AEGIS Newsletter No. 3, March 2022.

AEGIS: The new sustainable and highly competitive waterborne logistics system for Europe.

The Advanced, Efficient and Green Intermodal Systems (AEGIS) project will leverage a multidisciplinary team to integrate new innovations from the area of Connected and Automated Transport (CAT) to design the next generation sustainable and highly competitive waterborne transport system in Europe. This includes more diverse sizes of ships and more flexible ship systems, automated cargo handling, ports and short sea shuttles, standardized cargo units and new solutions for digital connectivity.

The main objective of AEGIS is to develop a new waterborne logistics system for Europe that leverages the benefits of ships and barges while overcoming the conventional problems like dependence on terminals, high transhipment costs, low speed and frequency and low automation in information processing. AEGIS intends to use new innovations from the area of CAT, including smaller and more flexible vessel types, automated cargo handling, autonomous ships, new cargo units and new solutions for digital connectivity to regain the position that waterborne traditionally had in freight transport. Ships are most efficient when the cargo holds are full. AEGIS will look for ways to attract new cargo, inbound as outbound, to waterborne transport. This requires new types of services, new business models and better logistics systems.

M18 mid term review was successfully completed in January. The project is now in month 22 and goes until May 2023.

The project has received funding from the European Union's Horizon 2020 Research and innovation program under Grant Agreement N°859992.

Recent events.

AEGIS, MOSES and ALICE arranged a webinar on cargo unit standardisation.

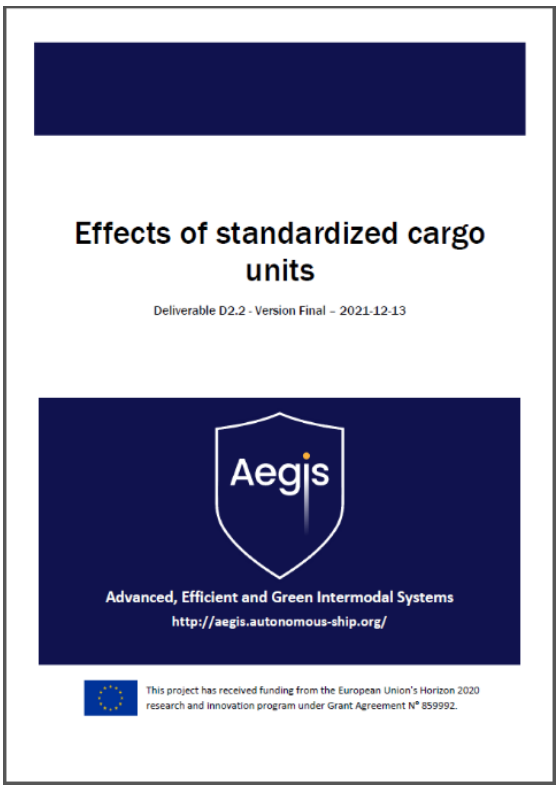
The EU projects AEGIS and MOSES joined forces together with ALICE and successfully arranged an online webinar on cargo unit standardisation in inland waterways transport and short-sea shipping on November 8th. About 70 people participated in the event!

The questions investigated in this workshop were:

- *What types (LoLo/RoRo/other, eg pallets) of loading units are more attractive?*
- *What about size, any limitations due to autonomy, green policies or intermodality?*
- *Is cargo unit standardization key for a more efficient cargo handling operational system?*
- *What are the challenges and what are the solutions that the projects propose?*

ALICE and the EU projects AEGIS, MOSES and CLUSTERS 2.0 were presented and there was a very fruitful panel debate following the presentations. The panel consisted of moderator Ørnulf Jan Rødseth (SINTEF Ocean) and the four participants:

- ALICE: Fernando Liesa
- AEGIS: Prof. Harilaos N. Psaraftis (DTU)
- MOSES: Prof. Nikolaos Ventikos (NTUA)
- CLUSTERS 2.0: Ton Bertens (Van Eck Trailers)



Thank you to the presenters/panellists and the moderator! A recording of the workshop follows under:

https://youtu.be/ZyoTOaJi5us

The workshop was part of the work in Work Package 2 and a public report (*Effects of standardized cargo units)* will soon be issued and made available on the AEGIS homepage.

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Import, export and security constraints.

A public report on how to handle import, export and security constraints has been published and is available on the webpage.

This report gives an overview of ISPS processes and documents, and also of customs and cargo clearance processes and documents. It is based on questionnaires and workshops held with the project partners. The answers were reported both written and by having tele conferences.

Further, the report describes how the mother and daughter concept may affect the ISPS and customs clearance processes. This is relevant when transhipment is done between the mother and daughter vessels.

This report is a WP2 report with title "*Handling export, import and security constraints*", with Grieg Connect as the responsible author, and can be found on the AEGIS webpage.

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AEGIS project presented as example for policy reform in Brazil.

