

People

Denmark

A.P. Moller-Maersk nominates new chair of the board and vice chair in generational change

Robert Mærsk Uggla has been nominated as new chair of the board for A.P. Moller-Maersk alongside new vice chair Marc Engel as part of a generational change for the company.

Current chairman Jim Hagemann Snabe and vice chairman Ane Mærsk Mc-Kinney Uggla will not stand for re-election to A.P. Moller-Maersk's board of directors at the company's annual meeting on March 15, 2022.

Mærsk Mc-Kinney Uggla said: "The transformation of A.P. Moller-Maersk into an integrated container logistics company is well underway as a result of the efforts of the board of directors, the management led by Søren Skou and the many dedicated employees."

"After three decades on the board, it is time for me to pass on the responsibility to Robert, who with his seven years on the board of directors

has been a driving force in the development of A.P. Moller - Maersk."

Mærsk Mc-Kinney Uggla has served on Maersk's board of directors since 1991 and been vice chairman since 2003.

She is also chairman of the board of directors of A.P. Moller Holding, which initiated the transformation in 2016.

"I would like to thank Jim for his vital role in the transformation, which he has executed with persistence and loyalty to the company's history, name and long term interests," Mærsk Mc-Kinney Uggla said. "Jim is handing over a strong company and a solid foundation for further development, and I am pleased that we will continue to benefit from Jim's knowledge and insight."

Hagemann Snabe will continue as an advisor to the new chair of the board and the board of directors.

He has served on A.P. Moller-Maersk's board of directors since 2016 and been chairman since 2017.

Hagemann Snabe said: "It has been a privilege to be part of the reinvention of this unique company. The focus on the core business and the development of new capabilities within

logistics, digitalisation and sustainability has been key to transforming the company.

"Robert has been involved all the way and during his time on the board has played a central role in the restructuring and transformation. The timing of a generational change is therefore well chosen."

Mærsk Uggla has been CEO of A.P. Moller Holding since 2016, where he is leading the A.P. Moller Group's renewal and investments.

He said: "I am very humbled to accept the nomination as chair of the company. We initiated the restructuring and renewal of A.P. Moller-Maersk in 2016 and have come a long way on many fronts."

Mærsk Uggla went on to say how grateful he was for Mærsk Mc-Kinney Uggla and Hagemann Snabe's contributions to the company and their support in the future.

The new vice chair, Engel, has served on A.P. Moller-Maersk's board of directors since 2019 and sits on the board's Transformation & Innovation Committee.

He is outgoing chief supply chain officer of Unilever and has extensive executive experience of global operations and supply chains, logistics, procurement, and sustainability.

Talking the Talk



Angela Titzrath, CEO of Hamburger Hafen Und Logistik, on the Ukrainian conflict: "War has never been a means of resolving conflicts, and it should no longer be a means in the 21st century" [»» Page 06](#)



Jacob Armstrong, sustainable shipping officer at T&E: "The shipping industry is making a killing right now. Ports are at the heart of this and their climate impact is enormous" [»» Page 23](#)



Dr. Guo Yu, lead analyst for Asia-Pacific at strategic advisory firm Sibylline, on Taiwan: "Beijing will use financial assistance and infrastructure investment to persuade Latin America and the Caribbean governments to switch diplomatic recognition" [»» Page 38](#)



Luis Quesada, assistant director of the FBI's criminal investigative division: "The lingering challenge of supply chain disruptions from the COVID-19 pandemic has created an opportunity for criminals to fix prices and overcharge customers" [»» Page 20](#)



Casemiro Tercio Carvalho, partner at 4 Infra, on the Santos Port privatisation: "By having users on the board, you have terminals and shipowners who are not solely worried by how much they pay for a service, but moreso what the level and quality of the service is" [»» Page 37](#)



Richard Phillips, mechanical engineer at Casper, Phillips & Associates, on finding cracks in cranes: "It's very unlikely to find cracks in structural members by hearing them, any noise heard is more likely to be a coincidence when you find them" [»» Page 40](#)



Margrethe Vestager, executive vice-president in charge of competition policy at the European Commission on the Konecranes/Cargotec merger: "In the current container industry landscape, we needed to make sure that this merger would not harm the supply chains by further price increases" [»» Page 22](#)

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Handle with Care

Increasing pressure from the supply chain can stress even the sturdiest of port equipment, Lacey Jones reports

Ship-to-shore (STS) cranes are the dominating feature at any port: tall, impressive, and seemingly unbreakable. But the ever-increasing demand of the supply chain can take its toll on these steel giants, creating cracks in a place where it truly hurts.

