



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

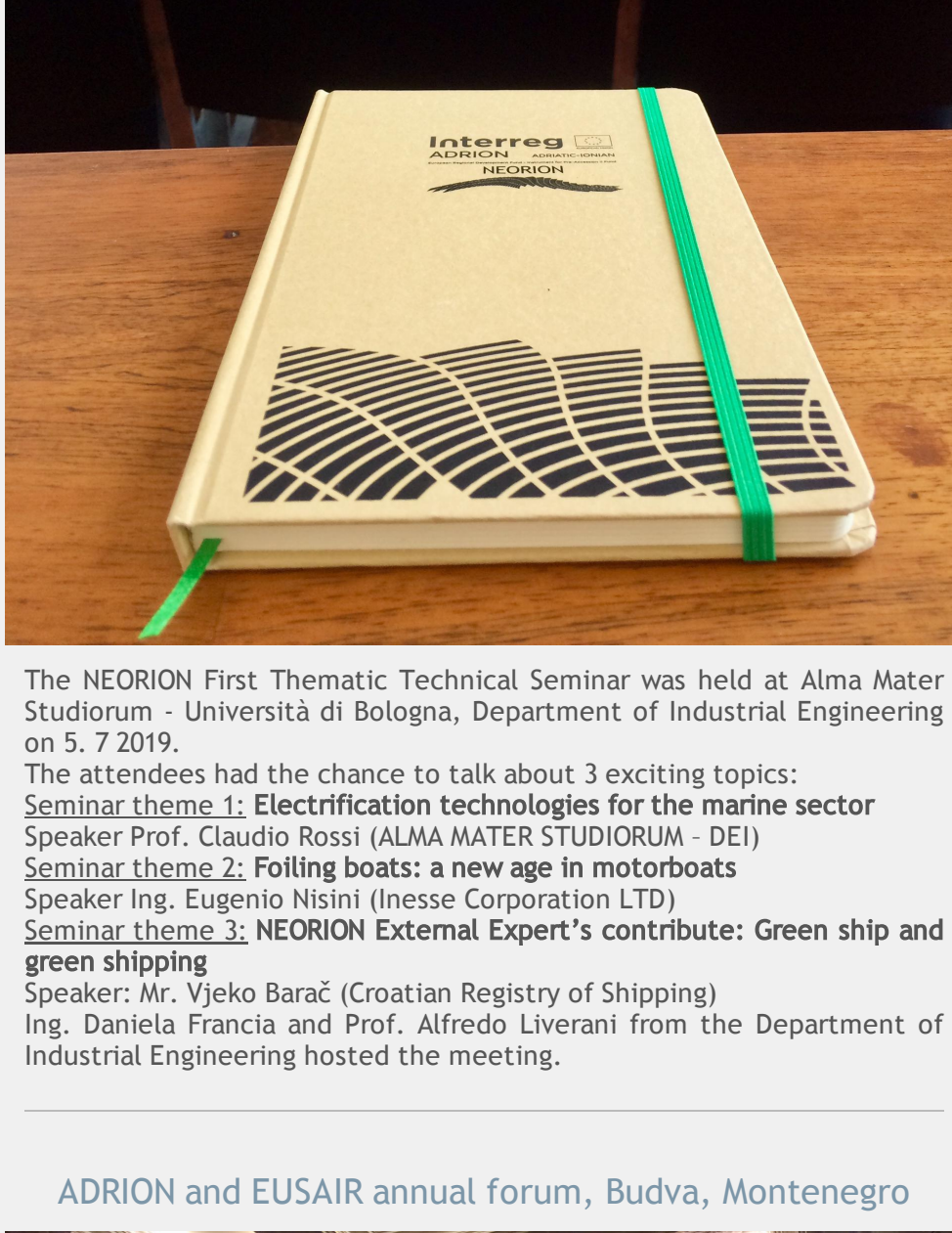
4th Project Steering & Technical Committee Meeting, Bologna, Italy



The 4th NEORION project partners meeting took place in the beautiful venue Alma Mater Studiorum - Università di Bologna, Department of Industrial Engineering in Bologna, Italy from 3. - 5. July 2019.

The partners presented the project results and the Overall State of the Art of NEORION to the ADRION Joint Secretariat based in Regione Emilia-Romagna (Italy). The project partners also agreed on the proceeding steps that will be implemented during the project duration. On the second day the project partners and external experts visited the Cantiere del Pardo SpA headquarters in Forlì, Italy. Dr. Fabio Planamente, CEO of Cantiere del Pardo, presented the company that was followed by an open discussion and Round Table with Stakeholders. Neorion project was presented by Prof. Nikitakos from the UAEGEAN. The attendees visited the Cantiere del Pardo shipyard and had the opportunity to observe various stages of the production.

