CLASS4.0 Project

WP3 Activity 3.3 Deliverable 3.3.5

Manifesto of Adria MoU

1. Introduction to the document

REFERENCE PROJECT APPLICATION

Document stating the expected proactiveness of the committed actors of the network. It will include inputs from scouted networks to pave the way for the C2C THINK TANK and MoU. Resp.: mareFVG

2. Innovation Scenario in Adriatic Blue sectors

The Adriatic blue sector is characterized by a strong tradition with diversified stages of development when comparing reference territories and countries. The first consideration is that countries involved had and have strong differences in relation to European Union membership (achieved and in progress). Starting from Italy as initial member, considering Croatia and Slovenia that joined in the last two decades, and countries that are still awaiting to join the EU, namely Montenegro, Bosnia Herzegovina and Albania. The same diversification could be applied with reference to blue economy, the same Italy and Croatia with a wide development both of traditional and emerging blue sectors, that are based and core activities and in particular where referring to ship and boatbuilding, maritime transport and logistics, nautical sector and touristic ports, coastal tourism, fishing but also aquaculture, energy from the sea, blue biotechnologies and sea monitoring. In terms of comparation, due to the limited coastline and to the later process of privatization, the current situation in Slovenia, Montenegro, Bosnia Herzegovina and Albania cannot witness a solid and wide development in most of the blue sectors but just on targeted niches.

Without making a diversification among traditional and emerging sectors, we can recap specific trends and innovation priories connected to the Adriatic blue economy that are witnessing an increased attention to the limits imposed by the EU in terms of emissions, fuel, energy taxation, and compliance with current regulations concerning environmental sustainability has triggered a process of awareness raising among Blue Economy companies. The push, both from above and below, towards environmental sustainability and digitalization in the field of marine and maritime technologies has as its meeting point the results of the CLASS4.0 project.

The time frame up to 2030 represents a critical window for change, where the dominant system no longer meets our needs. The year 2030 is the scaling-up period, in which transition activities improve and extend

the life of assets and pave the way for the emergence of a radically different system. The period up to 2050 is the consolidation period, for business-as-usual in the long term.

These achievements will be met involving the whole Blue Economy system. In the maritime sector, for example, the transition will include alternative energy sources and technologies – e.g. resources, production, conversion and system integration, bunkering and ports integration, fuel storage and handling onboard, propulsion –. Examples of actions in this direction include the adoption of LCA and new fuels. Moreover, a step beyond could be made by "green corridors": specific trade routes between major port hubs where zero-emission solutions are supported. These solutions would allow policy makers to create an enabling ecosystem with targeted regulatory measures, financial incentives, and safety regulations. Moreover, they could contribute to reducing shipping emissions on other routes.

A couple of enabling technologies envisaged in the Blue Economy trend, similar to the trend of other sectors, can be described in the following:

- *Artificial Intelligence (AI)* ends repetitive tasks; helps with operations optimization, safety, decision-making and automation;
- *The Internet of Things (IoT)* enables remote control. It works with a GPS and cloud-based database which stores all the data collected through wireless networks. ESA Satellite for 5G (S45G) initiative;
- *Robotics* used for maintenance and inspection of maritime and marine devices. They can do tasks, such as packing, delivering, inspection and even firefighting;
- *Low cost Sensor Technology* replaces many of the manual tasks, like examining equipment aboard ships;
- *The Software as a Service model (SAAS)* no need to download new software onto computers;
- *Big Data* can refer device performance and communication;
- *Terminal Autonomous Control* includes detecting other cars, pedestrians, traffic signals and securing the car to remain on the road and eliminates human error possibilities;
- Gamification augmented reality (AR), virtual reality (VR) and mixed realty (MR) used for inspection, maintenance, planning, design as well as simulator-based training;
- Integrated Control Systems keeps an eye over the device considered and all operating systems can be a feat to accomplish.

