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**The Cluster approach for a
Sustainable Blue Growth in the
Mediterranean**

InnoBlueGrowth

Capitalization report for recommendations

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to develop smart and sustainable growth

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of key sectors of the MED area

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National Inter-University Consortium for Marine Sciences

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1. Introduction – Objective of the Report

The InnoBlueGrowth project (IBG) – or “Horizontal Communication & Capitalization project for Innovation in Blue Growth at Mediterranean level” (Interreg MED), led by the National Interuniversity Consortium for Marine Sciences (CoNISMa) and counting on the experiences of the Association of Mediterranean Chambers of Commerce and Industry (ASCAME), the Intermediterranean Commission of the Conference of Peripheral Maritime Regions (CPMR), Plan Bleu, the National Technical University of Athens (NTUA), and the University of Montenegro (UoM), aims at ensuring the connection between communication and capitalization activities of thematic projects dealing with Blue Growth issues in order to increase their impacts towards common identified targets.

Its activities are focused on the increase of the transnational activity of innovative clusters and networks of key sectors of the Mediterranean area. IBG is implementing concrete actions such as a *communication strategy*, *community building initiatives* and *capitalization events*, among others, to build a real community of Blue Growth actors. This innovative community will allow the reinforcement of an integrated approach between modular projects and transnational key stakeholders. This approach is indeed a *sine qua non* condition to support Mediterranean clusters in their transnational activity processes.

To that end, Blue Growth Community organized its third transnational Capitalization & Community Building event in Athens on June 20-21, 2018. This event revolved around the theme of maritime surveillance and clusters, with a dual approach.

The first day of the event (20th of June) was dedicated to **Maritime Surveillance (MS) activities** in the Mediterranean and co-organized in collaboration with the PROteuS project:

- PROteuS aims at exploiting the growth potential of the emerging Maritime Surveillance industry that can play a crucial role in the socio-economic development of the Mediterranean area and in the generation of new job opportunities. This objective is addressed through the establishment of a Mediterranean Maritime Surveillance Cluster, fostering innovation and R&D capacities, knowledge and technology transfer, as well as transnational cooperation among the involved key MS actors, focusing on maritime security and safety mechanisms in the basin.

The aim of the sessions held during the **Capitalization day** was to:

- Enhance the knowledge and exploitation of the outputs resulting from the PROteuS project on maritime surveillance;
- Meet experts from the maritime surveillance sector for peer-reviewing;
- Underline the current state of the maritime surveillance sector, its challenges and assets;

- Increase the visibility of the Blue Growth community and its impact on the policy-making process at regional, local, national and Mediterranean level, with specific focus on issues related to:
 - Awareness raising, training and education needs for maritime surveillance;
 - Networking between maritime surveillance actors;
 - Sharing best practices and innovative ideas in the maritime surveillance sector;
 - Formulation of recommendations for the improvement of the sector and the internationalization of maritime surveillance clusters in the Mediterranean basin and/or beyond;

The second day of the event (21st of June) was dedicated to **Clustering the Mediterranean Sea, on a National and Trans-National level and had a Community Building approach**. This holistic approach gave the opportunity to modular projects and decision-makers, stakeholders, end-users, SMEs, academia members, etc. to exchange methodologies, ideas & best practices regarding clustering, outlining cluster challenges and promoting the benefits for the sustainable development of maritime surveillance in the blue economy. More precisely, this second day event focused in:

- Delivering a common message for the value of maritime clusters in the Mediterranean area, in order to enhance social acceptance for a sustainable economic growth;
- Better understanding and combating difficulties related to cluster developments;
- Presenting the benefits that maritime clusters can create to the blue economy, identifying new business opportunities and boosting the creation of jobs relying to the maritime sector;
- Collecting clustering methodologies and tools for increasing societal awareness on the benefits from the economic exploitation of the sea environment and the way clustering can bridge different ideas & procedures.

The aim of the Blue Growth transnational event was to increase the visibility of the community and its impact on the policy making process at regional, local, national and Mediterranean level. A common message for the value of maritime clusters in the Mediterranean area has been released, in order to raise awareness and enhance social acceptance for a sustainable economic growth.

