



2019 HIGHLIGHTS, 2020 NEWS

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The year 2019 brought a shift in two areas: one is digitization, and the other sustainability. Both will remain center stage in 2020. Advancing both topics globally requires innovation from incumbents, startups and research – both in the West and the East. The current value of the global ‘ShipTech’ – shipping and maritime technology – market is estimated at over US\$100 billion dollars today and is set to grow to be worth \$278 billion by 2030. Spending in sustainability is also on the rise with A.P. Moller Maersk leading the way by investing \$1 billion on the way to the pledged net-zero CO2 emissions target from own operations by 2050. Technology and innovation are needed to reach IMO, ICAO and COP21 targets.

2019/2020

In 2019, digitization activities gained in focus with specific initiatives and innovations in key areas ranging from platforms and portals, to data sharing, monitoring, vessel automation and cybersecurity. Discussions around IMO 2020 was another highlight as industry has taken up the challenge, with serious measures

supporting the pledges. However, not every good idea succeeds and 2019 saw also some retreats. Hong Kong’s cryptocurrency startup 300cubits admitted defeat in its attempt to gain traction with its blockchain-enabled container booking platform.

Among the expected 2020 developments are increasing data sharing efforts between ports – enabled by concepts like PortCDM (Port Collaborative Decision Making) developed by the Research Institute of Sweden (RISE) and other standardization initiative-s. Another big topic will be clean steaming. The approach towards the execution of IMO 2020, the 0.50% global sulphur cap for marine fuels will prepare the grounds for the implementation of IMO 2050, the reduction of the maritime industry’s total annual greenhouse gas (GHG) emissions by at least 50% by 2050 compared to 2008.

DIGITAL CONTAINER SHIPPING ASSOCIATION (DCSA)

A 2019 breakthrough was the creation of the Digital Container Shipping Association. “For the first time in twenty years, the container

shipping industry has come together with a common goal to move the industry into the digital era. With the regulatory approval in place, we look forward for the association to take up work and to begin to collaborate with multiple stakeholders from the entire value chain,” André Simha, CIO of MSC and Chairman of the Supervisory Board of DCSA, said in evaluation of the event. In 2020, we can expect first tangible results of the work on standardization and interoperability.

INCREASING INVESTMENT IN INNOVATION

As digitization continues, companies are ramping up their resources and capabilities. A.P. Moller Maersk reported that the company has built a new technology team of close to 3,000 staff needed to achieve the company’s vision. Big corporates also turn to startups to find ways to solve their digitization challenges.

Testbeds and accelerators have been on the rise. In August 2019, Inmarsat, Cargotec, Shell, HHLA and Wärtsilä launched the second cycle of the Trade & Transport Impact Program in search for 10 mature startups. Traxens, the container Internet of Things

(IoT) firm backed by CMA CGM, Maersk and MSC, has become the new partner joining the Port of Rotterdam's Container 42 smart container exploration project. Container 42 will be shipped to ports around the world to gather and share information about global supply chain activities, equipped with solar panels and technology that can measure changes in vibration, acceleration, position and sound to local air pollution, temperature and humidity.

Meanwhile, TROMSØ-based Dialog signed a project with Tokyo-headquartered NYK to develop digital products across a testbed of 50 vessels. In addition, Singapore's largest shipping company, Eastern Pacific Shipping (EPS), teamed up with investor and accelerator Techstars to create a global maritime accelerator. In 2020, we will see more of such developments as the knowledge and experience gap in the industry needs to be closed. Experimenting and learning will be key themes in 2020.

PORT PLATFORMS, PORTALS AND APPS

The TradeLens digital platform gained traction in 2019. The platform offers one single, secure source of shipping data and was launched by Maersk and IBM in 2018. It claims to process 2 million events daily and 100 thousand documents weekly, supporting more than 150 ecosystem members in August 2019. With Hapag Lloyd and ONE announcing to join, five of the largest six carriers are now expected to be on the TradeLens platform by the end of 2019.

Hamburg Süd launched INSTANT, a digital application for container booking. Early bookings will enjoy lower pricing as subsequent price changes or additional fees will no longer apply. Bunker procurement platform Bunker Connect announced integration with BunkerTrust, allowing for projecting ratings on the live incoming quotes received from suppliers through the Bunker Connect system.

BASS, a maritime software company launched web-based app BASSnet Crew Portal to provide seafarers access to personal data, sailing plans and travel documents from ship or shore. NYK plans to support seafarers by means of the electronic money platform "MarCoPay" – in collaboration with Accenture and Citi. Bureau Veritas has released Veristar Equipment, a digital platform to assist equipment manufacturers in obtaining certification for products.

