

# Harbours review

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# The Port of Opportunities

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# short stories

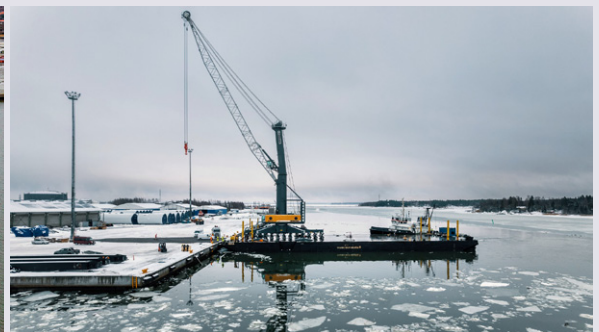
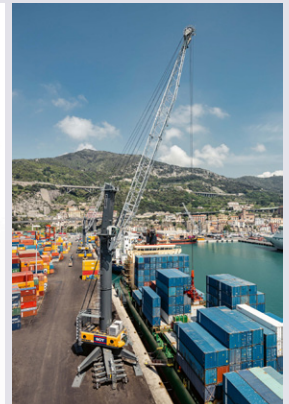
Photo: Pexels

## Safety section

### New Liebherrs – in the Baltic and beyond

First, the Finnish Port of Pietarsaari's heavy-duty cargo handling fleet is now bigger with a Liebherr LHM 500 mobile harbour crane, offering a 140t lifting capacity. Second, the subsidiary of KWH Logistics, operating in the Port of Vaasa's Vaskiluoto Harbour, took hold of an LHM 600 mobile harbour crane. The 7.0m investment was produced by Liebherr in Rostock and delivered on 22 December 2022, increasing Blomberg Stevedoring's Liebherr fleet to three. The brand-new machinery can lift 208t and up to 300t in tandem. Third, after an incident in the Kiel Canal that damaged the LHM 600 mobile harbour crane ordered by the Port of Esbjerg, the manufacturer delivered an LHM 800 High Rise (HR) on short notice instead. Thus, the Danish seaport now operates two LHM 800 (the first was handed over in 2019), capable of tandem lifts to 616t. The HR version offers 92 m of lifting capacity. Liebherr said at the beginning of January 2023 that a new LHM 600 would also be delivered as soon as possible. The latest LHM 800 increased Esbjerg's Liebherr fleet to seven machines. Fourth, Liebherr supplied the Salerno Container Terminal (SCT) with a mobile harbour crane of the HR version of LHM 600. The 58 m outreach machine with twin-lift spreaders offers a 2 x 32.5t capacity. "The new crane is outfitted with a tower extension of 12 metres. Cranes

of this variety benefit from a better view of the cargo/containers thanks to a higher cabin, which is at 37.1 metres in case of the new crane. The pivot point is also higher, allowing for larger ships to be served," the manufacturer highlighted in a press release. Liebherr also underscored the speed at which the delivery was executed – the order was placed in November last year, with SCT accommodating the LHM 600 HR on 29 December 2022. The newest piece of heavy-duty equipment joined SCT's two other LHM 600s and two LHM 800s, both HR. Lastly, before the end of this year's January, EUROGATE shared that its Container Terminal Wilhelmshaven (CTW) will receive two automated dual trolley ship-to-shore from Liebherr (alongside remote operator stations). The cabinless gantries will have a primary outreach of 73 m, a lift height of 54.5 m, a span of 30.48 m, and an operational backreach with a secondary trolley of 26 m. "Designed for tandem operation, the primary trolley delivers containers automatically to the pinning platform. The containers rest on frames whilst the twist locks are removed. Once the pinning personnel leave the platform, they activate the secondary trolley, which automatically delivers the container to the land side AGVs [automated guided vehicles]," Liebherr Container Cranes explained in a press brief.





## Künz cranes with ABB tech for Baltic Hub's T3

The PSA-operated container terminal from Gdańsk has ordered 20 automated sideloaded stacking cranes for the under-construction 1.7m TEUs/year expansion. The machinery will offer a span of 32 m and two cantilevers of 8.5 m in length each. The lifting height will be 1-over-6. The cranes' structures will consist of a double girder gantry with Künz's patented trolley, equipped with a 4-drum hoist with direct outgoing ropes to the headblock. The headblock will be, in turn, equipped with micro motion, allowing for fine positioning in the trolley and crane travel direction. The system also corrects

a possible skew. ABB will supply the electrical equipment, including automation. The ABB technology consists of 3D laser systems with cameras that allow loading and unloading automatically in the truck area and the container stack. After collaborating on many stacking crane projects for end-loaded terminals, ABB and Künz will now deliver the first equipment for a sideloaded terminal in Europe. The cranes will be delivered in several phases beginning in early 2024. The final cranes will be completed by the end of H1 2025. The manufacturer plans to go live on the terminal in Q2 of 2024.

