



# **ADRION THEMATIC CLUSTER ON BLUE GROWTH AND RELATED SMART GROWTH**



**NEWSLETTER #1**

**June 2020**

**Message from Thematic Cluster Coordinator Prof. Nikitas Nikitakos, University of the Aegean (Greece)**

Welcome to the 1st newsletter edition of the Adrion Thematic Cluster on Blue Growth and related Smart Growth. The objectives of Cluster consisted from 10 related project funded under Ionian Adrion framework is to promote the cooperation, to examine common synergies and to investigate new ideas for next programming period. We hope that this newsletter will create new ways of sharing our knowledge and news with you! Each month you'll get informative articles about Cluster's objectives, as well as updates on programs, contests, and other-related news.

In this issue we are presenting a brief introduction of all projects participating in Cluster having as final outcome a policy paper and new innovative ideas for next programming period on Blue Growth and its related Smart Growth. In this exercise i am open to any suggestion from all of you which could be send in my personal [e-mail](#) or through the projects participating in Cluster. Let's work towards valuable outputs!!!!

## NEORION

### Promotion of green maritime technologies and new materials to enhance sustainable shipbuilding in Adriatic Ionian Region



The maritime industry has always been a key economic sector in Adriatic Ionian Region, providing thousands of high skilled jobs and opportunities for SMEs and larger enterprises such as shipyards. These days the shipbuilding industry in Europe faces fierce competition coming mainly from Turkey, S. Korea and China, where shipbuilding capacity has grown exponentially. Ship construction has also been deeply affected by the lack of effective trade rules at global level and the absence of investment initiatives. The collapse in demand since 2008 had a severe impact on employment in this sector as well.

NEORION aims at establishing a transnational Cluster in the Adriatic-Ionian on Green Shipbuilding that will accelerate both the cooperation of key actors & innovation in the industry. NEORION is expected to reinforce the traditional shipbuilding sector through coordinated efforts that will facilitate the exploitation of innovative technologies and technology transfer between new complementary markets such as new materials & specialized vessels.

#### Main results of the project:

- Enhancement of the innovation capacity of the sector, creating a sustainable shipbuilding ADRION cluster
- Development of tools to favour the cooperation of SMEs with research institutions
- Action plans to both foster economic growth of the sector and benefit the regional business ecosystem, through actions targeted to and initiated by representatives of the Quadruple Helix

More information: [NEORION Webpage](#)

## SHIPmEnTT

### Strengthening intellectual property and technology transfer processes in green sea mobility sectors



The SHIPMENTT project aims at establishing an innovation ecosystem focused on the green sea mobility sector (referred partially as green shipping in EUSAIR) across the ADRION area. In the medium-term, the aim is to enhance the investments in regional R&D and increase the competitiveness of the local SMEs.

Today, the innovation activity in the region is fragmented and confined to the national borders allowing limited space for regional cooperation and economic growth. SHIPMENTT will establish a network of cooperating parties with a clear plan to shape the necessary conditions for a fruitful blue growth innovation ecosystem in the spirit of transnational cooperation.

#### Main results of the project:

- Support on a) IP management and b) access to finance to 250 SMEs: to improve their chances of collaborating with research institutions and attracting financial resources
- Facilitation of industry-academia collaboration for 50 SMEs: via the SHIPMENTT platform
- An all-inclusive strategy: for the development of a regional innovation ecosystem fuelled by blue-technologies in the green sea mobility field

More information: [SHIPmEnTT Webpage](#)

## BLUE\_BOOST

**Boosting the innovation potential of the triple helix of Adriatic-Ionian traditional and emerging BLUE growth sectors clusters through an open source/knowledge sharing and community based approach**



Maritime clusters within ADRION regions are characterized by a high heterogeneity of activities, a tangible interaction gap between their respective four helixes and a poor attitude to inter-clustering, especially at a trans-sectoral level. The BLUE\_BOOST project aims at unlocking and boosting the potential of knowledge/technology transfer, transnational and cross-sectoral cooperation of key innovation actors of traditional (primarily fisheries and shipbuilding) and emerging (primarily Blue technologies-including aquaculture- green shipbuilding, robotics and new materials) Blue Growth sectors by reinforcing the relationships and interactions within and among their clusters according to an open source, knowledge sharing & community based approach.

### Main results of the project:

- Blue Boost transnational innovation voucher scheme and the funding of 35 innovative MSMEs and startups
- Development of the B\_B networking platform
- B\_B transnational innovation networking strategy and action plan to support ADRION maritime innovation stakeholders to jointly address future challenges thanks to B\_B Tools.

More information: [BLUE\\_BOOST Webpage](#)

## SEADRION

**Fostering diffusion of Heating & Cooling technologies using the seawater pump in the Adriatic-Ionian Region**



The recent Heating and Cooling Strategy from Commission indicated that emissions related to energy used for heating and cooling of buildings can be significantly reduced with technologies which use renewable energy sources and have high efficiency. Taking this into consideration the SEADRION project aim to support the development of a regional innovation system for the

Adriatic-Ionian area with the installation of 3 renewable energy facilities in the public buildings located in Greece and western and south part of Adriatic Croatia. These facilities are seawater heat pump, an innovation system that uses the thermal energy contained in a reservoir (sea) to achieve the cooling and thermal energy in the buildings which are close to the sea. The main objective of the SEADRION is to identify benefits and barriers associated with the use of this technology and to find a system solution designed to improve the use of the seawater heat pump technology and to make the building's energy self-sufficient and independent of fossil fuels.

**Main results of the project:**

The main outputs of the SEADRION project are transnational seawater heat pump network to support sustainable development in ADRIION region, science and technology cooperation between research institutions and enterprises to enhance innovation capacity of the heat pump sector with the aim to enhance their innovation skills, capacities and competencies and common strategy to enhance the use of seawater heat pump based heating and cooling in ADRIION region.

**More information:** [SEADRION Webpage](#)

## **ARIEL**

**Promoting small scale fisheries and aquaculture transnational networking in Adriatic-Ionian macroregion**



Ariel project focuses on small-scale fishery and aquaculture which are two key drivers for blue and sustainable growth of Adriatic and Ionian communities. Despite their relevance, those sector faces the same challenges of maritime spatial planning, environmental and socio-economic sustainability, better conditions for innovation uptake and for scientific knowledge dissemination, more effective cooperation between entrepreneurs, academia and policy makers.

ARIEL overall objective is the establishment of transnational knowledge network among research centers, public administrations and entrepreneurship who will act to drive policies and address innovation governance in two key sectors for the Adriatic Ionian (AI) Macroregional economy: small-scale fisheries (SSF) and aquaculture (AQ).

**Main results of the project:**

- Set-up a long term cooperation and knowledge network among the multilevel actors at regional and transnational level for innovation up-taking in small scale fisheries and aquaculture
- Support public administration in developing favourable legislative and programming framework and science-based policies
- Support small scale fisheries and aquaculture enterprises in making their business more sustainable
- Identification of common priorities for policy, research and market actions
- Co-management of fish stocks exploited by SSFs to share power and responsibilities among research, academia, government and fishing communities.

**More information:** [ARIEL Webpage](#)

## BIOECO R.D.I

### BIO-ECONomy Research Driven Innovation



The ADRION region has relevant unexploited potential of biomass from agricultural, fisheries and forestry waste and residues. The enterprises operating in such sectors are suffering serious delays in the green reconversion, multi-functioning, technology innovation, cross-sectoral integration. In this perspective, BIO-Economy represents a common smart specialization priority. BIOECO R.D.I aims at developing a Regional Innovation System for the Adriatic-Ionian area based on a structured bio-economy sector through the development of Research Driven Innovation (R.D.I.) strategy at regional and transnational level.

#### Main results of the project:

- BIOECO-RDI regional and international strategies supporting regions in increasing bioeconomy RDI level and cluster maturity

Thanks to the full implementation of those outputs, it will be possible to integrate in a unique and consistent process, regions living different steps in the process of creation of regional bio-economy. This process guarantees to the enterprises of the ADRION area to operate in a more advanced and integrated market, and to regional and national policy makers the needed support to develop effective policies based on circular economy approach.

More information: [BIOECO R.D.I Webpage](#)

## PoWER

### Ports as driving Wheels of Entrepreneurial Realm



Cultural borders & political rifts caused in the ADRION area a lack of cooperation and I&D, and a weak application of EU policies; as a result, ADRION ports, also due to small dimensions & infrastructural limits, lost their historical mission as places of exchanges, and suffer now from low modernization rate, inadequate smartness level, and unsolved issues related to sustainability and urban regeneration needs. On the other hand, ADRION ports are still complex ecosystems, offering the perfect substrate for becoming actors of the development in the area again. In this framework, PoWER aims to support the evolution of ports into Innovation Hubs, able to act as new transmission belts between regions, and to exploit their untapped entrepreneurial potential. In particular, POWER fosters collaboration among the key-actors of the Innovation Supply Chain (ISC): cognitive institutions (schools, universities, and research bodies), enterprises and Pas, in order to turn the multi-layered challenges affecting ADRION ports into an opportunity to integrate, cross-fertilize and exploit the “power” of territories.

#### Main results of the project:

- The PoWER methodology for facilitating the collaboration between enterprises and research institutions and, in so doing, speeding up the building of ISCs;
- The Innovation Hubs Network (IHN);
- The IHN joint Strategy for the evolution of ports into innovation hubs, supported by an ICT Platform devoted to its implementation.

These outputs will allow the members of IHN to pursue the transformation of ADRION ports into IHs as well as the further enlargement of the Network.