According to a recent report by Casper, Phillips & Associates Inc. (CPA), ports have been putting off crane purchases and instead wish to use existing cranes past their design life. Coupled with the record amounts of container traffic seen worldwide, there has been an increase in maintenance issues related to fatigue on container cranes.

Richard Phillips, mechanical engineer at CPA, told **CM**: “Certainly with our workflow it feels like we’ve got a lot more projects revolving around repairing cranes lately and it does feel like we’ve got fewer new crane purchase procurement assistance projects. Some of the new crane projects we have been involved in have been delayed, so it certainly appears to be cause and effect.”

Steel fatigue occurs in components subjected to a high number of fluctuating stresses and is not necessarily due to the “wearing out” of steel. If the fluctuating stresses are low enough and in an ideal environment, steel has infinite fatigue life. Cracks, however, can initiate from many sources such as points of stress concentrations, high cycle fatigue, poor manufacturing, corrosion, or overload events such as snag, earthquake, or storm winds.

Cracks are most often found through non-destructive testing (NDT) – a skilled technician can detect a very small crack with NDT methods. Those unfamiliar with fatigue cracking may think that when cracks form, they make a loud noise. On finding cracks by hearing them, Phillips said: “It’s very unlikely to find cracks in structural members by hearing them, any noise heard is more likely to be a coincidence when you find them. Audible effects are more relevant for mechanical systems.”

“Sometimes workers get suspicious of certain areas when loud noises are heard. Maybe there’s a loud impact when the trolley crosses the hinge, or trolley wheels are grinding on the rail, it starts a thought process of what’s that? Audible effects have their place, but they don’t reliably detect cracks like NDT inspections.”

To begin repairing a crack, the first step is to use an NDT method such as a dye penetrate or magnetic particle testing that will reveal how big the crack is. Once the NDT has shown the full extent of the crack, typically it is ground out and then weld repaired before being ground smooth and painted over.

However as with all things, prevention is the best way forward when it comes to crane cracks. Careful, considerate operations are of utmost importance to avoid undue stress upon the crane. It’s about finding the balance between quick vessel turnaround times and being careful. “It’s concentrating and being the most skilled driver or operator you can be,” Phillips said. “But on the vessel side, too, sometimes I’ve seen instances where a lashing or something isn’t released which will stall out the hoist. Accidental overloads can initiate and accelerate crack growth on cranes.”

CPA is an advocate for routine inspections and preventive maintenance in order to minimise disruption – if a crack is caught early, then it is easier to fix. Downtime for fixing a crack on a crane can vary. In some cases, it can be fixed in as fast as a few days and in others it can be around five

weeks. For a port, crane availability is vital, and any amount of downtime can severely affect operations.

The timing of the typical crane procurement process is another factor regarding why there appears to be a delay in new crane purchases. New cranes require commissioning and periods of working out the kinks. As the price of steel continues to increase, and the market to procure it gets more volatile, it may seem more logical to upgrade or extend the life of the equipment already situated at the port.

An STS crane’s lifespan averages around 20-30 years, though this can be extended through various upgrades. The most common upgrades CPA gets involved with are crane raises, boom extensions, rated load increases and increasing the useful life of the crane. Raising the crane and extending the outreach helps extend the useful life of a crane by allowing it to service larger vessels.

Sometimes raising and extending the crane can have an effect on its structure, though there are ways to avoid any lasting damage. “You can run an analysis and then strengthen the areas that show up as weaker from those calculations,” Phillips explained. “You can use lap-plates to reinforce certain areas of the crane to strengthen it. The key is knowing where to put the reinforcement.”

Liebherr has long been recognised as a premium supplier of STS cranes and as such its cranes can last for many decades, with some of the company’s cranes working for 30 years or more. The operational lifetime of a Liebherr STS crane can be further extended through an extensive selection of upgrades and modifications, as well as upgrading the operational capabilities through extending the lift height or increasing outreach.