## Erik Thun orders eight vessels

Ferus Smit's shipyard in Westerbroek will construct four multi-purpose 5,100 dwt freighters and four 7,999 dwt tankers. The former will be of the 1B ice-class Troll-Max design: for operating in the Trollhätte canal and on lake Vänern in Sweden. The latter will be of the 1A ice-class R-class, to be

operated by Erik Thun Group's Thun Tankers in coastal traffic in Northern Europe. Deliveries will start in October 2024. The four tankers come atop the two R-class ships ordered by Thun Tankers in the spring of 2022, slated for delivery by Ferus Smit in H1 2024.

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## A new Liebherr in Gdynia – and tech-upgrade in Gdańsk

The cargo handling fleet of HES Gdynia Bulk Terminal has grown with the delivery of a hybrid LHM 550 mobile harbour crane. The new 48 m long boom machinery offers a max 124t lifting capacity. HES Gdynia's LHM 550 was brought to the Port of Gdynia on board Meriaura's heavy lift vessel Aura. Also, the manufacturer's Container Cranes division will provide a hybrid green energy storage solution (ESS) to one of 18 Liebherr rubber-tyred gantries (RTGs) working for the Gdańsk-based Baltic Hub container terminal. The retrofit will see the addition of a Liduro ESS, along with exchanging the existing 13 L genset with a smaller 8 L one. The Liduro LES 200 is a capacitor system designed and developed by Liebherr-Electronics and Drives, designed to capture and store energy generated during hoist lowering and braking that would otherwise be wasted. The stored energy is then deployed during the hoisting cycle to reduce the overall demand on the genset, allowing for fuel & emission reductions. According to the manufacturer, dual-layer capacitors can rapidly charge and discharge many times without a drop in performance, making them a suitable solution for applications requiring high power and short-duration energy storage, such as that found in container handling. The pilot retrofit will help Baltic Hub assess the technology's viability for upgrading the remainder of the terminal's Liebherr RTG fleet.

## Trelleborg's new heavy-duty gear

The Swedish seaport's cargo-handling fleet has been reinforced with a Konecranes reachstacker of the SMV 4538 CCX4 model that can lift 45t. The new equipment – to run on hydrotreated vegetable oil – has been deployed on Trelleborg's intermodal terminal, joining two other reachstackers from Konecranes.



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## TT-Line's second Green Ship enters traffic...

After 53 days of voyage from the Far East, *Peter Pan* called to Travemünde's Skandinavienkai on 23 January 2023, from which she departed for Trelleborg on the night of 31 January. The new *Peter Pan* is a sister ship of the April 2022-introduced GT 56k *Nils Holgersson*. The gas-run ro-pax newbuilds offer room for 800 passengers and 4,000 lane metres for cargo. The duo also features several emission-reduction solutions,

including energy-saving air conditioning, heat recovery, LED lighting, and an AI algorithm that advises the crew on the optimal parameters of operating the ferries. On her way from Yantai, *Peter Pan* carried construction machinery to Zeebrugge. In the Belgian port, she took 750 cars for unloading in Rostock. It is the sixth *Peter Pan* in TT-Line's fleet's history; the previous one was renamed Tinker Bell.



Photo: TT-Line

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## ... and TT-Line adds Karlshamn to its network

The German Baltic ferry line from Lübeck will start sailing to and from the Swedish seaport in April this year. The company

will link Karlshamn and the Lithuanian Klaipėda up to six times/week, with the crossing time at around 13 hr.

## Stena Ebba enters the Gdynia-Karlskrona service

Stena Line's newest E-Flexer ferry was deployed on the route in question on 2 January 2023, joining her sister ship *Stena Estelle*. Each of the two 240 m long newbuilds offers

room for 1,200 passengers (across 263 cabins) and 3,600 lane metres for freight. Stena Line's Gdynia-Karlskrona crossing is also served by *Stena Spirit*.