**More information:** [PoWER Webpage](#)

## **ECO-NautiNET**

**Network's support for SMEs in the Nautical sector of the Adriatic-Ionian Region**



The project main objective is the realization of a common and innovative ADRION's Network dedicated to SMEs, Research Institutions and Business Support Organizations with aim of improving SME's competitiveness and innovation in the Nautical sector and supporting their internationalization. In particular, the main objectives are:

- To tackle the lack of innovative collaboration among SMEs across the Adriatic-Ionian area, by using existing successful experiences in the EU area in the field of network model of organization and providing to the actors involved trainings, tutoring and the latest technologies available in the nautical sector;
- To realize concrete possibilities of cooperation in terms of process and products innovation among SMEs in the ADRION zone.

### **Main results of the project:**

- An effective and stable collaboration between SMEs and/or Research Institutes thanks to a common Joint Management System platform, in order to improve competitiveness and innovation in the Nautical sector
- The realization of collaborations involving mainly innovative key actors such as the Chambers of Commerce and SMEs' Association and Development Agencies, for the development of a transnational and Adriatic-Ionian common ECO-NautiNET platform, aimed to support creation and growth of networks in the ADRION area
- To facilitate key innovation actors' work in supporting internationalization among local SMEs and ensuring common methodologies and possibilities to entrepreneurs and research institutes.

**More information:** [ECO-NautiNET Webpage](#)

## OIS-AIR

### Establishment of the Open Innovation System of the Adriatic-Ionian Region



The OIS-AIR project pursues the final goal of establishment the Open Innovation System of the Adriatic-Ionian Region (OIS-AIR), a single market place for technology and innovation competitive and attractive at macro-regional level.

OIS-AIR intends to strengthen the development of industrial and entrepreneurial activities within a virtuous circle involving relevant stakeholders from different sectors in Adriatic -Ionian Region, from research institutions to SMEs and public administration.

#### Main results of the project:

The project offers several benefits to SMEs and for the whole R&D system of the Adriatic -Ionian area:

- Development of the OIS-AIR platform ([www.oisair.net](http://www.oisair.net))
- Definition of the OIS-AIR network, composed of 7 innovation centers and open to new members
- Definition of a Pilot macro-regional S3 for the Adriatic-Ionian Region
- Organization of 7 local open innovation workshops
- Delivery of 150 innovation services to SMEs
- Organization of the Proof Concept Call
- Delivery of 10 innovation vouchers (€18.500 each)

More information: [OIS-AIR Webpage](#)

## FUTURE 4.0

### Manufacturing education and training governance model for Industry 4.0 in the Adriatic-Ionian area



The shipbuilding industry and its related supply chain in Adriatic-Ionian region (EUSAIR) is facing great challenges and changes, being undeveloped and left behind with the urgent need to new technology brush ups. Shipyards are affected by the transformation of the entire value chain process involved in manufacturing industry with the effects on production, intercompany relations and human capital development. The solution is to implement new technologies brought by the Industry 4.0 (innovation, advanced technologies, computerization, robotics processes, automation, digitalization...) by encouraging sustainable and better management of Blue Economy. Future 4.0 project responds to the current challenges of the manufacturing industry of the shipyard and nautical logistic supply chain. The main objective of the project is to design a shared strategy to support SME's towards technology 4.0. The project will design Smart Learning Model and implement local pilot actions in order to disseminate innovation as well as knowledge management solutions in over 100 enterprises across Italy, Croatia, Albania and Greece.



The base for designing a suitable Industry 4.0 Smart Learning Model is using the known technique to help manage front part of innovation process (Technological Road-mapping) and using new strategic planning tools to help envision various futures and creating more vibrant organizations (Foresight tools).

**Main results of the project:**

The results will be the foundation for designing of a knowledge, competence and innovative skills training and learning hub - FUTURE 4.0 PLATFORM by applying Triple Helix Approach - the set of interactions between academia, industry and governments.

**More information:** [FUTURE 4.0 Webpage](#)



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Blue Growth and related Smart  
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# ADRION THEMATIC CLUSTER ON BLUE GROWTH AND RELATED SMART GROWTH

**ARIEL AND BIOECO – R.D.I PROJECTS  
INTERREG ADRION**

**CONTRIBUTION TO INNOVATION SPEED-UP IN FISHERIES AND  
AQUACULTURE SECTOR OF THE ADRIATIC AND IONIAN REGION**

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**BIOECO-R.D.I**



**NEWSLETTER #2**

**July 2020**

## **Message from Thematic Cluster Coordinator**

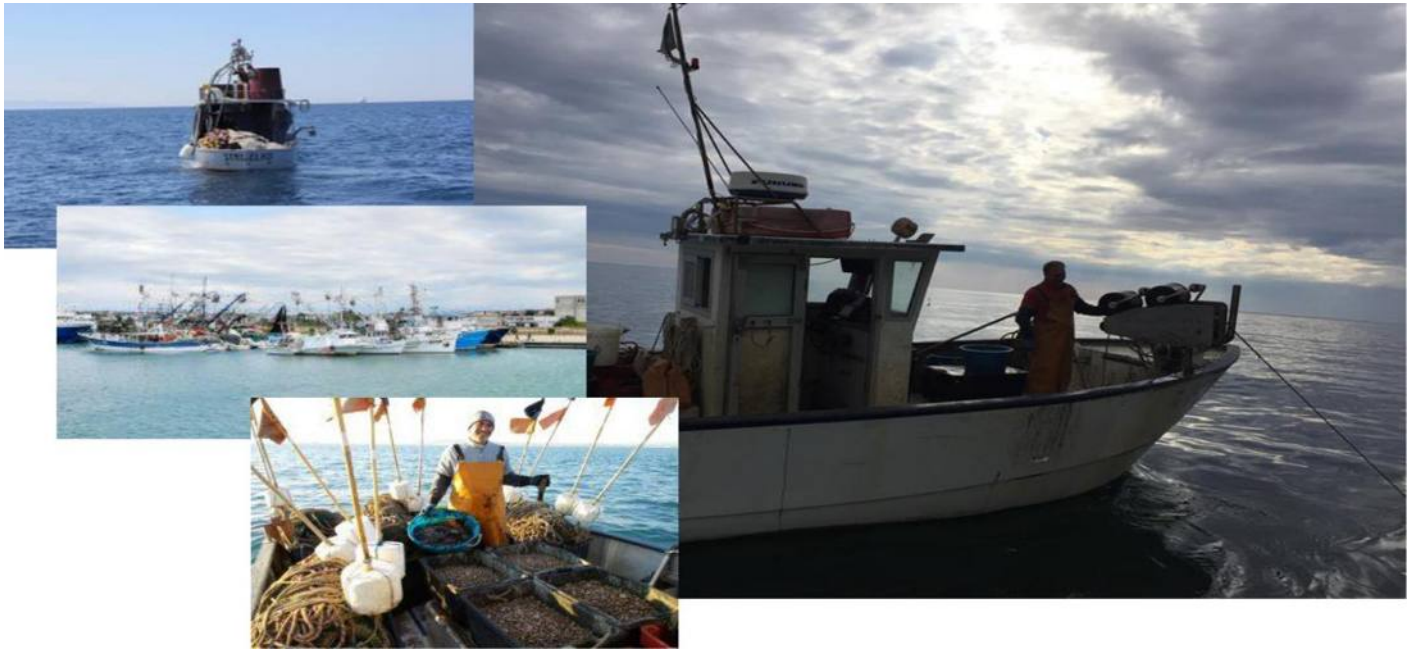
Welcome to the 2nd newsletter edition of the Adrion Thematic Cluster on Blue Growth and related Smart Growth. The objectives of Cluster consisted from 10 related project funded under Ionian Adrion framework is to promote the cooperation, to examine common synergies, and to investigate new ideas for next programming period, having as final outcome a joint policy paper with scientific recommendations for influencing the policy debate in the topic of Blue Growth and related Smart Growth. The ADRION Thematic Cluster (TC) comprises a wide range of sectors that are each other inter-dependent and contribute to the overall Blue and Smart Growth frame: aquaculture; bio economy; biotechnologies; shipbuilding and nautical sector development. We hope that this newsletter will create new ways of sharing our knowledge and news with you! Each month you'll get informative articles about Cluster's objectives, as well as updates on programs, contests, and other-related news that will be prepared by two projects of TC each time, in collaboration with Cluster Coordinator.

In this issue we are presenting the contribution to innovation speed-up in fisheries and aquaculture sector of the Adriatic and Ionian region by ARIEL and BIOECO – R.D.I Projects, as two of the members of TC. The sector of fisheries and aquaculture is among of the TC areas that have been identified according to strategic key sectors of development and growth in the Adriatic-Ionian region and following the policy objectives of the new EU Cohesion Policy. In this newsletter you can get to know the two projects, to find out their common and complementary goals and to explore their contribution to innovation speed-up in the sector. Any suggestion from all of you could be send in my personal e-mail or through the projects participating in Cluster. Let's work towards valuable outputs!

**Prof. Nikitas Nikitakos**  
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## **ARIEL at a glance**

ARIEL aims to promote technological and non-technological solutions for innovation speed-up and up take in ADRION small-scale fisheries (SSF) and aquaculture (AQ) by means of an interactive cooperation between scientists-policy-makers-entrepreneurs. The project will act as a knowledge network, tackling in a single frame the complex ecological, economic and societal challenges. The project partnership is composed by 9 scientific and institutional organizations from Italy, Croatia, Montenegro and Greece, which operate in fisheries and aquaculture sectors.



