Digitalization and data sharing: making the maritime industry, safer, cleaner and more efficient

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Appendix 1: Short Summaries of Presentations

There were eight presentation at the beginning of the workshop. The presenters came from various maritime industry sectors such as: insurance, ports, tech developers and consultancy organizations. The purpose of the presentations was to provide a variation of expert opinions on the benefits, challenges and developments of digitalization. Most of the presentations focused on the way current technology can be used by the maritime industry to improve its efficiency, sustainability and safety

Digitalizing Transport and Logistics – Christian Reber, Boston Consulting Group
This keynote presentation focused on the trends and benefits of digitalization. It was highlighted that the technology is continually improving and developing, as such the technologies required for digitalizing already exist and just require proper implementation. By digitalizing, the shipping industry can improve the efficiency of its communications and supply chain logistics. The potential of using digital technologies to optimize supply chains is massive. In just 10 years, increased end-to-end efficiency could result in fundamentally different and smoother supply chains. Furthermore, the trend is that investments are increasingly flowing into digitalized businesses due to their improved performance. Therefore, it is time that the maritime industry jump on the bandwagon and digitalize its business practices.

Autonomous Shipping – Jonas Bergring, Wärtsilä
This presentation highlighted that there are different degrees of autonomy and automation ranging from decision support and process automation with seafarers onboard to fully autonomous shipping without seafarers onboard. Increasing interest in automating ships have already led to tangible developments in the lower levels of automation, while the higher levels will continue to be developed in the coming years and decades. Increased automation is beneficial since relying on data driven decisions rather than solely human judgment will reduce accidents and stress, as well as freeing up time for the crew to focus more effectively on other tasks. In addition, automating shipping is already resulting in greater fuel efficiency, thereby reducing both emissions and cost of fuel.

Cyber Risk and Cyber Security – Philippe Aerni, Swiss Re Corporate Solutions
This presentation highlighted how digitalization create more intangible assets. While having easy and fast access and connectivity improves efficiency, it also changes the risk management profile of companies. As such there is a transition from an analogue world to a digital world, one where there are more digital gateways and complexities which can be used by nefarious individuals or organizations to gain access to digital assets and disrupt operations. Therefore, digitalizing also requires reassessing and reassuring cyber security strategies and policies.

How Sensor Technology can Improve Maritime Safety & Efficiency – John Roger Nesje, ScanReach
This presentation focused on the safety benefits of sensor technology for ships. The challenge for sensor technology has been its inability to operate effectively in closed steel environments such as ships. However, recent developments have yielded wireless sensors which remain unhindered in these environments. This sensor technology can be used to collect ship data such as temperature, humidity, air quality, fuel consumption and valve status. When transmitted to the appropriate authority, this data can help improve the safety on board the vessel and the efficiency of certain ship mechanisms. Moreover, the crew can wear special bracelets that’ll track their location so that in the case of emergency they can quickly be located, and appropriate decisions can be made.

How Working Together with Start-ups can Drive Digital Innovation – Nicklas Viby Fursund, Rainmaking
This presentation emphasised that industry corporations are presently facing hundreds of opportunities to radically reduce costs or improve revenue through new technology and business models. However, they lack the breadth of skills, experience and culture to realise their full potential. Yet, Start-ups have the talent, skills, technology and knowledge
that corporations need, but desire the capital, distribution channels and access to customers that corporations have. Therefore, both start-ups and corporations can benefit through well-defined partnerships, allowing corporations to future proof their businesses and start-ups to flourish. By combining forces, they can drive an industry forward through innovative solutions that neither side can develop alone.

**Improving the Efficiency of Port Calls – Ben Van Scherpenzeel, Port of Rotterdam**

This presentation focused on improving the efficiency of port calls through data sharing and collaboration. It highlighted the work done by the International Taskforce on Port Call Optimization to showcase an example on how this collaboration could be done. The presentation emphasized that having reliable, standardized and shared data across the supply chain would create efficiencies in logistical planning, thereby improving port calls. Increasing the efficiencies here would in turn lower the cost of shipping and increase both safety and sustainability.

**Changing Rules in the Global Supply Chain Management – Rainer Deutschmann, Migros**

This presentation focused on LT-OPEX-Tower, an end-to-end supply chain management software platform that monitors geographical information and real time data of orders and deliveries throughout the entire supply chain. This platform can identify inefficiencies which can be remedied with appropriate action. In order to produce the best results, relevant companies across the supply chain need to share their data. The more data shared, the better this type of program can analyse the supply chain, identify specific areas of waste and create specific ideal benchmarks. This program can deliver results regarding event, performance, cost, risk and Co2 management. Hereby, making shipping more cost effective and sustainable.

**Real World Examples of Analytics on the Edge – Marty Cochrane, Arundo**

This presentation focused on data analytics and AI computing software. This type of software, when connected to the control system on a ship, collects all ship data to analyse and monitor ship functionality. It can generate live-time models, thereby producing timely data analytics which can help improve efficiency on the spot. Also, its predictive maintenance would improve safety, for instance, through information on generator and pump life expectancy and predicting failure.

**Standardization, Digitalization and Interoperability – Natalie Kreft Villumsen, Deloitte, Representing the Digital Container Shipping Association**

This presentation focused on ways to increase interoperability through standardization, using the Digital Container Shipping Association as a relevant example of current initiatives. The main point is that currently the exchange of data and information across the container shipping industry are overly complex. Standardizing and digitalizing these information flows and processes will greatly improve the ease and efficiency in which these exchanges can occur. Thereby, reducing operational costs, increasing transparency and trust among partners and improving data security standards across the industry.