First technical seminar, Bologna, Italy



The NEORION First Thematic Technical Seminar was held at Alma Mater Studiorum - Università di Bologna, Department of Industrial Engineering on 5. 7 2019.

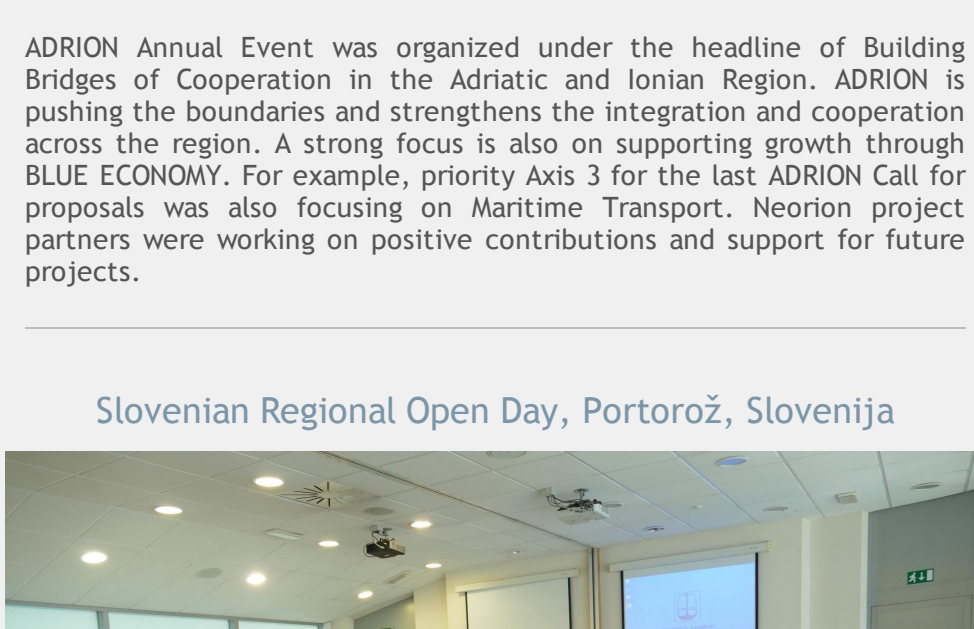
The attendees had the chance to talk about 3 exciting topics:
Seminar theme 1: Electrification technologies for the marine sector
 Speaker Prof. Claudio Rossi (ALMA MATER STUDIUM - DEI)

Seminar theme 2: Foiling boats: a new age in motorboats
 Speaker Ing. Eugenio Nisini (Inesse Corporation LTD)

Seminar theme 3: NEORION External Expert's contribute: Green ship and green shipping

Speaker: Mr. Vjekoslav Barać (Croatian Registry of Shipping)
 Ing. Daniela Francia and Prof. Alfredo Liverani from the Department of Industrial Engineering hosted the meeting.

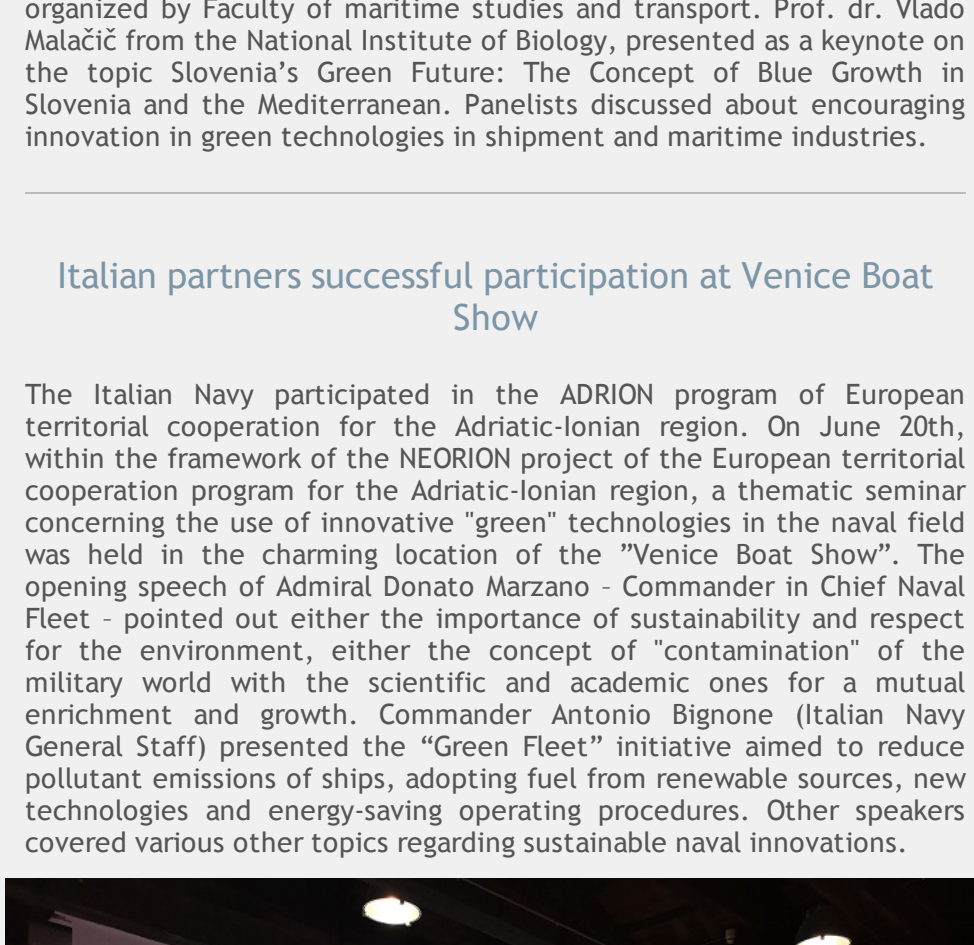
ADRION and EUSAIR annual forum, Budva, Montenegro