## **ARIEL: the approach for innovation speed-up in ADRION small-scale fisheries and aquaculture sectors**

The ARIEL project gives particular attention to the stakeholder engagement process for innovating the transnational small-scale fisheries and aquaculture sectors in the ADRION regions. Based on the successful experiences of the EIP-AGRI initiative launched by the EU Commission on 2012 to promote the innovation speed-up in the agriculture sectors, ARIEL worked to adapt and apply an interactive model of innovation into the SSF and AQ sector, delivering common guidelines for innovation brokering and stakeholder engagement methodology. The project partners acted within the project as public innovation brokers, facilitating the identification of the two sectors day-by-day needs and accompanying a bottom-up innovation discovery process. This by creating an open space where different actors of the SSF and AQ can spontaneously focus on issues of their interest, discussing and exchanging ideas, solutions and experiences as well setting the conditions for cooperation in projects and operations. The organization of 5 regional innovation brokering events, arranged by the project institutional partners, led to the identification of a number of ideas and projects, to the project purposes pilot actions where research cooperates with enterprise for on-field testing were further selected and implemented.

## ARIEL PILOT ACTIONS BOX

### SMALL-SCALE FISHERIES

- testing Dolphin Deterrent Devices (DDD) - “pingers” - to reduce/prevent dolphin damages to small-scale fisheries
- testing trammel nets with a special construction to reduce bycatch
- evaluating the "rainbow network" used by Tyrrhenian Sea fishing fleet to minimize the capture of bycatch
- development and testing of mobile application serving as Virtual Marketplace to promote to open and contribute to enforcing a market that recognizes and adds value to small-scale fisheries seafood products obtained by more sustainable fishing practices, socially fair and in a transparent way
- development of fishing tourism business plan, taking under consideration enterprise-specific characteristics.

### AQUACULTURE

- testing acoustic pingers pilot studies reducing the impact of gilthead seabream *Sparus aurata* on shelfish farming
- installation of AKVA underwater cameras to increase the efficiency of feeding procedure in aquaculture process, reducing waste of food

## ARIEL INNOVATION BROKERING IN FIGURES

# 5 INNOVATION  
BROKERING EVENTS FOR  
THE SMALL-SCALE  
FISHERIES AND  
AQUACULTURE SECTORS  
HELD IN ADRIAN AREA

# 116 OPERATORS  
PARTICIPATING TO THE  
INNOVATION BROKERING  
EVENTS

MORE THAN 40 INNOVATIVE  
IDEAS/SOLUTIONS COLLECTED

**More info on ARIEL at:** <https://ariel.adrioninterreg.eu/>

### **Project contacts:**

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## **BIOECO-R.D.I. at a glance**

The BIOECO-R.D.I. project focuses on the core idea of the use of biomass from agricultural, fisheries, and forestry waste and residues with the purpose to foster the green reconversion, blue growth, multi-functioning, technology innovation, and cross-sectoral integration. In this perspective, BIO-Economy aims at developing a Regional Innovation System for the Adriatic-Ionian area based on a structured bio-economy sector through the development of Research Driven Innovation (R.D.I.) strategies at regional and transnational level. The project partnership is composed of 6 scientific and institutional organizations from Italy, Croatia, Serbia, Slovenia, Albania and Greece, which operate in various sectors, one of them being fisheries and aquaculture.

## **BIOECO-R.D.I. fisheries and aquaculture (Croatian partner – Ruđer Bošković Institute)**

The framework of activities in the fisheries and aquaculture sector within the project defines the base of the activities in which strategic intervention sets are established in terms of creating the basic conditions for implementation of the regional strategy for identifying and acquiring bioeconomy knowledge necessary for more substantial use of the current fish industry waste. This study is the first step in recognizing and identifying the current state of the fish industry in the Republic of Croatia in terms of by-products disposal. Based on the elaboration of this study, possible frameworks and methods of fish waste disposal will be defined for the purpose of further evaluation of the economic rationale for the fish waste industry. Therefore, all segments of fisheries in terms of resources, activities, and practice of current fish waste disposal were analysed. An analysis of current legislative norms as well as analyses of processing options is needed in order to draw clear and authoritative guidelines for partial and full use of fisheries and aquaculture waste.

The overall objective in this sector thus was to contribute to a goal of establishing models of best practices in fish waste management through knowledge transfer, and assist in design and promotion of economically efficient fish waste management plans (FWMP) from wild catch, mariculture, aquaculture and processing in order to reduce the environmental impact which waste and by-products leave behind. The main beneficiaries are the stakeholders involved in aquatic animals farming, fishery, processing, algae production and waste disposal.

### **BIOECO-R.D.I. PILOT ACTION BOX**

We found essential to contribute to the start-up and development of a well-organised competitive fish waste management strategy. Action includes preparation of work material, education and promoting of specific fish waste management plan (FWMP) categories, and carrying out an industry survey (questionnaire) to ascertain the quantities of by-products generated in the Republic of Croatia and to determine the priorities regarding the disposal value.

Output: FWMP in general and related to several industry branches:

- FWMP for discard/boat practices
- FWMP in marine fish farming
- FWMP in shellfish farming
- FWMP in processing industry

Objectively verifiable indicators in this sense are: a review of present status of fish waste management in the Adriatic - legislation and obligations; estimating parameters on fish quantity generated as fish waste in specific industry; applying best management decision to design and propose FWMP generally, and enterprise-driven; several models of FWMP prepared for specific industry - new management strategy and protocols.

The Pilot Action was conducted through a limited set of actions selected in scope with the readiness and feasibility, and according to the Strategy.

- The local network was composed, including the key actors/beneficiaries of the Pilot Action.
- A series of dialogues in form of meetings and round tables was conducted with the key actors (including SMEs and policy makers), as well as on-the-spot counselling. In that sense, we enforced collaboration with industry, activated knowledge transfer process, initiated collaborative research projects.
- Two collaboration agreements were signed between the Croatian partner and SMEs dealing with microalgae biomass utilization.
- Education was aimed at finding and promoting new technical and technological advances in product utilization and disposal, and at raising awareness and knowledge about the circular economy in fisheries, aquaculture (fish, shellfish and algae) and processing (conducted also via the two regional webinars and an international webinar, with a wide visibility)

## BIOECO-R.D.I. INNOVATION BROKERING IN FIGURES

# 80+ FOOD-PROCESSING, FISH AND SHELLFISH FARMING, AND FISHERY SMEs WERE INTERVIEWED VIA THE QUESTIONNAIRE TO ASCERTAIN THE QUANTITIES OF BY-PRODUCTS AND TO DETERMINE THE PRIORITIES REGARDING THEIR DISPOSAL VALUE

A NUMBER OF INITIATIVES WERE HELD, INCLUDING AUDIENCES FROM THE INDUSTRY, SCIENCE, HIGHER EDUCATION, AND

PUBLIC BODIES:

# 14 MATCHMAKING INITIATIVES

# 6 AWARENESS EVENTS

# 8 CAPACITY BUILDING EVENTS (SEMINARS, SYMPOSIUM, WORKSHOPS, TECHNICAL

More info on BIOECO – R.D.I at: <https://bioecordi.adrioninterreg.eu/>

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## NEXT STEPS of THEMATIC CLUSTER

- Stay tuned in order to explore the next monthly newsletters of our Thematic Cluster, with informative articles about Cluster's objectives, as well as updates on programs, contests, activities, and other-related news;
- Next newsletter dedicated to Green shipping/shipbuilding by NEORION and SHIPmEnTT projects of TC;
- Development of a joint policy paper exploiting results and recommendations of the Cluster projects in order to provide clear recommendations for EU policy makers addressing Blue Growth;
- Development of a report on new areas/fields of intervention/project ideas developed by the TC to be financed in the next programming period.



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# ADRION THEMATIC CLUSTER ON BLUE GROWTH AND RELATED SMART GROWTH

**NEORION AND SHIPmEnTT PROJECTS**

**INTERREG ADRION**

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NEORION



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SHIPmEnTT



**NEWSLETTER #3**

**August 2020**

## **Message from Thematic Cluster Coordinator**

We are happy to announce the third newsletter of the Adrion Thematic Cluster (TC) on Blue Growth and related Smart Growth. The TC consists of 10 relevant projects funded under Ionian Adrion framework with the ultimate goal to promote cooperation, and to identify common synergies and new ideas for the next EU programming period. One newsletter will be available for downloading each month in the **TC section**, with informative articles about Cluster's objectives, as well as updates on programs, contests, conferences, activities, and other-related news and articles.

This issue deals with the topic of green shipping/shipbuilding and was prepared by NEORION and SHIPmEnTT projects, as two of the members of TC, which altogether cover multiple and relevant aspects, as the green shipping concept (referred also as green sea mobility) mainly depends on green design. With the shipping industry entering a new, environmental-friendly areas, stakeholders in the maritime sector are seeking for ways to reduce ships' emissions. Already all EUSAIR countries shows great interest about the sectors, given though the the EU Sulphur Directive 2012/33/EC, and the turn into a new more environmental-friendly period. In this newsletter you can get to know the two relevant projects, their common and complementary research areas and objectives and find out about their recent activities. Any feedback is welcome and could be send in my personal e-mail or through the projects participating in Cluster. We hope that this newsletter will create new ways of sharing our knowledge and news with you. Let's work towards valuable outputs, contributing to the development of Blue economy in the Adriatic-Ionian region.

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## NEORION at a glance

NEORION aims at establishing a transnational Cluster in the Adriatic-Ionian on Green Shipbuilding that will accelerate both the cooperation on key actors and innovation in the industry. As main outputs, the project aims at enhancing the innovation capacity of the sector, creating a sustainable shipbuilding ADRION Cluster, developing tools to favor the cooperation of SMEs with research institutions and provide action plans to both foster economic growth of the sector and benefit the regional business ecosystem, through actions targeted and initiated by representatives of the Quadruple Helix. The project partnership is composed by 8 scientific and institutional organizations from Greece, Italy, Croatia and Slovenia.

## Participation of NEORION project in summer digital lectures “Knowing the Maritime Markets”

In the framework of dissemination activities, NEORION project and Prof. Nikitas Nikitakos participated in summer digital lectures “Knowing the maritime markets” and presented the NEORION project and the international best practices in green shipping technologies and applications.