The main narration of events, as well as, the technical and policy conclusions and recommendations drawn from this Capitalization & Community Building event, hereby follow.

2. Narration of events, highlights and recommendations

MARITIME SURVEILLANCE

Defining a transparent, accountable and secure Blue Economy with Maritime Surveillance

- main challenges of the maritime surveillance sectors,
- if and how a deeper integration of maritime surveillance activities could help tackle them.

Mr. Roberto Sandrini from CCIAA, representing the PROteuS project, presented the project's pillars "industry, state and innovation" and focused on the experience gained while setting up a MED cluster to trigger opportunities from Maritime Surveillance technologies. PROteuS has been working towards three main results, i.e. spread knowledge and create a better understanding regarding opportunities coming from maritime surveillance especially looking at SMEs; trigger transnational cooperation for SMEs to better approach public institutions; and efficiently transfer results from the cluster's operation into policy and action plans (mainstreaming). To that effect, national nodes in 6 Mediterranean countries were established, each specialized in a sector (goods, persons, defense, etc.), also highlighting the fact that so far, there exist only a few real industrial clusters (Silicon Valley, Singapore...) worldwide. Essentially, a cluster in the Mediterranean means that **regional concentration is needed**, which can be quite challenging given the specificities of the basin notably in terms of geopolitics and R&I development. As a counter example, an efficient shipping cluster exists in Holland thanks to a clearly defined strategy that has been set up by the state.

Concrete examples of what maritime surveillance is on the ground were given by Mr. Antonios Sofiadis, Commander of the Hellenic Coast Guard, who explained Greece's sea borders surveillance operations and showed a video related to the sea operations organized for rescuing migrants in the Aegean Sea. Maritime Surveillance is a **complex system** (migration, environment, pollution, vessel traffic, fisheries) relying on a variety of actors for success. It is therefore very important to be able to **integrate its variables** in order to have a concrete efficiency of actions. The human dimension, albeit not highlighted that much in the media, is also key depending on the type of operations. Comments from experts also highlighted that involving **citizens** should be considered another "sector" to be tackled by a cluster.

It is also clear that **digitalization** is a key aspect of maritime surveillance (Mr. Nikitakos). Cyber-attacks do exist and are oftentimes chartered by 3rd parties. This results in a challenge for actors from the sector such as ship operators that find themselves not in full control in all information systems anymore. Ships are being operated mainly offline, experiencing connectivity issues that can also be an impediment to

the efficiency of the sector. Besides, sensitive data related with cargos are also passing from offshore systems and should be handled with care, while cyber-attacks on sensitive electronic systems on board like ECDIS and Sat systems do exist as well. The security and sensitiveness of maritime surveillance is hence true and should be handled carefully as well as efficiently to still allow the sector to develop itself well, especially for SMEs.

From the further discussion of session, the contribution of **education and training** to clusters and beyond Interreg Med's territory (i.e. encompassing the southern rim) was mentioned, through the example of the Mentor project. The Mentor project promotes dialogue between different stakeholders, promotes blue careers, counters unemployment, addresses skill gaps and establishes blue career centres. Though not a proper maritime surveillance cluster, it gives interesting inputs as to learn from efficient cluster dynamics.

Beyond these good practices, the participants also noted that clusters cannot be easily created, but their creation can be facilitated. It would require a **biological approach** and not an engineering one, since clustering is part of a societal evolution. The idea of vouchers to allocate funds where they can be best used to the development of clusters has been identified as a good practice; in the practice of the project, the evaluation of the application form is done by a neutral committee of three persons with specific knowledge. Selected projects have to be monitored, and the committee monitors whether the contract was accomplished. In the end the money goes to the knowledge-holder, not the SME. From previous experience though, only 1 out of 42 projects that applied was really a transnational project. Vouchers are therefore an interesting idea, but do not guarantee of a smooth process of implementation of projects for all that. Indeed, further **methodology in general is lacking**.

The lack of methodology can be a brake to the elaboration of clusters, notably for what regards the trust that actors can build within these cooperation dynamics. An example was that of the Maestrale project, which did not manage to get a critical mass of actors to create a “real” cluster. To tackle this issue, the concept of **clustering between countries** and beyond national boundaries could be explored.