## FinFerries' new vessel – delivered

CRIST's shipyard in Gdynia handed over L-317, the third hybrid for the Finnish domestic traffic ferry operator, on 20 January 2023. The 70.2 by 13.9 m ship offers room for 200 passengers and space for 52 private vehicles (or a smaller number of trucks) across the Nauvo-Korppoo route. The

newbuild primarily sails on batteries, recharged in a manner of minutes while berthed. The Norwegian LMG Marin and the Polish StoGda Ship Design & Engineering co-designed the ferry. Previously, CRIST constructed for FinFerries *Elektra* (2017) and *Altera* (June 2022).

## Hansa Destinations aborts 2023 sailings

The subsidiary of the Gotland Company decided not to operate across the Nynäshamn-Visby-Rostock route in 2023. The shipping line lists high bunker prices and difficulties securing sufficient cargo volumes as the reasons behind the termination. In addition, because of the lower freight traffic, Hansa Destination didn't receive

the so-called eco bonus in its entirety – SEK26m instead of 74.2m – an aid announced by the Swedish Transport Administration in 2018 for companies that reduce road congestion, contribute to air depollution, and lower greenhouse gas emissions. Gotland Company said it will reevaluate reinstalling the service in 2024.

## Hupac ups the frequency of its Germany-Sweden rail service

As of 6 February 2023, the company's trains travel between Köln and Malmö four instead of three times per week. The service, suitable for P400 trailers as well as for carrying dangerous goods

and waste, connects the Köln Eifeltor and Mertz Transport terminals. Hupac says that taking the Köln-Malmö rail service spares the environment 1.4t CO<sub>2</sub> emissions per road consignment.

## New Italy-Sweden rail link

The Swedish arm of ColliCare has, earlier than planned, set in motion its trailer train connecting Cremona in northern Italy with Skaraborg in central Sweden. Initially, the service was to kick off this spring; however, the first set departed on 4 February 2023. Hector Rail and BLS Cargo provide traction for the once-a-week, two-day transit time round-trip. Southbound transports mainly include paper & pulp, while in the opposite direction – eatables. According to the company, going by rail will emit 89% CO<sub>2e</sub> less than hauling the goods by road. Since 2017, ColliCare has been running another north-south weekly rail service: between the Italian Parma and the Norwegian Rolvsøy.



Photo: Samskip/Port of Gothenburg

## New Baltic-North Sea-Faroe-Iceland loop

On 5 April 2023, the Dutch-Icelandic Samskip will start a new sea container service, connecting the ports of Gothenburg, Aarhus, Runavík, Reykjavík, Grundartangi, Vestmannaeyjar, Rotterdam, and Cuxhaven.

### MyStar enters traffic...

Tallink & Silja Line's newest ferry was put on the Helsinki-Tallinn crossing on 13 December 2022. The 212.4 by 30.6 m ro-pax – offering room for 2,800 passengers and 3,190 lane metres for cargo – served nearly 32k travellers during her first week, with the most coming from Finland (15,341) and Estonia (9,996). Rauma Marine Constructions built the GT 50,629, dual-fuel (gas-driven) ship. The ferry can connect to an onshore power supply. Tallink & Silja Line's Helsinki-Tallinn route is served by *MyStar*, *Megastar*, and *Star* (which joined them on 1 January 2023 after undergoing technical maintenance). They offer 16 daily departures from Monday to Friday.

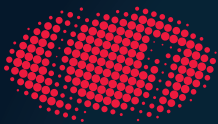


Photo: Tallink Grupp

### ... while Rosella leaves the Baltic

Viking Line sold (for 11.25m) the ferry to the Greek Aegean Sealines Maritime, who employed the 1980-built-in-Turku ship in the Aegean Sea. *Rosella* was lately serving the Kapellskär-Mariehamn service of Viking Line, with her last crossing taking place on 8 January 2023. Though kept in good condition, *Rosella* couldn't further keep up with Viking Line's policy on minimising

its environmental impact. Faced with high bunker prices and the incoming emission trading, the company decided to dispose of older tonnage. Meanwhile, Viking Line denied that reflagging *Viking XPRS* to the Finnish flag had anything to do with putting her on the Kapellskär-Mariehamn route. As such, the service's future remains unknown.