The Isalos.net initiative in collaboration with University of the Aegean-Department of Shipping Trade & Transport (Greece) organized for 3rd consecutive year the summer digital lectures entitled “Knowing the maritime markets” from 7 to 30 of July 2020. The six lectures in total were conducted digitally, via the Zoom platform and consisted of six main sessions:

- Introduction to maritime economics: Tramp & Liner shipping
- Shipping markets: Freight market and used ships
- Shipping markets: Shipbuilding and shipbreaking
- Shipping financing: Methods & Strategies
- Short-sea shipping: the road towards 2030
- Operational ship management and maritime insurance

The third session of digital lectures entitled “Shipping markets: Shipbuilding and shipbreaking” was moderated by Prof. N. Nikitakos, who gave a detailed description of the new building process, design methodologies, stages of ship design, entities involved in the process, and gave special emphasis on green shipping and shipbuilding. All participants were informed about the expected trends and the available green shipping technologies and applications and had the possibility to ask questions to moderator and speakers in order to have a constructive dialogue with valuable results. The video from the lecture is available on the Isalos.net [You tube](#) channel (in Greek).

The objective of the green shipbuilding concept is to minimize the harmful emissions during design, manufacturing, service and laying up, in order to reduce the pollution to air, water and soil, save resources and improve economic and social benefits. The main concepts associated with this notion are the *green ship* and the *green shipyard*.

The green ship concept mainly depends on green design. Ships should be designed to enable them give the minimal effect on the environment during manufacturing and service. So, the keys to green design are the 3R:

- Reduce the conception of materials/energy and the pollution to the environment in ship manufacturing and service;
- Recycle the parts and accessories in ship maintenance;
- Reuse the majority of materials after ship laying up.

The green shipyard, on the other hand shall ensure the high efficiency of materials and energy in shipbuilding, reduce the harmful emissions and smoothen the process of integrated hull construction, outfitting and painting.

### International Best Practices in Green Shipbuilding Technologies & Applications

- **No ballast system:** ballast water convention by IMO focuses on reducing the transit of sediments and microorganisms of one territory to another through the ballast of ships. Plans of making a “No ballast ships” are under progress, since a no ballast ship or similar system can drastically reduce this problem.
- **LNG fuel for propulsion:** Liquefied Natural Gas is perceived as the optimal fuel in the shipping industry for the future, since it helps in reducing pollution from ships, especially in the air, and a combination of LNG fuel with diesel oil will lead to efficient engine performance, resulting in fuel saving.
- **Sulphur Scrubber System:** Reducing sulphur or SOx emission from the exhaust, is a solution that will be used extensively in the future. This can be achieved by installing an exhaust gas scrubber system wherein the sulphur is washed out from the exhaust gas of the engine resulting in reduction of SOx up to 98% along with other harmful particles.
- **Speed nozzle:** are generally used in small supply vessels and tugs to provide power to the ships. Along with new design features of merchant vessels, they can improve the propulsion efficiency of the ship by saving power up to approx. 5%.
- **Hull paint:** applying correct paint at correct hull area can reduce the frictional resistance of the ship resulting in 3-8% of fuel savings.
- **Sail & kite propulsion system:** when used along with the conventional propulsion system can reduce the fuel as well as NOx, SOx and CO2 emissions by a significant amount. The system utilizes wind assisted propulsion by flying a gigantic kite from the bow of a ship using the traction developed by the kite to assist in pulling the ship through the water.
- **Fuel & solar cell propulsion:** utilizes power from a combination of fuel cells, solar cells and battery systems. This helps in reduction of GHG emission to a great extent. Recently, many technologies have come which support the big ships to reduce fuel consumption by utilizing solar panels and rigid sails.
- **Sandwich plate system:** it is a process of composting two metals plate by bonding it with polyurethane elastomer core. This avoids usage of steel hence makes the structure light weight and less prone to corrosion.

- **3-D Printing technology:** further developments in this process can lead the industry to use this technique to build complex geometries of ship like bulbous bow easily. The prospect of using 3-D printers to seek quick replacement of ship's part for repairing purpose is also another interesting concept.
- **Shipbuilding robotics:** recent trends suggest that shipbuilding industry is recognizing robotics as a driver of efficiency along with a method to prevent workers from doing dangerous tasks such as welding, blasting, heavy lifting, etc. The shortage of skilled labour is also one of the reasons to look upon robotics.

**More info on NEORION at:** <https://neorion.adrioninterreg.eu/>

**Project contacts:**

Prof. Nikitas Nikitakos

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Department of shipping trade & transport

[nnik@aegean.gr](mailto:nnik@aegean.gr)

### **SHIPmEnTT at a glance**

The SHIPMENTT project aims at establishing an innovation ecosystem focused on the green sea mobility sector (referred partially as green shipping in EUSAIR) across the ADRION area. In the medium-term, the aim is to enhance the investments in regional R&D and increase the competitiveness of the local SMEs.

Today, the innovation activity in the region is fragmented and confined to the national borders allowing limited space for regional cooperation and economic growth. SHIPMENTT will establish a network of cooperating parties with a clear plan to shape the necessary conditions for a fruitful blue growth innovation ecosystem in the spirit of transnational cooperation. Hence, the project features partners from all 8 countries of the ADRION area.

### **SHIPMENTT meets with Advisory Board to refine policy recommendations**

During the project meeting in Trieste in late February, the project launched the first round of consultation with its advisory board. The Advisory Board is body composed of Associated partners, linked with SHIPmEnTT consortium members. Associated partners are organizations and institutions, dealing in different fields related to the key SHIPmEnTT topics such as: intellectual property rights, technology transfer, blue growth and maritime issues, education, support to business sector. The objective of the consultation was to consider the impact of the implemented pilot actions in ADRION area and provide suggestions and recommendations for SHIPmEnTT consortium on how to integrate developed strategy and tools into the national plans and strategies.

There were representatives of 4 Associated Partners at the this meeting:

- Ms. Danijela Šutić Zlatić, manager of the Educational Center within Intellectual Property Office of the Republic of Serbia
- Ms. Renata Knežić-Rak, Adria Libar Ltd. (Republic of Croatia)
- Mr. Miloš Milošević, Innovation center of the Faculty of Mechanical Engineering in Belgrade (Republic of Serbia)
- Mr. Karlo Kraškovic, Maritime Technology Cluster FWG (Italy)

The project partners involved in SHIPmEnTT project were faced with similar obstacles in attracting interest from SMEs to participate in pilot activities. In the meantime, interaction with real sector and organizations in charge to provide various supporting services for SMEs, was useful in many aspects and helped partners to

increase awareness on current state in their communities and necessity to continuously upgrade networking and cooperation. The following needs were identified by the consortium:

- improving coordination with national institutions in charge for creation of business enabling environment
- providing adequate human and institutional infrastructure able to respond on needs of private sector
- a systemic approach to development of the local innovation ecosystem including training of intermediaries and establishing a network of support organizations (also beyond national borders)
- adopting of adequate legislation and creating a strategic framework for business development
- establishing quality control and monitoring system to measure the effects of support environment
- enhancing skills of intermediary organizations in terms of funding opportunities and assistance to SMEs in applying for domestic and EU funds
- creating of functional networks on national and ADRIAN level

After a long and fruitful discussion with the members of the advisory board. The following recommendations/conclusions were gathered:

#### **Policy Recommendations for the improvement of innovation support ecosystems in ADRIAN region**

- It is important to **introduce entrepreneurial and IP related topics** in formal education programmes in order to increase awareness from early age
- SMEs need **specialized assistance in developing their IP strategy** prior to taking any action related to IP issues
- **Tailor made support and services** for SMEs will yield the best results
- **Dissemination of success stories** can boost awareness and motivate SMEs to take more seriously the potential of commercializing their IP.
- **A strong network of ADRIAN** policy makers is required to network and frequently meet to exchange of information, good practices and experiences

**More info on SHIPMENTT at:** <https://shipmentt.adrianinterreg.eu/>

#### **Project contacts:**

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PRAXI Network

Foundation of Research and Technology – Hellas | FORTH

[troulos@praxinetwork.gr](mailto:troulos@praxinetwork.gr)

## NEXT STEPS of THEMATIC CLUSTER

- Stay tuned in order to explore the next monthly newsletters of our Thematic Cluster, with informative articles, updates on programs, contests, activities, conferences and other-related news;
- Next newsletter by Blue Boost and OIS-AIR projects of TC;
- Development of a joint policy paper with scientific recommendations for influencing the policy debate in the topic of Blue Growth and related Smart Growth;
- Development of a report on new areas/fields of intervention/project ideas developed by the TC to be financed in the next programming period.

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# ADRION THEMATIC CLUSTER ON BLUE GROWTH AND RELATED SMART GROWTH

**BLUE\_BOOST and OIS\_AIR PROJECTS**

**INTERREG ADRION**



**BLUE\_BOOST**



**OIS-AIR**



**NEWSLETTER #4**

**September 2020**



## **Message from Thematic Cluster Coordinator Prof. Nikitas Nikitakos, University of the Aegean (Greece)**

Welcome to the ADRION Thematic Cluster (TC) on Blue Growth and related Smart Growth. The 1st TC consists of 10 relevant projects funded under Ionian Adrion framework with the ultimate goal to promote cooperation, and to identify common synergies and new ideas for the next EU programming period. One newsletter will be available for downloading each month in the **TC section** prepared by two projects each time of the TC, with informative articles about Cluster's objectives, as well as updates on programs, contests, conferences, activities, and other-related news.

This is our fourth Newsletter, and we are very excited to share with you the latest news of BLUE\_BOOST and OIS\_AIR projects. In this issue you can get to know the two projects, their innovation voucher schemes and their main results, find out about their forthcoming final events and explore their contribution to Blue Growth in the macro-region.

