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| **8th Strategy Forum of the EUSBSR in Berlin 13 – 14 June** |

**Summary report**

**Seminar: Baltic Sea Region as a leading region for autonomous shipping**

**Time:** Wednesday, 14 June, 13:45 to 15:15 hours, Rathenau-Saal

The topic of the seminar was autonomous shipping and the panellists **Aleksi Uttula**, Senior Adviser, Finnish Transport Safety Agency, **Thomas Eefsen**, Chief Commercial Officer, Odense Maritime Technology, **Sauli Eloranta,** Executive Vice President, E&T, Rolls-Royce, and **Prof. Dr. Volker Bertram**, DNV GL/Visiting Professor, WMU (moderator) were invited to give their perspectives on autonomous shipping. This was done partly by presentations, partly by a panel debate between the panellists, which was moderated by Prof. Dr. Volker Bertram.

**Prof. Dr. Volker Bertram** started the seminar by introducing the audience to the concept of autonomous shipping and the current status of the development of the technology. This presentation was followed by **Aleksi Uttula**. He gave an overview of the status of regulations on autonomous shipping. So far, no international legal framework has been established to govern autonomy in shipping, but concurrently with the seminar two papers were being presented to the 98th session of the IMO Maritime Safety Committee (MSC 98). At the national level, on the other hand, legislation had been developed and adopted about the conduction of tests with autonomous ships in, for example, Finland in cooperation with industry stakeholders.

**Thomas Eefsen** highlighted three reasons *why* autonomous shipping is a good idea: 1) to enhance safety, 2) to reduce manning and cooling costs, and 3) to enhance service. He stressed the importance of nuancing the ongoing debate on “unmanned ships” and introduced a way of categorizing the stages of autonomous shipping by dividing it into six levels, ranging from the least autonomous ship, i.e. manual control of the ship, to a fully autonomous ship. In his view, a preferred way forward would be for the stakeholders and authorities to develop common standards and rules since this might reduce the costs related to the development and building of autonomous ships. He also stressed that autonomous ships will enhance freight transport, which will also benefit customers indirectly.

**Sauli Eloranta** thengave an introduction to the work with autonomous shipping in Rolls-Royce, including how the company is part of an industrial alliance called “One Sea”, which has created positive synergies in developing autonomous functions for ships. He also addressed the fact that Rolls-Royce has looked into other modes of transport in order to consider their advances in an effort to learn from the experience gained and to apply this experience to the maritime case.

After the presentations, the panellists were asked to tell the audience what they would wish from the regulators. **Aleksi Uttula** encouraged national authorities in all countries to open as much data as possible to the general public, **Thomas Eefsen** asked for the regulators to document that autonomous shipping will actually improve safety at sea, and **Sauli Eloranta,** on the other hand, would like permission to carry out remote-control tests with a crew on board, including digital twinning of the environment of the Baltic Sea Region, which could make the Baltic Sea Region the place to be for autonomous shipping.

When asked about the relevance of addressing the topic of autonomous shipping in a Baltic Sea context, all panellists responded that the Baltic Sea Region seemed to be a good place to start testing and piloting autonomous shipping. **Sauli Eloranta** underlined that it would be easy to expand to countries in the vicinity, **Thomas Eefsen** thought the potential was found especially within short sea shipping which was quite common in the Baltic Sea, and **Aleksi Uttula** highlighted that, as regards the regulation perspective, the Baltic Sea countries seemed to be very much on the same page and this would make it an easy place to cooperate. **Prof. Dr. Volker Bertram** added that the environmental regulations imposed on shipping in especially the Baltic Sea gave shipowners an incentive to choose drive trains that enabled smartness, and this would make it easier to introduce various levels of autonomy to the region’s shipping.

The audience also addressed, inter alia, the issue of safety in an environment with autonomous ships and manually controlled ships operating in the same waters. In response to this, **Thomas Eefsen** underlined the need for a plan for areas where autonomous and non-autonomous ships can operate, while **Aleksi Uttula** expressed hope that manned and autonomous ships would be able to operate in the same areas; however, Aleksi Uttula also stressed that test runs would require testing areas solely for autonomous ships.

Another central issue which was brought up by the audience was the need for shipowners to invest in research and development in order to progress in the field of autonomous shipping. To this **Sauli Eloranta** replied that it has not been a problem for Rolls-Royce to involve the shipowners and the industry. In continuation of this specific discussion, the issue of how small shipowners can benefit from digitalisation and autonomous shipping was also addressed. **Thomas Eefsen** highlighted benefits such as improved safety and reduced costs; however, he agreed that the larger the shipowner, the greater the benefit. This calls for some kind of standardisation which is affordable for rather small shipowners so that they will not have to spend money on the research and development phases themselves. **Sauli Eloranta** added that another benefit for small shipowners would be the possibility of 30 per cent more cargo movement and added that there is an endless amount of things that need to be standardised to the benefit of all shipowners.

The seafarers’ education and training was also addressed as a central issue when talking about autonomous shipping. **Prof. Dr. Volker Bertram** stated that autonomous shipping will make it easier for the crew. **Thomas Eefsen** stressed that, just as it is highly necessary to distinguish between types of autonomous ships, it is necessary to distinguish between the types of crews required for the various types of autonomous ship. **Sauli Eloranta** mentioned that there is a serious lack of digitalisation competencies in general, and particularly when it comes to the manning of autonomous ships.

The last issue to be considered by the panel concerned the steps to be taken now. **Thomas Eefsen** advocated new rules reflecting the various levels of autonomous shipping, while **Aleksi Uttula** considered liability an important issue to address.