In the same vein, measuring the influence of a cluster remains quite challenging as well. Measuring **gross revenue** may be a way of doing it, though not necessarily adapted to all type of clusters, whereas the extent to which a cluster counters **unemployment** could be a good indicator to that end. Besides, the **number of projects** within a given cluster can also represent a relevant tool of measurement especially if they **evolve into new products and services**.

Lastly, observing the impact of a cluster on **social media** could be a relevant indicator as well, as it would imply that clustering is evolving. Clustering does not mean abandoning borders in companies, but rather focus on collaboration and information exchange, seeking complementarities to fill in and support each other, while also sharing expertise.

Lately, there has been the tendency for clusters to distance themselves from standard labor contracts and move towards freelancing (especially the USA). It is not advisable to pressure companies to

participate in a cluster unless the company already has the clear view of its strategy. The role of clusters will be made clearer in the years to come.

Challenges of sea frontier's control and potential solutions for identified obstacles, through integration and data sharing

This session was moderated by **Mrs. Elodie Nunes** (InnoBlueGrowth, CPMR), who introduced the debate questioning the extent to which a harmonized policy framework to facilitate the development of the maritime surveillance sector in the Mediterranean could be enforced.

Mrs. Alessandra Giusti (PROteuS project, Liguria Ricerche Spa), presented the Maritime safety Legislation and PROteuS' Lines of action within the maritime surveillance legal framework. She underlined that regions are not competent in marine services, as all the sectors from maritime surveillance are sensitive sectors. The competent authorities are connected to the different ministries for different issues. Nonetheless, given the specificity of the Mediterranean notably with the SMEs typology being the most common for the private sector, and seeing their close link with territorial and regional actors, it would be worth asking one's self the extent to which Regions could indeed play a role in the maritime surveillance sector.

Mr. Reynald Doktor (ONERA) presented the activities of ONERA, the French Aerospace Lab, in the maritime surveillance domains. He clarified that end-users of data include the French Ministry of Defense, the Airbus company, but admits that sometimes the users are not very clear either. A true question is to be asked regarding the **responsibility and accountability** for the treatment and exploitation of data.

Regarding the involvement of non-European Mediterranean countries in the processing of data, it appears that cooperation should be truly improved on the matter and that data should be integrated to a further extent. **Close collaboration between all countries in the Mediterranean** is necessary in order to resolve problems, like pollution, that recognize no borders. It is nonetheless true that concerning migration, focusing on national level legislations of both northern and southern countries can be challenging for obvious geopolitical matters (PROteuS). Cooperation should nonetheless attempt to go beyond these limitations to provide an organic response to Mediterranean migration challenges.

Finally, for what regards **communication**, opportunities could arise for the maritime surveillance sector with the exploitation of drones and not only satellite tools for that matter. However, it is worth noting the data are not only originated by satellites but also by microsatellites, submarines, etc.; should the use of drones be made more accessible, it should be thoroughly monitored legal- but also environmentally-wise. **Mrs. Zavali** added that Thales develops products that can be used in surveillance, in order to create a helpful environment, and that a new programme (period 2020-2025) is going to be established in collaboration between certain members states, in order to coordinate the different parties involved on maritime surveillance. Good practices may be envisioned in the future from Thales's experience.

Questions in the debates on maritime surveillance also addressed the following points:

- *Should maritime surveillance be only a national/state competency?*

Among the “yesses,” some nuances were expressed, notably that Local & Regional authorities and stakeholders should also be able to take part in decision processes and policy-making, as they are oftentimes the first to experience the issues. Local communities should also be involved, especially for issues related to pollution, migration, etc. Involvement of local and regional actors should be done adaptatively depending on the countries’ management schemes.

- *How can Maritime Surveillance applications assist the creation of jobs?*

Through the provision of solutions to data science of tasks, support the creation of start-ups and “new jobs,” by being addressed in more EU projects (research and innovation but also European Territorial Cooperation), by investigating on new innovation procedures for the sector and propose new services and applications responding to the challenges and opportunities of the digital era.