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## ***Tundraland* employed outside the Baltic**

Wallenius SOL has chartered the ro-ro ship to CLdN, which, in turn, put her on the company's network serving Belgium, the Netherlands, and England on 13 February 2023. The GT 23k, 190.8 by 26.4 m, 2007-built vessel offers 2,774 lane metres (lm) of capacity and is suitable for carrying SECUs. The charter results from Wallenius SOL's recent deployment of its new flagships of the Enabler class, each offering 6,442 lm. "We saw an opportunity to optimise our liner traffic, assessing a more

cautious growth in 2023 than previously planned for," Ragnar Johansson, Wallenius SOL's CEO, commented. In turn, Gary Walker, COO at CLdN RoRo, said, "We have seen a significant increase in demand for CLdN's unaccompanied freight and multi-modal logistics solutions. This charter provides an agile response to customer demand and will enable CLdN to explore new possibilities linking mainland Europe [Rotterdam & Zeebrugge] with destinations in eastern England [a.o., Tilbury]."

## **More runs on TX Logistik's Germany-Italy network**

As of 22 February 2023, the company's trains between Rostock and Verona run six times per week, up from four in the past. Also, the frequency of the Lübeck-Verona service has been upgraded – up to eight weekly round trips.

The Lübeck-Segrate (previously Melzo) connection has been doubled – to four weekly runs. Lastly, TX Logistik's Leipzig-Sona service now offers ten instead of eight weekly departures.

## **New England-Poland sea container service**

Ellerman City Liners kicked off a new rotation linking Gdynia with Teesport and Tilbury, with the first sailing taking off in Poland on 28 April 2023. The weekly service offers a transit time of three-four days. "Customers can expect fast and reliable transshipment options to the USA, Portugal, and Spain through Ellerman City Liners' Iberia short-sea service. All container size-types will be offered (standard and pallet-wide equipment), and customers will also be able to source

equipment from various inland locations in Poland," Ellerman City Liners shared in a press release. "Together with our UK customer service team and our well-established and experienced Polish partner Safe Shipping, our new service will provide a seamless end-to-end solution that is tailored to our customers' needs. Through transshipment in the UK, we will offer one of the best transit times to US East Coast out of Poland," added the company's Commercial Director, Peter Andrews.

## ***Birka Stockholm* changes hands – and prepares to set sail anew**

Gotland Company has purchased the cruise ship (for about €38m) from Eckerö, with plans to offer intra-Baltic voyages as of spring 2024. With the help of its subsidiary Destination Gotland, Gotland Company will set up the tax-free Stockholm-Mariehamn-Visby itinerary (traffic details dependent on the season). "*Birka Stockholm* is a refined passenger ship, and we can see ample opportunities for her to complement Gotland's traffic. In 2022, we continued to streamline our fleet to focus on infrastructure and future shipping. With *Birka Stockholm*, we further strengthen our passenger ferrying position within the Baltic," Håkan Johansson, CEO of Gotland Company, commented. Marcus Risberg, Destination Gotland's CEO, added, "Visby has become an

increasingly attractive cruise port, and we see a splendid chance to develop our operations and create new reasons for visiting Gotland. For the island's dwellers, it means more departures for those having more time and are without cars – or who want to pleasure cruise." According to the seafarer labour union Seko, the Swedish-flagged *Birka Stockholm* can provide up to 150-250 job posts depending on the season. The 2004-launched (as *Birka Paradise*) *Birka Stockholm* is 177 m long and 28 m wide, offering room for 1,800 passengers. The 1A Super ice-class vessel was providing cruises from Stockholm till the outbreak of the coronavirus pandemic. She plied in the colours of Birka Cruises, a daughter company of the Mariehamn-based Eckerö.



Photo: Arild Vågen/Wikimedia Commons

## Gotlandias – sold (outside the Baltic)...

First, the Swedish Destination Gotland sold the high-speed craft *Gotlandia* to the Greek Seajet, who will employ the ferry in traffic between Piraeus and Cyclades this summer. The 1999-built ferry was out of service since 2018, laid up in Visby, up for sale or charter. *Gotlandia* was already reflagged to the Cypriot flag and renamed *Superrunner Jet II*. "It feels very positive; we have tried to sell or charter the ship for a long time. Vessels cost money, irrespective of whether they sail or not, so it is good for us that she can now operate further and benefit travellers other than

from Gotland's traffic," Håkan Johansson, Gotland Company's CEO (the parent enterprise of Destination Gotland), commented. Next, Gotland Company found a buyer for its other high-speed craft, constructed in 2006, also from Greece: Golden Star Ferries (offering a network connecting the country's mainland with its islands in the Aegean Sea). "We are pleased that *Gotlandia II* has new owners. For Gotland Company, it means a continued focus on our larger vessels but also on our work on developing next-generation ships," Johansson said.