Any feedback is welcome and could be send in my personale-mail or through the projects participating in Cluster. Enjoy your reading, stay tuned and explore more news in the upcoming newsletters and reports.

**Prof. Nikitas Nikitakos**  
Dept. of Shipping Trade and Transport  
University of the Aegean (Greece)  
E-mail: [nnik@aegean.gr](mailto:nnik@aegean.gr)

## BLUE\_BOOST at a glance

**BOOSTING the innovation potential of the triple helix of Adriatic-Ionian traditional and emerging BLUE growth sectors clusters through an open source/knowledge sharing and community based approach.**








Maritime clusters within ADRION regions are characterized by a high heterogeneity of activities, a tangible interaction gap between their respective four helixes and a poor attitude to inter-clustering, especially at a trans-sectoral level. The BLUE\_BOOST project aims at unlocking and boosting the potential of knowledge/technology transfer, transnational and cross-sectoral cooperation of key innovation actors of traditional (primarily fisheries and ship-building) and emerging (primarily Blue technologies-including aquaculture- green shipbuilding, robotics and new materials) Blue Growth sectors by reinforcing the relationships and interactions within and among their clusters according to an open source, knowledge sharing & community based approach.



**Download brochure:** [ALB](#) [HR](#) [GR](#) [ENG](#) [ITA](#)

### BLUE\_BOOST INNOVATION VOUCHER SCHEME

Innovation Voucher scheme – Thanks to BLUE\_BOOST innovation vouchers, 35 awarded ADRION blue growth companies could actually implement an innovation process and thus improve their long term business perspective. Each awarded MSMEs is briefly and attractively presented in these BLUE\_BOOST Voucher Posters divided per pilot Partner regions (look below).

-  [Zadar County winners](#)
-  [Marche Region winners](#)
-  [Central Macedonia winners](#)
-  [Friuli Venezia Giulia winners](#)
-  [Albania winners](#)
-  [Western Greece winners](#)
-  [Apulia Region winners](#)

BLUE\_BOOST has:

-Encompassed Blue Labs, Workshops and Hackathons as innovative and interactive coaching tools, where companies have developed their own innovation project under the expert stimulation and guidance of blue growth and/or 'new innovation' experts.

-Provided €350.000 to 35 small-scale projects under the Blue Innovation Voucher Scheme, thus funding the implementation of innovation projects developed by companies.

-Drawn a transnational database of Knowledge Providers, i.e. blue growth experts and 'new innovation agents' aimed at promoting expertise and innovation coaching services in a transnational context.

-BLUE\_BOOST is actively engaged to endorse a Transnational Innovation Networking Strategy and Joint Action Plan for the long-term capitalization of project findings for maritime clusters in the involved 7 Adriatic-Ionian regions and beyond.

### Final project results to be transformed in policy

- Increased awareness and understanding among the business community about the competitive advantage of the Blue Growth and its potential market opportunities;
- Enhancement of the strategic competencies/skills of blue MSMEs, that are needed to increase the value of their own products/services or address new markets, by cross-sectoral and cross-boundary fertilizations as well as by the close collaboration with research and innovation agents;
- Preparation of a favorable environment for the establishment of transnational clusters on promising blue economy's sectors through the adoption of open source, knowledge sharing & community based approaches.

### Policy Recommendations

- Paving the ground for know-how transferring within and towards the business community by enhancing a regional and transnational innovation environment
- Supporting innovation within Blue Economy and Blue Growth sectors through the set-up of targeted investment and funding programs
- Scaling up innovation processes at transnational level by enforcing multistakeholders' networks

## BLUE BOOST RESULTS

### INVOLVED

**1056** Local STAKEHOLDERS

**104** KNOWLEDGE Providers

**17** Local INNOVATION EXPERTS

**58** Applications for INNOVATION VOUCHERS

**35** INNOVATION PROJECTS funded



### 24 BLUE SCENARIO WORKSHOPS

Involved 99 companies, 40 experts Included 10 B2B meetings

### 7 BLUE HACKATHONS

Involved 49 companies, 80 experts Included 21 B2B meetings

### 1 BROKERAGE EVENT

Involved 19 companies, 25 experts Included 40 B2B meetings



### 21 BLUE LABS

Involved 134 companies and 26 experts

### 6 CROSS-FIELD VISITS

Involved 52 companies and 37 experts



**More information:**

[BLUE BOOST Webpage](#)

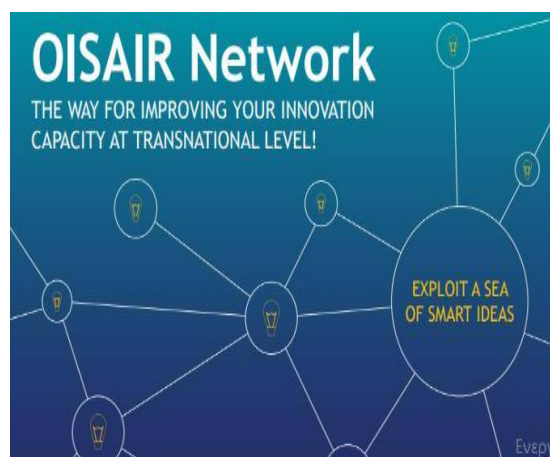
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## OIS-AIR at a glance

### Establishment of the Open Innovation System of the Adriatic-Ionian Region

The OIS-AIR project pursues the final goal of establishment the Open Innovation System of Adriatic-Ionian Region (OIS-AIR), a single market place for technology and innovation competitive and attractive at macro-regional level. OIS-AIR intends to strengthen the development of industrial and entrepreneurial activities within a virtuous circle involving relevant stakeholders from different sectors in Adriatic-Ionian Region, from research institutions to SMEs and public administration.



The project established the OIS-AIR Network composed currently by 7 Innovation Centers located in six countries: Italy (2 centers), Slovenia, Croatia, Serbia, Greece and Albania and its supported by the OIS-AIR INNOVAIR Platform, a virtual innovation marketplace aimed at improving the innovation capacity that offers free-of-charge innovation services to businesses and promotes the establishment of R2B collaborations.



The transnational OISAIR Network is based on a Hub&Spoke approach integrating two operational levels: local & transnational. Locally established Innovation Centers (Spokes) scout research results, gather SMEs needs and promote innovation opportunities. At transnational level the Hub (AREA Science Park), coordinates their activities and acts as gate matching demand & offer of services & research results, offering networked specialized services & infrastructures.

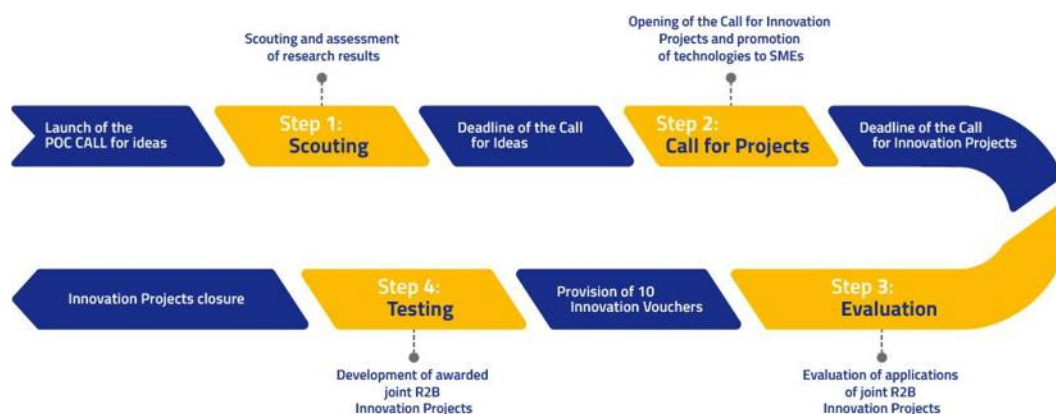
The INNOVAIR platform boosts innovation in 3 emerging sectors: Transport & Mobility, Energy & Environment, Agro-Bioeconomy, which have been identified through a Pilot Macro-regional Adriatic-Ionian RIS3 analysis that pointed out the main technology priority areas (TPAs) essential to valorize the transregional innovation potential.

The Network supported the enhancement of cooperation among research infrastructures and businesses and boosted the economic growth and competitiveness in the Adriatic Ionian Region providing financing support to the best innovative projects to be jointly developed by research institutes and SMEs in Adriatic Ionian Region.



## OIS-AIR INNOVATION VOUCHER SCHEME

**Innovation Voucher scheme** – Under the OIS-AIR Proof of Concept Call, 10 innovative projects developed jointly by research institutes and SMEs in the field of Transport & Mobility, Energy & Environment, Agro-Bioeconomy, were selected to be funded with 18.500 EUR vouchers.



Opened in April 2019, the PoC Call pushed research based innovation in SMEs, supporting early stage technologies and patents (TRL 3-5) developed in universities and research institutes to be transformed into commercial applications through the co-development of prototypes/testing with established SMEs.

Around **100 research results** were collected from research institutions of the whole area, while **65 projects proposals were applied** to get financial support for their experimental activities.

Confirming the international scope of the initiative, five out of ten awarded projects were submitted by transnational partners.

