration the answers to the questions proposed to the project Partners.

Nevertheless, all the guidelines represent the framework for adapting the models of cluster described in the economic literature to the concrete situations in which the Partners will design the Nodes and the MED MS Cluster.

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

Even if the Partners do not have the same ideas on the structure and functioning of the Nodes, they agree that it is necessary to design an organisational model as simple as possible with a strong role attributed to the coordinators.

The Nodes may be informal or formal but the objective is to consolidate them and make the Nodes and the MED MS Cluster sustainable after the end of the project. For achieving this objective it is necessary to gain the interest of the public and private actors and co-design with them the services provided by PROTEUS.

In fact, the knowledge of the actors' needs is considered a prerequisite, in particular, for the services and the approach proposed is based on the need to stimulate the actors in the design of the services planned by the project from the beginning of their involvement as potential candidates of the Nodes.

In our opinion, this will be the key factor of success of the project.

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