## ... and Star too leaves the Baltic

Tallink Grupp will bareboat-charter the ferry to the Irish Continental Group (ICG) for 20 months, with a 2+2 years extension possibility and the option to buy the ro-pax. The vessel, flying the Estonian flag, has been serving the Helsinki-Tallinn crossing since 2007, offering room for 2,080 passengers and 2,000 lane metres for freight. Her last Baltic departure will take place on 1 May 2023. Four days later, she is expected to start plying for ICG, most probably across the company's Pembroke-Rosslare link. "We have been looking

for alternative work for our vessel Star for some time now, and the search became more focused as the arrival of our new shuttle *MyStar* drew closer last year. There has been great interest in chartering her over the years, and I am pleased we have secured a good agreement for her now with the Irish Continental Group. This type of alternative work for our vessels has been and continues to be a good solution, strengthening our company and bolstering income following a long crisis period," Paavo Nögene, Tallink Grupp's CEO, said.

## New feeder service in the Baltic

CMA CGM has launched the Denmark Express CS rotation, linking the region's Aarhus, Copenhagen and Fredericia seaports

with Bremerhaven and Hamburg. The weekly loop is served by the container ship *Ruth* (868 TEUs capacity).

## Bore's con-ro newbuilding programme – completed

*Bore Wind*, the third & final vessel for carrying containers and ro-ro cargo units ordered by the Finnish shipping line, received her name in Amsterdam. The 120 by 21 m, 7,000 dwt ship offers 435 lane metres for wheeled freight and space for 264 TEUs. Like her sister ships, the latest addition to Bore's

fleet has the 1A ice class. The dual-fuel (LNG) trio – *Bore Way* (delivered in spring 2022), *Bore Wave* (January 2023) and *Bore Wind* – were constructed by Wuhu Shipyard. All three will serve UPM's (paper cargo) traffic between the ports of Rauma and Rostock under a long-term charter.

## Express 5 heads towards the Baltic

Austal Philippines has delivered the 115 by 30.5 m high-speed catamaran, which should call Rønne after around 25 days (counting from end-March 2023). Once in the Baltic, Molslinjen's brand-new LNG-capable, 37 knots of operating speed ferry will start sailing between Rønne and Ystad, flying the livery of Bornholmsslinjen and offering room for 1,610 passengers and 617 lane metres for freight. Austal Australia designed *Express 5*, following its development of the 2019-delivered *Express 4*. "*Express 5* is the largest

vessel, by volume, that Austal has ever constructed, and to deliver this new high-speed ferry despite the impact of the COVID pandemic over 2020-2022 and Super Typhoon Rai in 2021, is simply outstanding," Paddy Gregg, Austal's CEO, underlined. He furthered, "Despite the challenges faced, the Austal Philippines team has delivered the most impressive vessel ever to join the Molslinjen fleet. The high-speed ferry performed exceptionally well during sea trials and will soon provide a class-leading service to Bornholm in Denmark."

## Germany-Sweden high-speed ferry service

Starting 1 April 2023, FRS Baltic's catamaran *Skane Jet* connects the Swedish Trelleborg with the German Mukran (Sassnitz) within two and a half hours. The vessel offers room

for 800 passengers and space for 200 vehicles. In preparation for serving *Skane Jet*, the Port of Trelleborg put in place two ramps: 25 m long and 6.0 m wide.



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## toc europe safety village

Photo: TOC/Informa

# ‘Safety Village’ at TOC Europe provides a unique forum for promoting safety innovation

by TT-Club & International Cargo Handling Coordination Association (ICHCA)

The Safety Village was the venue for workshops and panel sessions throughout the three days of the TOC Europe event, providing opportunities for companies to showcase their innovative safety devices, processes and products. Five, two-hour specially convened panel sessions over the three days of the event gave all aspects of safety in cargo handling an airing with the goal of advancing the cause of a more secure and sustainable environment for the cargoes, and equipment featuring in global trade.

**W**hile it is not possible to report on all the contributions to the forums, a review of some of the highlights can be presented here.

The first day of three began with a morning session devoted to the use of data in managing risk and promoting safety in ports and terminals. Presentations by TT Club itself, the standards institution BSI Group and specialist in the use of AI in decision-making InstaDeep were followed by ICHCA's CEO, Richard Steele.

He showed how key data on the occurrence of incidents historically prepares operators for managing future risks. Using ICHCA's own datasets detailing bodily injury and fatalities he was able to pinpoint the primary locations for risk, as well as type of terminal and vessels more often involved.