The topics listed above can highlight the importance of data in main innovation related processes connected to the blue sectors and how there will be a trend to integrate different technologies from diversified technology related fields.

t2i - Technology Transfer and Innovation
Marco Galanti

Piazza delle Istituzioni, 34/a 31100 Treviso (TV)

+ 39 0422 1742100
innovazione@t2i.it
t2i@legalmail.it
www.programming14-20.italy-croatia.eu/web/class4.0

3. Clusters as Drivers for Innovation

CLASS4.0 is born on the fertile ground laid by the BEAT project and grows as its straightforward prosecution. It is also worth mentioning the "Blue Tech" project, whose results the BEAT Project capitalized on, and in turn laid the foundations for the study of the of a macro regional Cluster development in the green shipbuilding technologies sector in the Adriatic-Ionian area.

The BEAT Project promoted a trans-national cluster to sustain the economic development of the Italian and Croatian actors involved in the Blue Economy sectors, pursuing the following objectives:

- To create a network of diversified stakeholders to support the collaboration among them;
- To foster knowledge creation and exchange;
- To improve the firm's competences, as well as the entrepreneurship opportunities at the international level.

CLASS4.0 can count on the effective methodology and outcomes of the previous project, aimed at identifying the competitive and technological capabilities and competences of Blue Economy companies and how they can collaborate and the mapping of reference aggregation players as clusters are. Even in this case we are aware of difference cluster-building dynamics that characterized the European scenario and how differently they developed and grew in the Adriatic scenario.

The Italy started first with solid experienced in the first decades of 21st century with established cluster organizations addressing specific sectors that evolved from associations to established business or technology clusters, operating often at regional level and aligned with smart specialization strategies. The latter are operating under the umbrella of national clusters acting as platform for them. Croatia experienced a different process with a first tentative of cluster set with a top-down approach strongly linked with central administration. Some of them had difficulties in being fully operative and in the most recent times good examples bring the attention on private or public-private initiatives supported by the industry sector. Slovenia seen the development of targeted cluster experiences in key sectors and also aligned the smart specialization strategy while in Montenegro a long progressing process characterized by an interaction between public administration and private sector has led to the establishment of clusters and some of them newly established. In Albania some studies and primary steps has been carried out but actually structured reference aggregation players for the maritime sectors are still not present, the same scenario could be widened at the level of Bosnia Herzegovina.

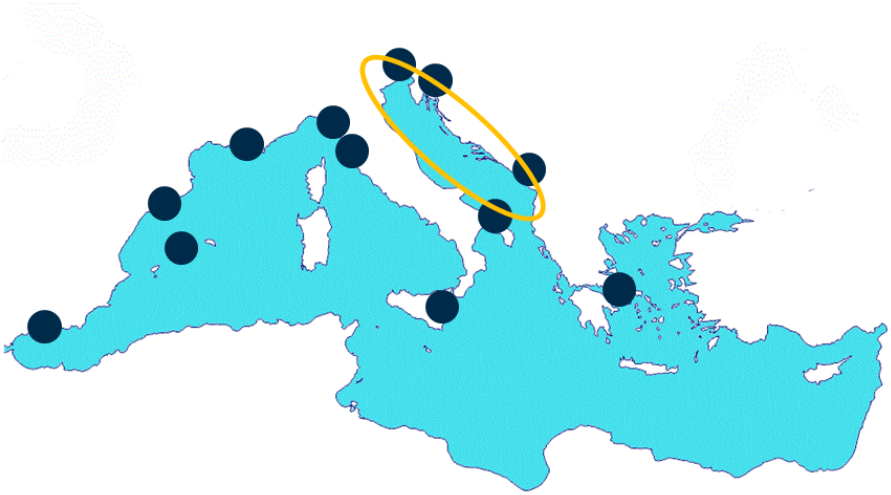

Image 1. Maritime clusters in the Mediterranean

With this regards importance of bringing an aggregative perspective as fully operational clusters can do is recognized as a best practice for linking targeted innovation and production chains through the involvement of key players in a quadruple helix perspective and to enhance links on the trajectory that connects local – national – macro regional and European.