The project partner **Technology park Ljubljana** and **The University AEGEAN** participated at the ADRION Annual Event and the Forum of the EU Strategy for the Adriatic and Ionian Region EUSAIR in Budva, Montenegro in May 2019.

ADRION Annual Event was organized under the headline of Building Bridges of Cooperation in the Adriatic and Ionian Region. ADRION is pushing the boundaries and strengthens the integration and cooperation across the region. A strong focus is also on supporting growth through BLUE ECONOMY. For example, priority Axis 3 for the last ADRION call for proposals was also focusing on Maritime Transport. Neorion project partners were working on positive contributions and support for future projects.

Slovenian Regional Open Day, Portorož, Slovenija



Technology park Ljubljana organized the Innovation-based green technologies in shipbuilding and shipment event in May 2019, which was held as a partner event of the European Green Week.

The event focused on green technologies and innovation and was co-organized by Faculty of maritime studies and transport. Prof. dr. Vlado Malačič from the National Institute of Biology, presented as a keynote on the topic Slovenia's Green Future: The Concept of Blue Growth in Slovenia and the Mediterranean. Panelists discussed about encouraging innovation in green technologies in shipment and maritime industries.

Italian partners successful participation at Venice Boat Show

The Italian Navy participated in the ADRION program of European territorial cooperation for the Adriatic-Ionian region. On June 20th, within the framework of the NEORION project of the European territorial cooperation program for the Adriatic-Ionian region, a thematic seminar concerning the use of innovative 'green' technologies in the naval field was held in the charming location of the "Venice Boat Show". The opening speech of Admiral Donato Marzano - Commander in Chief Naval Fleet - pointed out either the importance of sustainability and respect for the environment, either the concept of "contamination" of the military world with the scientific and academic ones for a mutual enrichment and growth. Commander Antonio Bignone (Italian Navy General Staff) presented the "Green Fleet" initiative aimed to reduce pollutant emissions of ships, adopting fuel from renewable sources, new technologies and energy-saving operating procedures. Other speakers covered various other topics regarding sustainable naval innovations.



The Chamber of Commerce of Venice Rovigo organized a seminar on "Enabling Technologies for the Shipbuilding Sector".



The Chamber of Commerce of Venice Rovigo participated in the Venice Boat Show which took place at the Arsenal in Venice between the 18th and 23rd of June 2019. The Chamber of Commerce organized a seminar on "Enabling Technologies for the Shipbuilding Sector". The participants had the opportunity of witnessing the successful experiences of other enterprises of the shipbuilding sector. The seminar focused on some core topics, such as circular economy, sustainable technologies, innovative materials and the use of IT and simulation in shipbuilding. Witnessing best practices from other enterprises allowed participants to acknowledge that a transition towards green shipbuilding is possible and some concrete successful results have already been achieved.

The Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb organized a Local Capacity Building Seminar



FSB Zagreb NEORION team organized a Capacity Building Seminar on the 17th October. It was in a form of a conference alongside the 17th International Innovation Exhibition - ARCA 2019. ARCA is a well-known exhibition of innovations, inventions and new technologies that cover all aspects from everyday life up to heavy industries. ARCA was held on 17. - 19. 10. 2019. in Zagreb and the Local Capacity Building Seminar was held on the first day, October 17th.