Trevor O’Donoghue, marketing manager at Liebherr Container Cranes, told **CM**: “The actual lifespan of the crane will depend on many factors including the number of operational cycles or level of usage, regular care and maintenance and ultimately operational requirements of the port operator.”

A Liebherr crane is designed for many millions of cycles as per the design standards. Meant for heavy usage, Liebherr cranes are typically



shipped in pre-assembled components for assembly on site. This method of shipping can reduce the potential for any harm from shipping fully erect cranes and eliminate any concerns over reduced cycle life due to the transport phase.

When Liebherr does ship its cranes fully erect, a complete structural analysis is carried out and extensive bracing and other preventative measures are deployed to minimise the structural effects from fully erect transport. Where possible, cranes are erected at a remote site near the site of operation to minimise the sea voyage.

Many of Paceco Group’s STS cranes also boast an impressively long lifetime, working more than 20-25 years and in some cases for more than 30-35 years. Like other crane manufacturers, Paceco’s STS cranes are able to be raised and their booms extended to serve larger vessels and extend their operational lifetime.

Paceco-Mitsui cranes feature a lightweight monobox boom and have no weld joints from braces, which is beneficial in minimising fatigue cracks growing on cranes as operators run more cycles that are required to keep up with the current port/terminal demands. The cyclic loading initiates microcracks on welds, and the cracks propagate to the structure base metals over crane use in operation.

Troy Collard, general manager of sales at Paceco Corp, told **CM**: “A monobox boom has fewer joints than other boom types, corresponding to fewer weld spots and lowering the risk of crane failure from fatigue cracks.

“The lighter weight of the crane also reduces the possibility of bogies and equaliser beam failure, and the flexibility in the crane allows the stress to be dispersed through the crane, not concentrating on one area that may become the point of failure.”

Structurally, the group’s cranes have a long lifespan while the components’ lifetime is much less, particularly with regards to electrical components (drive systems, controllers, etc) that can influence the crane’s useable lifetime. Collard explained: “Electrical components, like other high-tech components, have a relatively short life as manufacturers rapidly introduce new products/technologies and make older components obsolete.”

The COVID-19 pandemic has accelerated pre-existing trends of digitalisation, automation, and environmental sustainability. Paceco caters toward these trends with its unique advanced port technologies solution for terminal digitalisation, the Paceco Spyder. The solution integrates AI technologies in crane electronics to predict issues prior to failure. Paceco Spyder has been successfully implemented in several European and American terminals.

Liebherr has also begun to see increased enquiries and projects that include high levels of automation and remote control as customers seek improved safety, productivity and predictability. The inclusion of smart sensors on Liebherr’s cranes helps to improve planned maintenance schedules with reduced component wear and replacement, whilst the gathering of operational data can be analysed and utilised for productivity improvements.

The pandemic saw the company having to conduct remote commissioning and this has continued into 2022, although Liebherr has been able to send its engineers back on site to continue to commission cranes as before.



Opposite page: Liebherr cranes at port
This Page:
Top: A crack was observed at the connection between the portal beam and the leg.
Middle: A crack near a structural connection.
Bottom: Richard Phillips, mechanical engineer at CPA

Sustainability and care for the environment is also of utmost importance to Liebherr, which has been audited by one of the world’s leading independent sustainability auditors EcoVadis. “We are proud to have been awarded a gold medal for sustainability. We were amongst the top 5% of over 80,000 companies surveyed and in the top 3% of manufacturing companies,” O’Donoghue said. “For our customers, this gives them reassurance that we take our responsibilities and sustainability obligations very seriously and that we can be a trusted partner in their supply chain.”

Liebherr STS cranes have several environmental benefits due to their rigid design, making them very light, with reduced wind sail area and wheel loads which helps to reduce power requirements particularly for gantry drives. With sealed structural members, there is no requirement for surface protection on internal surfaces which significantly reduces the amount of paint and primer needed.

“Efficient Liduro drives and productivity aids reduce power consumption per box moved, and with energy regeneration we can feed electricity back to the grid to reduce net energy consumption even further,” O’Donoghue added.