In 2020, more can be expected. The Maritime and Port Authority of Singapore (MPA) has already announced digitalPORT@SG, Singapore's digital portal for processing regulatory transactions. The maritime industry is integrating itself into the global platform economy.

DIGGING DIGITAL OIL: DATA SHARING TAKES OFF

The aim of the European Union (EU) STM initiative is to improve the maritime transport chain by making real-time data available to all interested and authorized actors. As part of STM, the Port Collaborative Decision Making (PortCDM) concept has been developed. PortCDM aims at predictable timings and operations in sea transport by building upon unified and standardized data exchange protocols among all stakeholders involved. Preliminary estimates suggest annual savings between \$7 and \$12 billion. The 2019 breakthrough was the adoption of the port call message format S-211 which allows ships and ports to exchange port call data in a standardized way to enhance coordination and synchronization of port visits.

K Line, MOL and NYK begun sharing data through the common data platform "IOS-OP" across vessels operated under charter by the Ocean Network Express (ONE) joint venture. ONE and TPS Valparaiso implemented the Xvela cloud-based collaboration platform at the Chilean terminal to improve planning through data exchange between stakeholders. The report 'Enabling Logistics Visibility by Interconnecting Logistics Information Service Systems in a Standardized Way' encourages participation in the development of the standardization process underway. The report was launched by the logistics visibility task force, created by Alibaba, the Chinese Ministry of Transport's National Logistics Information Platform (LOGINK) and the International Port Community System Association (IPCSA). Data sharing has become a key trend in the industry which will only accelerate.

VESSEL AUTOMATION CONTINUED

Integrated maritime value chains enable larger scale automation as benefits are easier to reap. Despite regular skepticism, the autonomous vessel concept saw continuous uptake. NYK reports autonomous vessel tests with ships compliant with IMO's Interim Guidelines for maritime autonomous surface ships (MASS) pilots as preparation for the introduction of manned autonomous ships to improve safety and reduce crew workload. ONE SEA, the autonomous ship alliance launched in Finland in 2016 to develop a roadmap, international rules and technology standards is growing and added maritime technology start-up Awake. AI to its membership. By the end of 2020, the first autonomous tug built by ABB and Keppel Offshore & Marine is scheduled to commence service in the Port of Singapore.

CYBERSECURITY REMAINS TOP OF MIND

In 2019, the Operational Technology Cyber Security Alliance (OTCSA) which helps companies to address the OT security risks was created by ABB, Check Point Software,

BlackBerry Cylance, Forescout, Fortinet, Microsoft, Mocana, NCC Group, Qualys, SCADAfence, Splunk and Wärtsilä. Many companies continue to improve capabilities and cyber defense systems, including Pacific Gas implementing Inmarsat's cyber security system and Shipmanager Anglo-Eastern investing in security research and consultancy services to ensure cyber resilience of its over 600 vessels.

ENVIRONMENTAL CONCERNS

2020 will be the year of the environment. IMO 2020 implementation will mark the beginning of a new era of clean shipping. An exercise to prepare for IMO 2050. Technology will play an important role to ensure compliance. But, so will fuels. Stena Line proves that AI can increase fuel-efficiency by 2-3%. In 2019, the UK government outlined its pathway to zero emissions shipping and committed £1 million (\$1.3 million) to fund the development of clean shipping technology projects through the industry-led MarRI-UK initiative. Countries across the globe are working on similar road maps.

As technology gets us only that far, we need to new-think vessel propulsion.

"Efficiency measures have positioned Maersk 10% ahead of the industry average. But getting to net zero requires a total shift in the way deep sea vessels are propelled. The shipping industry needs to introduce carbon neutral propulsion fuels and new technologies," Maersk's website claims. Probably, this is a long shot. But to reach our targets we better start today. Based on a joint study with Lloyds Register, the leading container shipping line will focus its research and development effort on alcohol, biomethane, and ammonia.

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ABOUT THE AUTHOR

Wolfgang Lehmacher is thought leader, advisor and practitioner in supply chain and logistics. During his career, he was Director, Head of Supply Chain and Transport Industries at the World Economic Forum, Partner and Managing Director (China and India) at the global strategy firm CVA, and President and CEO of GeoPost Intercontinental, the global expansion vehicle of French La Poste. He is advising Fortune 50 companies, investors and start-ups. He is member of the IATA Air Cargo Innovation Awards Jury and the Logistikweisen, a think tank under the patronage of the German Federal Ministry BMVI. Wolfgang Lehmacher is FT, Forbes, Fortune, BI contributor and author of numerous books, including The Global Supply Chain.