 [List of 10 winning projects](#)

### Benefits for SMEs:

- Discovering a great deal of transnational scientific research results assessed with regards to their industrial potential
- Cutting costs and times for industrial innovation
- Establishing stable collaborations with local and transregional research institutions
- Searching for open research results and participate to their co-development

### Benefits for universities and research institutions:

- Improving the visibility of their research results and promoting them transnationally
- Getting a technological and commercial evaluation of the research results
- Having access to co-funding for industrial valorization
- Improving the commercial valorization of public research results

## OIS-AIR main results

By promoting transnational cooperation, OIS-AIR unlocked the innovation potential establishing durable links and synergies between enterprises, R&D centers and research infrastructures in Adriatic-Ionian Region with several key benefits for the whole Adriatic Ionian innovation ecosystem:

- Set up of the OIS-AIR Network and Innovair Platform: [www.oisair.net](http://www.oisair.net)
- Definition of the first Pilot Macro Regional S3 for Adriatic Ionian Region
- Action plan for Macro Regional S3
- Local Innovation centres established
- Open innovation workshops and workshops with stakeholders organized
- Organization of a transnational Proof of Concept Call (POC Call) and provision of 10 innovation vouchers
- Delivery of over 150 free-of-charge innovation services to businesses



**6** countries  
**7** innovation centres



**10** innovation vouchers delivered:  
**6** agro-bioeconomy  
**3** energy & environment  
**1** transport & mobility



**100+** research results were collected for PoC Call and **65** projects proposals were applied



**30+** events and workshops organized  
**150+** free-of-charge innovation services to businesses  
**4500+** stakeholders involved:  
**500+** SMEs **3800+** researchers **100+** BS0s  
**100+** national and regional authority

### More information:

[OIS-AIR website](#)  
[INNOVAIR Platform](#)

### Project contact:

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### SAVE THE DATE - JOIN FINAL CONFERENCES

Final conferences for both projects: **Blue Boost** and **OIS-AIR** will be held this November!

- ✚ OIS-AIR final event **26<sup>th</sup> of November**
- ✚ Blue Bust final event “Blue Innovation Fair” **27<sup>th</sup> of November**

Stay tuned, join us and explore innovation opportunities!

#### **NEXT STEPS of THEMATIC CLUSTER**

Stay tuned for even more reading content, exploring the next monthly newsletter by PoWER and SEADRION projects, the joint policy paper with scientific recommendations and the report on new areas/fields of intervention/project ideas developed by the TC in order to be financed in the next programming period.



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# ADRION THEMATIC CLUSTER ON BLUE GROWTH AND RELATED SMART GROWTH

**PoWER AND SEADRION PROJECTS  
INTERREG ADRION**



**NEWSLETTER #5**

**October 2020**



## **Message from Thematic Cluster Coordinator Prof. Nikitas Nikitakos, University of the Aegean (Greece)**

Welcome to the ADRION Thematic Cluster (TC) on Blue Growth and related Smart Growth. The 1st TC consists of 10 relevant projects funded under Ionian Adrion framework with the ultimate goal to promote cooperation, and to identify common synergies and new ideas for the next EU programming period. One newsletter will be available for downloading each month in the **TC section** prepared by two projects each time of the TC, with informative articles about Cluster's objectives, as well as updates on programs, contests, conferences, activities, and other-related news.

This is our fifth Newsletter and we are very excited to share with you the latest news of PoWER and SEADRION projects. In this issue you can get to know the two projects, their main outputs, find out about their upcoming and recent events and workshops and explore their contribution to Blue Growth in the macro-region.

Any suggestion from all of you could be send in my personale-mail or through the projects participating in Cluster. Let's work towards valuable outputs!

**Prof. Nikitas Nikitakos**  
Dept. of Shipping Trade and Transport  
University of the Aegean (Greece)  
E-mail: [nnik@aegean.gr](mailto:nnik@aegean.gr)

## PoWER at a glance

The PoWER project aims at developing a Methodology and a Strategy to support the evolution of Adriatic-Ionian ports into so-called **Innovation Hubs**. According to the project concept, the state of Innovation Hub is basically an attitude of a port towards change implying its commitment to a **three-steps methodology** to address topic-specific needs, i.e. needs mapping, ideas and solutions scouting, scenarios foresight. These steps are thought for involving all the stakeholders of the “**innovation supply chain**” (i.e. education/research institutions, enterprise and Public Administration) in turning the ports’ challenges into an opportunity to bring together the community around them and exploit their untapped potential.



The PoWER project has been testing this methodology in **6 pilot ports** (Bari, Brčko, Durres, Igoumenitsa, Ravenna and Rijeka) in relation to the energy efficiency topic, but – once validated – it will be possible, with due adjustments, to apply it to any topic.

Final objective is to have local stakeholders cooperate with each other on topics of common interest, thus creating the **PoWER Innovation Hubs Network (IHN)** and to provide them with a clear view of actions to carry out in the short-mid-term at the local level, as well as with a more structured **Strategy** to be implemented at the transnational level.

## The PoWER Strategy: a steering instrument for evolving ports into Innovation Hubs

One of the main outputs of the Project is the PoWER Strategy, the reference framework for the future activities of the Innovation Hubs Network to provide continuity to the evolution process activated during the project implementation period.

The Strategy is the result of a joint action aimed at capitalizing the results of the process carried out by the PoWER Consortium at local level and at identifying the common strategic challenges, mostly related to Blue and Green growth, to be tackled after the project finalization, by fostering the rise of a holistic and integrated co-evolution process.

In particular, the PoWER Strategy is composed by four Evolution Pathways, constituting the axes along which the evolution of ports into Innovation Hubs will be actuated. Every Evolution Pathway is articulated through priorities and timelines taken from its constituting topics, which, together, allow the development of a set of dynamics deeply integrated and intertwined among each other. As a result, each Evolution Pathway can be considered, in some way, “transversal” to the others.

EVOLUTION PATHWAYS	SHARED STRATEGIC TOPICS
Port as Logistic Hub	<ul style="list-style-type: none"> <li>• Integration with infrastructures</li> <li>• Expansion or optimization of operational spaces</li> <li>• Enhanced Logistics and multi-modality</li> </ul>
Port as Digital Hub	<ul style="list-style-type: none"> <li>• Digital transition</li> </ul>
Port as Sustainability Hub	<ul style="list-style-type: none"> <li>• Environmental protection and circular economy</li> <li>• Energy</li> </ul>
Port as Economic Hub	<ul style="list-style-type: none"> <li>• Tourism</li> <li>• Promotion of local economy</li> </ul>

### Overall Strategy time framework

<u>Transition Pathways</u>	<u>Time range</u>		
	<u>Short</u>	<u>Medium</u>	<u>Long</u>
<u>A.Port as Logistic Hub</u>			
<u>B.Port as Digital Hub</u>			
<u>C.Port as Sustainability Hub</u>			
<u>D.Port as Economic Hub</u>			

In order to formally establish a strong and virtuous Innovation Hubs Network, Ports and other higher institutional levels have been called upon to sign a dedicated Memorandum of Understanding: The PoWER Protocol.

In this document, they state their commitment to support the ports evolution process into Innovation Hubs with reference to the pathways developed thanks to the implementation of the PoWER Methodology and described in this Strategy, thus guaranteeing a well-founded institutional cooperation among the Hubs of the Network.

### **Towards the PoWER final event, core milestone of a wider process**

On **November, 27th 2020 from 9 a.m. to 1 p.m.** the PoWER Consortium will host their final event. Selected experts from Albania, Bosnia-Herzegovina, Croatia, Greece, Italy and Serbia will meet in virtual round-tables to discuss two relevant topics:

- The evolution of ports after the Covid-19 outbreak: Issues, challenges new opportunities;
- Ports as logistic, digital, sustainability and economic hubs: Strengths and challenges of the four PoWER transition pathways for the evolution of ADRION Ports.

At the end of each round-table, dedicated Q&A sessions will be carried out and the audience will have the chance make specific questions to the panelists.

The event will be opened by Ms Adela Franja, representative of the ADRION Programme Joint Secretariat and Mr Marco Padula, senior researcher at the Institute for Construction Technologies of the National Research Council of Italy and Coordinator of the PoWER Project.

The event will be preceded by a closed-doors meeting among the PoWER Consortium members and the representatives of the Innovation Hubs Network members in order to set common Strategy-related follow-up actions and to detect new topics to be investigated by means of the PoWER Methodology.

The updated agenda and the **link for connecting to the event will be available in the Events section of the PoWER Platform.**

**More information on PoWER at:** <https://power.adrioninterreg.eu/>

**Visit the PoWER Platform:** <http://www.powerports.eu/>

### **Project contact:**

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Marco Padula

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## SEADRION at a glance

Following the EU Green Deal initiative, and in order to achieve the decarbonisation of Europe's industry, heat pumps will play a key part in making Europe climate-neutral in the future.

In this context, heating and cooling of buildings can be significantly reduced with technologies, which use renewable energy sources and have high efficiency.

Taking this into consideration, the SEADRION project aims to support the development of a regional innovation system for the Adriatic-Ionian area with the installation of **3 renewable energy facilities in public buildings located in Greece (Alexandroupolis) and the western and south part of Adriatic Croatia (Crikvenica and Dubrovnik)**. These facilities are seawater heat pumps, an innovative system that uses the thermal energy contained in a reservoir (sea) to achieve the cooling and thermal energy in the buildings which are close to the sea.

The main objective of the SEADRION project is to identify **benefits and barriers** associated with the use of this technology and to find a system solution designed to improve the use of the seawater heat pump technology and to make the buildings energy self-sufficient and independent of fossil fuels.

### The first step: Pilot plant installation

Commissioning of the pilot plant in Greece by CERTH involving the installation of a seawater heat pump to meet the thermal and cooling needs in the Municipal Stadium of Alexandroupolis.



### The policy roadmap: how to enhance the heating and cooling sector

The main outputs of the SEADRION project are a **transnational seawater heat pump network** to support sustainable development in the ADRIAN region, a science and technology cooperation between research institutions and enterprises to enhance the innovation capacity of the heat pump sector and a **common strategy to enhance the use of the seawater heat pump based heating and cooling**.

Special attention was given on **the policy roadmap**, a reference framework **for the promotion of the heating and cooling sector by the utilization of seawater heat pumps (SWHP)**. According to that, the SWHP is a technology that is still not widely used except in the hotel sector or public buildings on the coast or some islands, and this applies to all partner countries of the project (Croatia, Slovenia, Italy, Greece and Albania).

