**Outline for the Digitalization Workshop**

**Tuesday 3 March 2020**

1. **Introduction**

Digitalization, automation and even autonomy in maritime transport and inland navigation (hereafter “waterborne transport”) are in full development. They will contribute to reducing emissions, enhancing maritime safety, decreasing existing efficiencies, or improving ship-to-ship and ship-to-shore communications. At the same time, they are also potentially disruptive for the sector (e.g. they may lead to new business models).

For Europe’s maritime technology sector, digitalization, automation and autonomy may create both challenges and opportunities. They may, for instance, improve shipbuilding processes and enable Europe’s shipyards to maintain or regain global competitiveness. They may also help ships and barges to be better monitored, to enhance their safety, to improve situational awareness, or to improve their energy efficiency.

1. **Exploiting the full potential**

To exploit their full potential for Europe’s maritime technology sector, it is of key importance to have an appropriate (regulatory) framework in place that removes obstacles or barriers, that financially stimulates research, development or the uptake of innovative technologies, that enables the sector to find the rightly skilled people that can master new technologies, or that provides for the necessary legal certainty that allows first movers to investment in and make progress with new technologies (e.g. a clear definition of “*Energy Efficient Technologies*” (EET) can offer a great opportunity to enable Europe’s maritime technology industry in making waterborne transport an environmental and energy-friendly mode of transport, as part of an important step towards a climate neutral sector).

Other important points to be reflected upon include public acceptance, the role of the verifiers or the role of/for shipowners in a fast-changing business environment, the level of readiness of the technologies, the role of the regulators, etc.

To stimulate the sector in moving forward rapidly, it is of utmost importance to have supporting or facilitating policies and regulations (including on the social dimension), financial support from Research, Development and Innovation and for the deployment of innovative technologies as well as other Financial Support Instruments. These policies and regulations need to be adopted as part of an holistic approach (e.g. as part of the European Green Deal of European Transport Policy) and framed in a coherent and coordinated manner and timeline in order to underpin the initiatives from the sector. In this respect the following timelines need to be taken into consideration:

* ***Short-Term*** – Data infrastructure (communications, link, cyber, sensor, learning algorithms); operational; port call optimization; ship’s monitoring system on board and on shore; business justification for vendors, operators, shipyards….
* ***Mid-Term*** – Some parts of the voyage automated and autonomously performed.
* ***Long-Term*** – Automated and autonomous transport tasks and whole autonomous and automated voyage.

1. **The position of SEA Europe**

In the context of discussions at the IMO and in the EU, SEA Europe is often invited by decision-makers and other stakeholders (e.g. shipowners) to provide its vision and position on this matter. For this reason, the Secretariat has launched some internal discussions to prepare a SEA Europe position. In the context of SEA TEC – SEA Europe’s Technical and Environmental Committee – SEA Europe has recently elaborated a position paper on the various levels of automation and autonomy (as input for the MASS discussions at the IMO), whilst SEA IPR – SEA Europe’s working group on intellectual property rights – has looked at the issue of digital twin.

In the context of the Waterborne Technology Platform (TP), in which SEA Europe is one of the core stakeholders, discussions on a general level have also taken place on this topic. The outcome of these general discussions is reflected in the TP’s most recent Strategic Research and Innovation Agenda. However, a further detailing of the general principles still needs to be done.

During the afore-mentioned discussions, a number of fundamental problems have arisen. Two of them are of particular importance. Firstly, there is currently no common definition and understanding of the concepts “digitalization”, “automation” and “autonomy”. Secondly, there is a (perceived) competition threat between shipyards and maritime equipment manufacturers. These issues have blocked a further debate within SEA Europe.

1. **Way forward**

To enable SEA Europe to move forward and elaborate its vision and position on digitalization, automation and autonomy further, there is a clear need for SEA Europe’s members to have a common understanding of the concepts involved, to discuss the main challenges and to identify the opportunities as well as to indicate the obstacles and make proposals to overcome these obstacles. To

that end, the Secretariat will organize a dedicated workshop on 3 March with the following aims:

1. ***Agree on a common definition and understanding of the concepts “digitalization”, “automation” and “autonomy”.***
2. ***Identify the challenges and opportunities for the maritime technology sector in Europe from “digitalization”, “automation” and “autonomy” and explain the business case.***
3. ***Identify the steps and initiatives – including regulatory initiatives – that are necessary to untap the potential of the opportunities for Europe’s maritime technology sector from “digitalization”, “automation” and “autonomy”.***
4. ***Clarify whether the perceived tension or competition between shipyards and maritime equipment manufacturers on their (future) role as a result of “digitalization”, “automation” and “autonomy is correct/justified. If so, reflect on what SEA Europe can – if at all anything – do to overcome this tension.***

**Concordance Table(s)** - **What do we want?**

Digitalization Technological Avenues include data infrastructure and data management, ports’ call synchronization, automation on board and on shore and autonomy.

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| **Digitalisation Avenues** | | **Regulatory Options** | | | |
| Public/Industrial  Coordination | Standardization | Soft Legislation | Legislative Measures |
| Cybersecurity | Data infrastructure |  |  |  |  |
| Port call optimisation |  |  |  |  |
| Automation |  |  |  |  |
| Autonomy |  |  |  |  |
| European supporting instruments | | | | | |

European Digitalization Initiatives

* Digital Transport Logistic Forum - DTLF
* European Maritime Single Window - EMSWe
* Vessels Traffic Monitoring Services - VTMS
* MARSUR
* CISE
* e-Certificates
* Electronic Tagging for Marine Equipment
* Guidelines for MASS tests at sea (and IMO Scoping Exercise and High Level Guidelines for MASS testing) under the HLSG

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| **Digitalisation Avenues** | | **Digitalization Initiatives** | | | | |
| EMSWe  VTMS | DLTF | HLSG MASS | e-Certificates | MARSUR / CISE |
| Cybersecurity | Data infrastructure |  |  |  |  |  |
| Port call optimisation |  |  |  |  |  |
| Automation |  |  |  |  |  |
| Autonomy |  |  |  |  |  |
| European supporting instruments | | | | | | |

Relevant European Instruments that would be amended to support the sector on this matter are, for instance:

* Connecting Europe Facility CEF
* Horizon Europe
* Trans-European Transport Network (TEN-T)

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| **Digitalisation Avenues** | | **Instruments and Policies** | | | |
| H2020 | CEF | European Green Deal | Other Financial facilities  (such as ETS) |
| Cybersecurity | Data infrastructure |  |  |  |  |
| Port call optimisation |  |  |  |  |
| Automation |  |  |  |  |
| Autonomy |  |  |  |  |
| Flagships initiatives | | | | | |