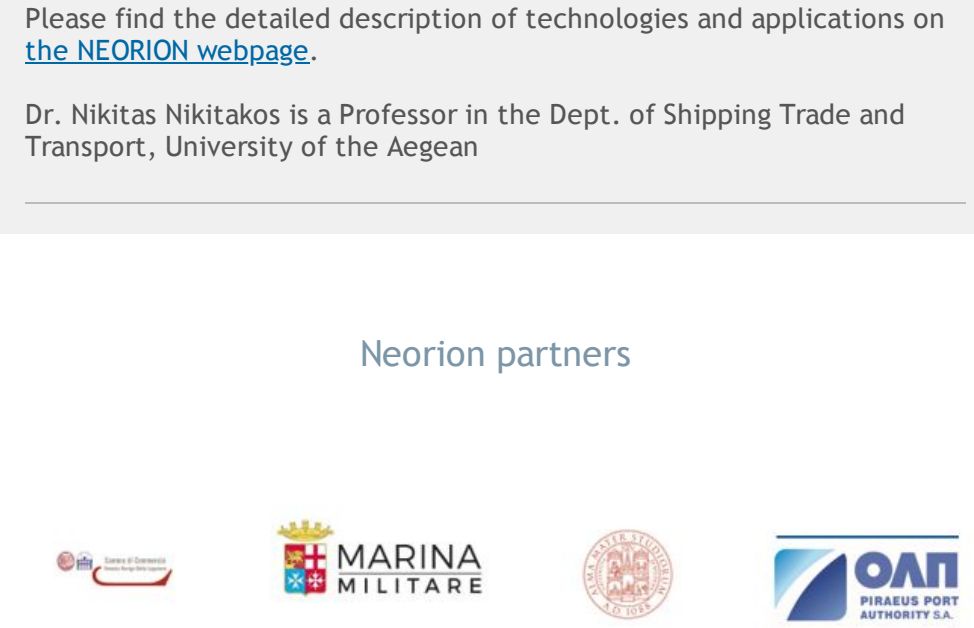
The focus of the conference was on innovations, green technologies and experience of Croatian inventors and companies in shipbuilding and shipping industries and infrastructure. During the event there were 6 lectures and 1 panel discussion. Speakers covered a wide range of topics: Sandro Vidas - Croatian Shipowners' Association Mare Nostrum (hydrogen propulsion - goals, interests and experience of shipowners); Tomislav Uroda - iCat d.o.o. (electric propulsion vessels - experience and challenges of shipbuilding in Croatia); Krno Fafandel - Rijekaproyekt d.o.o. (polyvalent energy generating wave breakers - research and application); prof. dr. sc. Hrvoje Kozmar - FSB (wind and water generated loads on structures of offshore wind turbines); dr. sc. Branimir Ružojić - Tema d.o.o. (permanent magnet and electric motors, ship applications); Franjo Pokrajčić - JEL-TOM d.o.o. (Croatian patents 'Wave breaker' and 'Box barrier', protection of coastal environment with possible energy generation). Participants of the panel discussion were as follows: prof. dr. sc. Joško Parunov, vice dean for scientific research and cooperation with the industry - FSB; Zoran Baričić - senior adviser of the Croatian Association of Inventors and a member of executive board of IFIA (Internationa Federation of Inventors and Innovations Associations); dr. sc. Branimir Ružojić - Tema d.o.o.

The Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb at Biograd Boat Show



The 21st Biograd Boat Show was held from 17.-20.10.2019 in Biograd, Croatia. It is Croatia's largest boat show, and Central European largest 'in-water' show. Boat and equipment manufacturers and distributors, charter agents and other marine field representatives occupied big parts of Biograd marina for the exhibition and test rides. In parallel, a conference of Association of Croatian small shipbuilders and various B2B meetings took place. Prof.dr.sc. Vedran Slapničar attended the conference and talked about NEORION project goals and emphasized the widening of the projects reach to include small shipbuilding and equipment distributors.

International Best Practices in Green Shipbuilding Technologies and applications, Prof. Dr. Nikitas Nikitakos - 2nd part



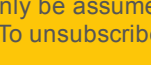
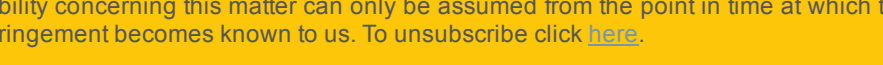
Following our previous presentation in this section a brief overview of several related technologies and applications are presented:

- o No Ballast System
- o LNG Fuel for Propulsion
- o LNG Fuel for Auxiliary engine
- o Sulphur Scrubber System
- o Advanced Rudder and Propeller System
- o Speed Nozzle
- o Hull Paint
- o Waste Heat Recovery System
- o Improved Pump and Cooling Water System
- o Sail and Kite Propulsion System
- o Fuel and Solar Cell Propulsion
- o Electric Ships
- o Sandwich Plate System
- o Usage of VFDs (Variable-frequency drives) on pumps and blowers
- o 3-D Printing Technology
- o Shipbuilding Robotics
- o Buckypaper

Please find the detailed description of technologies and applications on [the NEORION webpage](#).

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Neorion partners



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