Many **barriers** that hinder the increase in the implementation of (seawater) heat pumps are encountered in all partner countries and are mostly similar:

- lack of knowledge and experience in designing as installing and running such systems, lack of awareness from the policymakers, excessive bureaucratic obstacles, lack of public awareness and incentive subsidies.

On the other hand, some **measures and activities** proposed that could facilitate the implementation of such systems are inter alia:

- standardization of the seawater intake system installation, the involvement of heat pumps in energy strategies, application of district heating and cooling systems, new corrosion and maintenance-friendly materials, engagement of policymakers around structuring the process of implementation of heat pumps.

Many **stakeholder target groups** could be involved in implementing the suggested methodology activities, from the national public authority to enterprises.

**Opportunities** can be sought in other countries of the Mediterranean, such as Italy and France, where multipurpose complexes or district heating and cooling networks are considered in order to reduce heating and cooling costs along with:

- Training programmes for RES-installers, such as the EHPA EUCERT, a European training and certification program for heat pump installers, tax deductions offered by the Government for energy-saving measures and investment grants for renewable heating installations

### **Building bridges and networks of collaboration**

UNIZAG FSB and the Croatian Heat Pump Association organising a workshop called “Thematic Heat Pump Day” with a focus on the “Potential of seawater exploitation in heat pump systems“. Similar events are organised in all participating counties targeting various stakeholders, from students to professionals, public authorities as well as enterprises.



More information on SEADRION at: <https://seadrion.adrioninterreg.eu/>

#### **Project contact:**

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Neven Duić

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## NEXT STEPS of THEMATIC CLUSTER

Stay tuned for even more reading content, exploring the next and last monthly newsletter by FUTURE 4.0 and Eco-Nautinet projects, the joint policy paper with scientific recommendations and the report on new areas/fields of intervention/project ideas developed by the TC in order to be financed in the next programming period.

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# ADRION THEMATIC CLUSTER ON BLUE GROWTH AND RELATED SMART GROWTH

**ECO-NAUTINET AND FUTURE 4.0 PROJECTS  
INTERREG ADRION**



**NEWSLETTER #6**

**November 2020**

**Message from Thematic Cluster Coordinator Prof. Nikitas Nikitakos, University of the Aegean (Greece)**

Welcome to the ADRION Thematic Cluster (TC) on Blue Growth and related Smart Growth. The 1st TC consists of 10 relevant projects funded under Ionian Adrion framework with the ultimate goal to promote cooperation, and to identify common synergies and new ideas for the next EU programming period. One newsletter will be available for downloading each month in the **TC section** prepared by two projects each time of the TC, with informative articles about Cluster's objectives, as well as updates on programs, contests, conferences, activities, and other-related news.

This is our sixth Newsletter and we are very excited to share with you the latest news of ECO-NautiNET and FUTURE 4.0 projects. In this issue you can get to know the two projects, their main outputs, find out about their upcoming events and explore their contribution to Blue Growth in the macro-region.

Any suggestion from all of you could be send in my personal e-mail or through the projects participating in Cluster. Let's work towards valuable outputs!

Prof. Nikitas Nikitakos  
Dept. of Shipping Trade and Transport  
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E-mail: nnik@aegean.gr

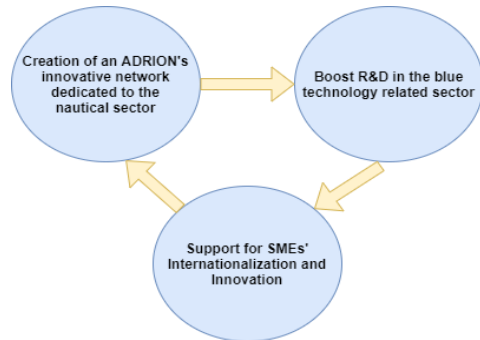


## ECO-NautiNET at a glance

### Network's support for SMEs in the Nautical sector of the Adriatic-Ionian Region

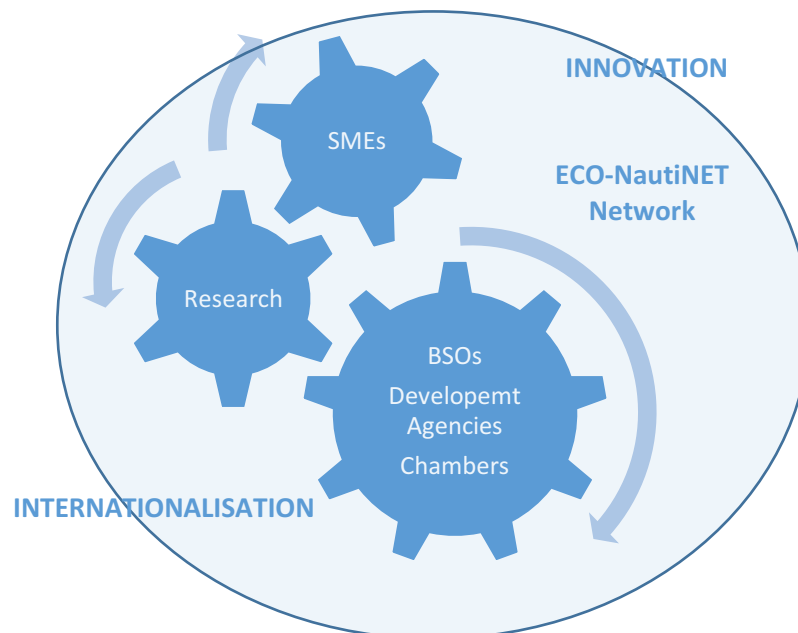
The project main objective is the realization of a common and innovative ADRION's Network dedicated to SMEs, Research Institutions and Business Support Organizations with aim of improving SME's competitiveness and innovation in the Nautical sector and supporting their internationalization. In particular, the main objectives are:

- To tackle the lack of innovative collaboration among SMEs across the Adriatic-Ionian area, by using existing successful experiences in the EU area in the field of network model of organization and providing to the actors involved trainings, tutoring and the latest technologies available in the nautical sector;
- To realize concrete possibilities of cooperation in terms of process and products innovation among SMEs in the ADRION zone.

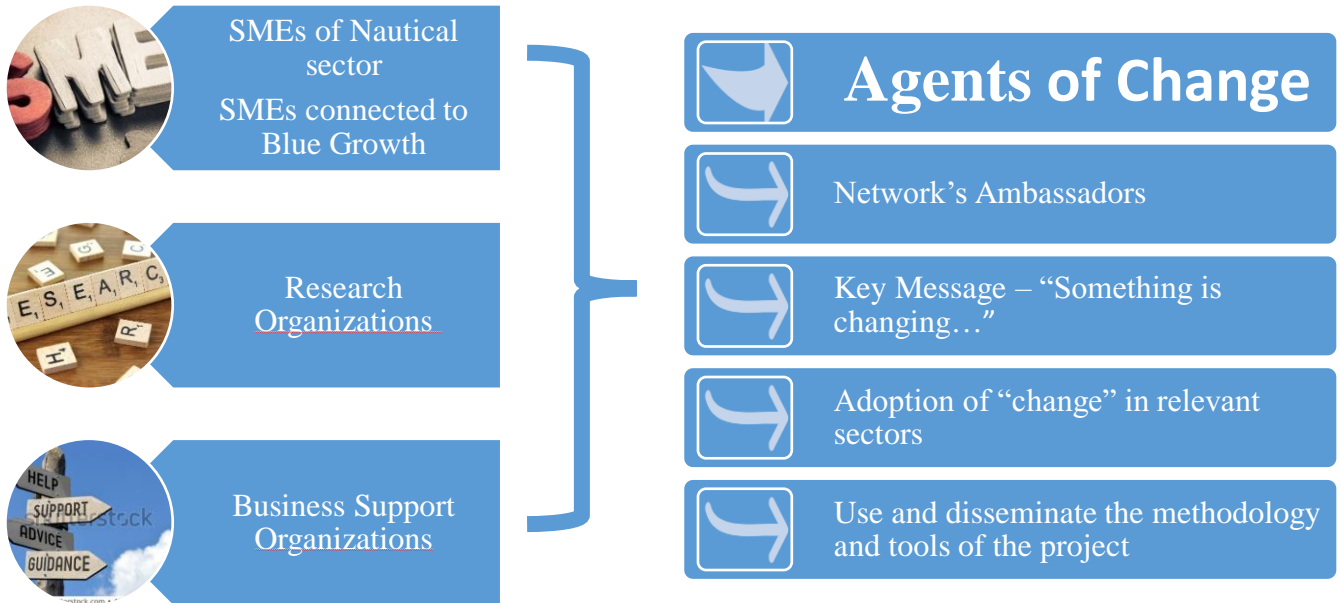


### Main results of the project:

- An effective and stable collaboration between SMEs and/or Research Institutes thanks to a common Joint Management System platform, in order to improve competitiveness and innovation in the Nautical sector
- The realization of collaborations involving mainly innovative key actors such as the Chambers of Commerce and SMEs' Association and Development Agencies, for the development of a transnational and Adriatic-Ionian common ECO-NautiNET platform, aimed to support creation and growth of networks in the ADRION area
- To facilitate key innovation actors' work in supporting internationalization among local SMEs and ensuring common methodologies and possibilities to entrepreneurs and research institutes.