AEGIS member Nelson F. Coelho (Aalborg University) participated in November 2021 to the V Congress of the Brazilian Institute for the Law of the Sea, devoted to contributing to the ongoing governmental reform of Brazil's national maritime policy (Decreto nº 10.607, de 22 de janeiro de 2021). Nelson's presentation in the panel themed "security, threats and challenges at sea" focused on the policy issues raised by framing autonomous navigation as a concern for security and safety (see full program: http://www.ibdmar.org/wp-content/uploads/2021/11/Programacao-oficial-do-V-Congresso-do-IBDMAR-2-10-11-2021.pdf). To discuss the challenges associated with autonomous navigation linked to the potential growth of short-sea shipping in Brazil's coast and inland waterways, Nelson has introduced the audience to the AEGIS project (see https://youtu.be/_D-3VQ_xvFo?t=4530).

Most of the cargo in Brazilian transportation is by road (approximately 61.1%); the railroad model corresponds to approximately 20.7% of freight transport, waterway mode with 13.6%, a pipeline with 4.2% and airway with 0.4%. According to researchers Delmo Alves de Moura and Rui Carlos Botter (2020), the maritime mode of cabotage/short sea shipping lost competitiveness in freight due to the construction and maintenance of highways, the technological development of vehicles and fuel subsidies given by Brazil's Federal Government. These researchers concluded that Brazil could mirror the model implemented in the European Union to develop its potential for short sea shipping. For that matter, they suggest that Brazil put into practice public and private policies that encourage the use of maritime transport along its coast, integrating with other modalities and reducing bureaucracy and optimizing the transportation system.

By referring to this Brazilian context and to the lessons to be learned from ongoing AEGIS research, Nelson's presentation dissected the international legal framework applicable to autonomous navigation, namely the UNCLOS and IMO Conventions, highlighting the norms that may constrain ongoing policy developments related to short-sea shipping. The presentation concluded by suggesting Brazilian policy makers: 1) to frame autonomous navigation as a technical regulatory challenge and not as an issue of security or safety; 2) to invest in administrative capacity building so that applicable regulations do not prevent or discriminate access of autonomous ships to Brazil's waters and ports; and 3) to support the development of logistical solutions that integrate the transition to autonomous maritime transport and maximize the potential of coastal and waterway navigation.

For further information, contact Nelson F. Coelho at nelsonfc@plan.aau.dk

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AEGIS project presented at *Zero and Low Emission Innovation Forum 2021*.

On September 28th, Harilaos N. Psaraftis (DTU) presented the AEGIS project at the high profile Zero and Low Emission Innovation Forum 2021, an online workshop organized by the IMO, UNEP and Norway. The workshop focused on innovation enabling environment, initiatives, and models, which foster maritime innovation and innovation deployment. Speakers highlighted how specific models represented could be replicated in developing country context and/or specific models used more for maritime decarbonization. Harilaos presented AEGIS and, among other things, talked about its potential relevance to developing countries.

AEGIS project presented at the Digital Tech Summit.

Harilaos also presented the AEGIS project on December 1st at the Digital Tech Summit, a conference and exposition held in Copenhagen. Harilaos talked about the logistical and environmental challenges of EU transport and how AEGIS could help overcome these challenges. He also presented some preliminary results from the project.

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AEGIS (and ISTS) arranged a workshop on Harmonized Ship-Shore Exchange of Administrative and Operational Data.

On the 8th of March 2022, the AEGIS project together with the project Intelligent Ship Transport Systems held a workshop in Oslo/Teams with the topic Harmonized Ship-Shore Exchange of Administrative and Operational Data. 20 persons attended the meeting physically while another 33 persons joined via Teams. The 14 presenters coming from Norway, Sweden, Finland and the Netherlands represent both maritime authorities, shipping lines, standardization bodies, software developers and research. The main conclusion was that the good collaboration that has started between the different stakeholders, especially through the work done by IMO on their Reference Data Model, need to be continued to address remaining tasks. The agenda with topics and presenters were (more information can be found on the AEGIS webpage):

Topic	Presenter
Standardization	
Harmonization of Ship-shore Data in IMO (EGDH, IMO Reference Model)	Mikael Renz, Swedish Maritime Administration
ISO Standardisation of Ship-shore information exchange	Marianne Hagaseth, SINTEF Ocean
Port Call Optimization	Ben van Scherpenzeel
Nautical Information	
Norwegian port location system	Matilde Skjæveland Skår, Norwegian Map Authority
S-131 Marine Harbour Infrastructure	Svein Skjæveland, Electronic Chart Centre
Authorities and Maritime Single Window	
Norwegian Safeseanet and New Interactions	Jarle Hauge
Finnish Safeseanet and Implementation of new MSW	Olli Soininen, Fintraffic
Ship and Port Systems	
Norway: Data Exchange and new portal, interfacing SSNN and port/terminal systems	Grieg Connect
Sweden: Data Exchange and Port Community System	Conny Rexed, Stamford
Experiences with Ship-Shore Data integration	Anders Berg, Unikie
User Perspective: Example of Ship-Shore data exchange implementation	Kenneth Johansen, NCL
Planning station and Mandatory Ship Reporting	Johan Stenaker, NAVTOR

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Consortium.

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