4. Inputs from networks on best practices for collaboration

The **Cluster 2 Cluster Think Tank** event (Venice June 6th 2023) was structured with a tailored afternoon session dedicated to investigate and overview what are the most interesting themes and topics in relation to mutual cooperation and what are the most interesting actions to be implemented in relation to the themes and priorities.

The outputs were collected through two dedicated roundtables that grouped together project partners, clusters and universities.

Emphasis was put on importance of supporting emergent enterprises and how they could be adequately accompanied in the growing period, this aspect found to be easily connected to stronger involvement and inclusion of **young generations** that could be the driving force to support digitalization in the target area. Digitalization and digital tools and data are considered as the main aspect that could support the cross-border digitalization and potentially to solve harmonization processes, policies and activities among

countries. The application is diversified from digital twins to more sustainable use of tourism. mareFVG considered that a solution to act at a macroregional and wider level would be the creation of a **cooperation platform** that could group and aggregate all the inputs and priorities for the parties. The cluster from Montenegro emphasized the possibility of give recognition of a cluster through an efficient technology transfer of other activities that may support local businesses.

In terms of actions, T2i brings back the attention to specific tools to support the stakeholders and vouchers could be a solution, both Informest and University of Trieste underlines the importance a have a recognized community and a referring player like a cluster that could monitor and give voice to targeted players. This role is well acknowledged by mareFVG that affirms that a supranational coordination should be implemented. The cluster of Montenegro proposed to start with a basic approach, do not lose to build a platform but start grouping on an existing tool, include reference clusters per each territory and let them communicate, share information and opportunities and creating a critical mass to let grow this community and having the clusters as ambassadors for their respective stakeholders and representing the whole Adriatic-Ionian Region, this could be the start of the Adriatic Innovation System in the blue economy.

5. Manifesto for Adriatic MoU

Reference to the Adriatic MoU signed TO BE INTEGRATED AND WIDENED

The Adriatic MoU is a primary result from the CLASS 4.0 project dedicated to promote trans-national partnership to sustain the growth, the economic and institutional development of the parties involved in the blue economy operating in Croatia and Italy actors based in the regions facing the Adriatic – Ionian Sea, through the creation of a network of diversified stakeholders aimed to support collaboration for knowledge creation and exchange, progress in competences and entrepreneurship opportunities at the international level.

The cooperation areas proposed are a result of a brainstorming among project partners that led to the most immediate and effective actions. The cooperation areas will be involved on the following:

- ***Sustain knowledge exchange and business support through community development through community development***: constant sharing of details on initiatives and activities, organization of tailored meetings for bridging production and technology chains, project related events and institutional and policy activities.

- ***Promotion of joint innovation activities to foster sustainable product and process innovation in the field of blue economy***: joint organization of events tailored to support product and process innovation through the support of local stakeholders, joint definition of target groups for the events.

t2i - Technology Transfer and Innovation
Marco Galanti

Piazza delle Istituzioni, 34/a 31100 Treviso (TV)

+ 39 0422 1742100
innovazione@t2i.it
t2i@legalmail.it
www.programming14-20.italy-croatia.eu/web/class4.0

- ***Support to technology transfer among research organizations and firms to enhance business competitiveness within the blue economy / value chain***: define a framework of relations designed to support mutual coordination among target groups of both territories – enterprises, universities and research centers. The objective is to facilitate the exchange of key information for linking interested actors in technology transfer activities to enhance business and innovation competitiveness of the blue economy and related value chain. Organization of regular innovation forums and regular sharing of project achievements.

- ***Collaboration to sustain internationalization***: implement actions to to support and sustain internationalization through sharing of information on mutual fairs organized by aggregation and business-related players, stimulate the participation of enterprises to matchmaking events, support joint development of European projects and sharing of mutual portfolio on enterprises involved in the network, design of onsite initiatives to support the organization of study visits, mutual exchange of delegations during local events and organization of custom matchmaking events.

t2i - Technology Transfer and Innovation
Marco Galanti

Piazza delle Istituzioni, 34/a 31100 Treviso (TV)

+ 39 0422 1742100
innovazione@t2i.it
t2i@legalmail.it
www.programming14-20.italy-croatia.eu/web/class4.0