- *It is important to raise societal awareness regarding Maritime Surveillance?*

“Yes” was the most give answer, highlighting that business awareness should also be key alongside society’s.

CLUSTERS

Clusters' Architecture and Governance

This session provided an overview of clusters' main objectives and characteristics, the architecture building methodology, the membership structure and their role in building a competitive economy. Among the main highlighted points were the importance of governance and the challenge of not having a concretely defined legal status when one talks about clusters.

Indeed, the lack of a definite status as a "cluster" *per se* (that can be registered as a firm, an association, without any registration such as an *ad hoc* entity) makes it difficult when time comes to give it visibility, to gather and increase more members, or to ask for funding or investments. Support to a more harmonized legal framework for clusters in the Mediterranean should be enforced by involving policy-makers in a multilevel and integrated way.

Transnational Prospective of Clustering: International co-operation and coordination is the door to innovative developments and technologies

- Which are the steps needed to develop a cluster model? What funding sources are there for clusters? Are there typical challenges in financing clusters? What needs to be considered in a cluster's financing structure?

Among the key elements identified to develop a cluster model is observing a clear **bottom-up approach**, considering the Quadruple Helix Model as well.

Difficulty in maintaining a constant source of financing for clusters was highlighted, which is sometimes tackled by public funds received from Public Authorities and/or Future EU Projects that match and enhances the Cluster's objectives. This is nonetheless not necessarily a sustainable way of benefiting from funding resources, which present a risk for the prosperity of the cluster overtime. Funding coming from enterprises from the industry, big companies, or banks, among others, usually constitute a more top-down approach.

It is worth noting that one-size-fits-all models for clusters is not a good option for clusters development.

- How can a cluster contribute to sustainable development and economic growth?

Some elements identified are through the enhancing of innovation, the creation & transfer of knowledge, the combination and dissemination of knowledge, the inclusion of a deeper **environmental dimension recognized as a fifth pillar** in each cluster, and the inclusion of policy makers. The latter comes in the equation notably because the environment should be a driving force to further policy-making and the further development of innovation and businesses.

Operationally, this could be done via sharing good practices, identifying policy gaps, managing/predicting the uses depending on environmental changes.

- *What are the most important features in choosing a reliable and appropriate partner within a cluster? How closely do the partners in the cluster wish to cooperate?*

The choice of a partner for a cluster can be based on **three main dimensions**: the first of which being the **competence** that this potential partner has and would bring to the cluster. This relies on its: expertise, commitment to co-operate, growth potential and motivation, shared interests, experience, geography/location, kind of sector (NGOs are oftentimes lacking).

The second dimension is the one of **appropriateness**. In other words, how the potential partner fills in within the “Public-Industry-Research-Citizens” paradigm.

The third one is the results of the **exploration** period. This represents a period during which collaboration with the potential partner is tested and during which partners work closely to see the extent to which growth together can be beneficial, and how activities are complementary.

- *What requirements does the organizational structure have to meet in terms of governance? Which legal form is most suitable for a cluster?*

Governance is a key element for a cluster, observing either a **hierarchical or free communication flow**. Usually, demands are higher when the cluster realizes itself in a more “free communication flow” kind of way. Usually, governance is related to complexity of decision maker processes and depends/influences the maturity phase of clusters.

Besides, it is important to make a clear distinction between clusters and associations. It is true that some clusters seem to have a more “association” legal status. However, while clusters should create market value, associations should defend business interests. These elements should be complementary to each other and not compete.

- *What are the central advantages/challenges within a cluster?*

Cooperation renders the partners stronger, as they benefit from a pool of expertise, open innovation and witness the co-evolution of technologies and policies. Knowledge and motivation among a cluster’s members allows them to lower the competition, although cultivating the culture of cooperation can be challenging for that same reason.

- *Which are the key points to establish a successful cluster towards a sustainable development?*

Incorporate the 5 helixes from the very beginning of the creation steps of clusters could be an excellent option to ensure their sustainable development (in environmental terms): Industry, Academia, Public, Society, Environment. Complementary services, management, stimulation for contribution and participation should go hand-in-hand in that sense too.