## Methodology



The project implemented a NETWORK Model based on a multilevel approach, which includes:

- Involvement, motivation and training of SMEs to improve their networking approach;
- The selection and training of key figures to support the creation, maintenance and growth of networks (facilitators, tutors and brokers);
- The creation of a web platform with attention to ECO-solutions in the nautical sector;
- A joint management system between business support organizations, SMEs and research institutes;
- The creation of tools (for example, e-learning programs in the platform) to guarantee and facilitate the growth and transferability of results
- the use of a specific tool to support innovation and the transfer of new technologies “ready for the market” by researchers to SMEs

## MAIN OUTPUT – ECO-NautiNET Network

- **Cooperation network among enterprises, business support organizations and research institutes;**
- **A Web platform, with a specific focus on the ECO solutions in the nautical sector:**
  - developing a set of instruments and tools to foster innovation and internationalization of SMEs in the Adriatic-Ionian area;
  - facilitating the establishment of an effective collaboration between SMEs and



<https://econautinet.fsb.hr/>

Research Institutes thanks to a common Joint Management System platform in order to improve competitiveness and innovation in the Nautical sector;

**More information:** [ECO-NautiNET Webpage](#)

## **FUTURE 4.0 at a glance**

One of Europe's major weaknesses lies in its inferiority, when compared to other developed economies of the planet, in terms of transforming the results of technological research and skills into innovations and competitive advantages (EU Green Paper on innovation).

To fill this gap, the FUTURE 4.0 project has worked for three years aiming to face the challenges brought about by the Fourth industrial revolution with a specific focus to the maritime, naval and shipbuilding sector. This sector - just like or even more than other manufacturing sectors - is affected by the progressive introduction in productive processes of cyber - physical systems, which combine traditional processes with artificial intelligence and which are tearing down the borders between the real world and the virtual one. Adriatic - Ionian societies, industries and economies are involved as well in this transformation, with effects on production, on relations between companies and on human capital development. To face this challenges, the project aimed to design an Industry 4.0 model to improve the competitiveness of the maritime and shipbuilding sector in two Italian regions (Veneto and Apulia), in Croatia, Greece and Albania.



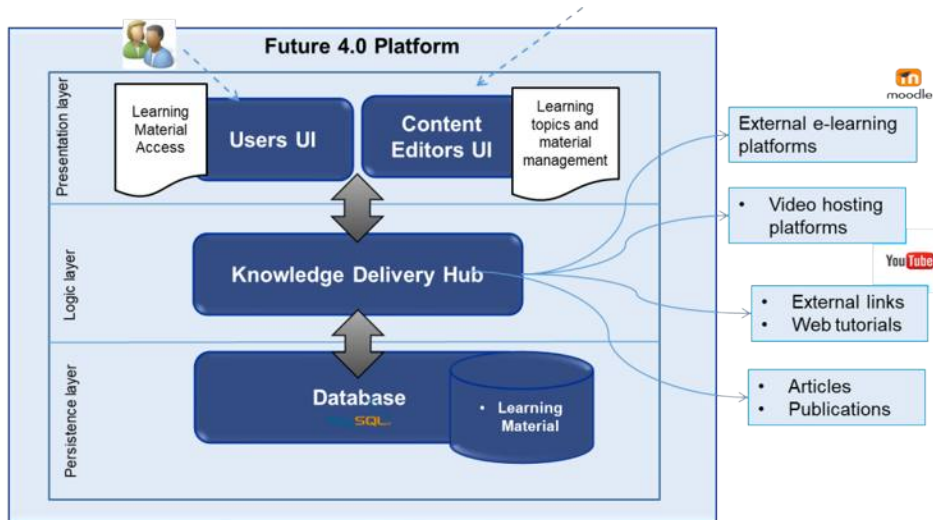
The partnership of FUTURE 4.0 is multi actor and encompass public and private bodies (such as the Veneto Region that is the lead partner, the Primorje - Gorski Kotar county, the Chamber of commerce of Tirana, The Chamber of Commerce of Achaia), universities (The Polytechnic of Bari, the University of Rijeka, the University of Patras, the Mediterranean University of Albania) and company support organisations (Confindustria Veneto SIAV), all active in promoting Industry 4.0.

## **From territorial analysis to innovative design of a Smart Learning Model for knowledge transfer**



An exhaustive research activity was the stepping stone of the project aiming at investigating the characteristics of partner regions in terms of economy, development trends, demography and specificities of the maritime and nautical sector. The analysis was also the occasion to consider the skills and the professional profiles currently in use in the shipbuilding sector and to discuss with companies the skills and profiles to implement Industry 4.0. This analysis of the industrial needs was at the very heart of the design of the Smart learning model, i.e. partners' approach to support companies in up-skilling and re-skilling their workforce. The model was developed

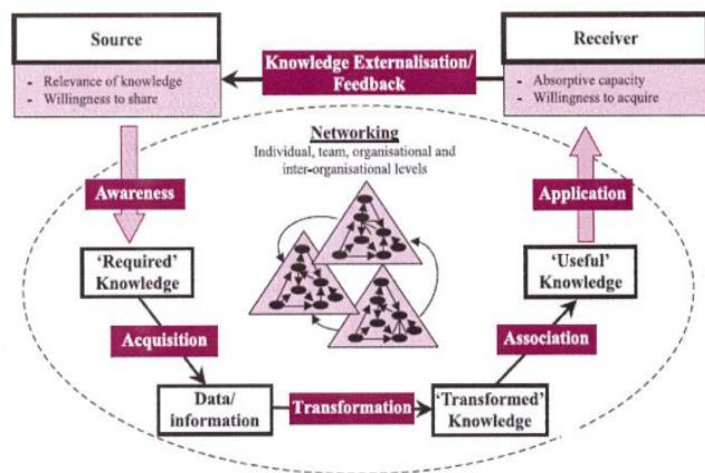
within the concept of knowledge transfer, which is not limited to the sole idea of technological transfer, but deals also with the need to prepare the company to acquire new external knowledge and to transform it so as to make it usable in the receiving organisation. An on-line platform was designed to support the application of the learning model and to make available an open learning environment.



The FUTURE 4.0 platform architecture.

### Action Plans for the experimentation of the Smart Learning Model

The learning model was tested in the five partner regions through the realisation of as many local action plans, which involved 60 public and private stakeholders and 132 companies of the maritime industry. The plans introduced enterprises to the fundamentals of enabling technologies linked to Industry 4.0, such, for instance, Cloud computing, augmented reality and advanced manufacturing systems. The plans were useful as well to validate the learning model and to propose four innovative professional profiles to improve the learning offer linked to Industry 4.0 in the shipbuilding sector. The four profiles are: IT Manager, Technical Area - Research and Development Manager, Supply Manager, and Human resource manager.



Model for knowledge transfer (adapted from Liyanage et al, 2009)

### FUTURE 4.0 Positive impact

Not only did project results meet project objectives, they also had three positive consequences on the maritime and naval industry in the Adriatic - Ionian area.

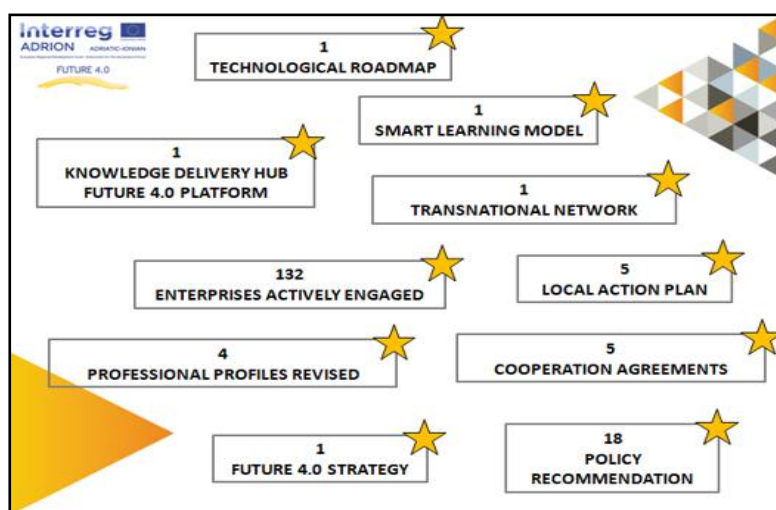
First, companies transferred new knowledge linked to the Fourth industrial revolution, improving their potential in terms of innovation, effectiveness, cost reduction, new operative and managerial processes and development of new skills.

Second, links, partnerships and connections between enterprises, knowledge providers, universities and public administrations have been created; these links strengthen the sense of belonging of operators who, in implementing Industry 4.0, are facing common challenges and problems.

Third, the project dealt with the issues of the Fourth industrial revolution, mixing them with other cross-cutting issues linked to all productive sectors, like climate change, the progressive exhaustion of resources, demography. As a result, sustainability itself of the maritime sector is increased and the contribution of the naval sector to the development of the Adriatic - Ionian area is empowered.

Fourth, Partners decided to subscribe a formal cooperation agreement, to continue their collaboration on Industry 4.0 in the maritime sector, widening the transnational network so far established, to continue working with the FUTURE 4.0 platform and to go on supporting companies in the digital transformation processes.

### FUTURE 4.0 Project Figures



### FUTURE 4.0 transnational final event

On December, 17th 2020 from 2.30 p.m. to 7 p.m. the FUTURE 4.0 Consortium will host their final transnational event. Project partners and experts will accompany the public through the journey made in the 3 years of implementation, sharing experiences, results achieved and lessons learned, and exploring new European cooperation opportunities related to the 2021/2027 programming period.

The updated agenda, info for registration and the link for connecting to the event will be available in the Events section of the FUTURE 4.0 official webpage.

**More information on FUTURE 4.0 at:** [www.future4.adrioninterreg.eu](http://www.future4.adrioninterreg.eu) and [www.regione.veneto.it/web/attivita-produttive/adrion](http://www.regione.veneto.it/web/attivita-produttive/adrion).

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## **NEXT STEPS of THEMATIC CLUSTER**

Stay tuned to explore the common policy paper with scientific recommendations and the report on new areas/fields of intervention/project ideas developed by the TC in order to be financed in the next programming period.

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