The afternoon forum brought together experts in the mitigation and prevention of fire at cargo handling facilities. In

particular, Paul Amundsen of Bridgehill explained the effectiveness of their fire blankets in stopping vehicle fires from spreading, a solution that is particularly pertinent with regards to the risk of lithium battery fires on Ro-Ro ships. The ability of crane operators to evacuate from considerable heights in case of fire was emphasised by Jerome Lacroix with the aid of TeSuCon's 'Evacuator', a rapidly deployed escape and descent solution for people in emergency situations – not just fires.

Discussions at the forum on the second day began with the prevention of vehicles and handling equipment colliding with pedestrians, which is an all too common event in non-automated terminals.

Both Evert Bulcke from Rombit and Marcel Grossart of Yardeye (now part of Mi-Jack Europe) were able to demonstrate how the tracking technology, personal danger alerts, lone worker support





Photo: Przemysław Opłocki



Photos: TOC/Informa



and zone management could be effective through the use of various AI, GPS and IoT applications. All aimed at keeping humans out of the path of terminal machinery.

In the afternoon, safety in the more specific operation of lifting equipment and the securing of containers in stacks both on land and on vessels was in greater focus. The session ran under the critical eye of moderator Laurence Jones, TT Club's Risk Assessment Director, who acted as moderator for a number of presentations given around safety solutions. Speakers emphasised the dangers of container cargoes that are improperly packed and insufficiently secured resulting in cargo shifting inside the unit.

A number of applications designed to combat these dangers were discussed. These included a presentation by Stuart Clark from CakeBoxx Technologies with their innovative two-piece shipping container with a 'deck and lid' design which vastly improves cargo security and the structural integrity of the load within the container. Other speakers focussed on making cargo handling safer were Aurélie Hamon from Arck Sensor, whose products seek to reduce handling errors such as boom collisions and inaccurate stacking, and Carlo Corti from Cortstrap, who reinforced the risks of transporting cargo that is not properly secured.

On the final day, the extent of the need for awareness of risk had not been exhausted and the session focussed on managing confined spaces. Ian Rose from TT explained that there are innumerable spaces found through the global supply chain that should be considered enclosed or confined, some more obvious than others. Unfortunately these spaces claim many lives each year when ill-prepared workers enter them.

The key risk is that workers may not readily recognise spaces that could

present danger. For example, a stairwell within the cargo hold of a ship is a space that could lack oxygen or contain toxic fumes, dependant on the cargo being carried. Containers and other cargo transport units pose similar risks; there may be a lack of knowledge of the cargo packed or whether fumigants have been used. That lack of knowledge throughout the sector is a failing that TT and ICHCA together are determined to rectify.

Summing up the Safety Village discussion programme Mike Yarwood, TT's MD of Loss Prevention reiterated the need for an ongoing uplift in safety awareness, knowledge and initiative. "It has been TT's consistent mission to increase the levels of safety across the myriad of operational functions that constitute the global supply chain. Together with our colleagues at ICHCA we are delighted to have this opportunity to put safety in the spotlight and give innovative developers of safety technology a platform. Who knows, any one of our speakers or exhibitors could be the one to revolutionise safety in our supply chain, it's a really exciting prospect and one we are thrilled to be able to support."

The popularity of the Safety Village sessions both from a speaker and audience perspective again demonstrated the depth of commitment that exists to enhance safety and the will to employ significant resources to minimise risk. The prominent positioning and extensive facilities of the Safety Village at TOC Europe played a part in furthering the visibility of the existing innovations, and it is hoped will encourage others to commit resources to the research and development of yet more. After all, in a world homing in evermore on sustainability, we must acknowledge that our supply chain operations cannot be sustainable if they are not safe for its workforce.



## Jan Schepers

*Solution Advisor  
Rombit*

### ■ How did you like being part of the Safety Village during TOC Europe in Rotterdam?

It was great being part of the Safety Village and meeting like-minded people.

### ■ What did you learn about new safety solutions presented during the exhibition?

We spoke with many exhibitors during our stay and saw many interesting solutions. We even had a discussion with one company about the possibility of working together.

### ■ What new solution/product have you presented to your customers?

We presented Digital Driver Coaching, a solution that coaches forklift drivers in real-time by detecting incorrect movement. Aside from that, we also presented our Collision Avoidance solution, which prevents incidents between people and machines in real-time.



## Fredrik Rönqvist

*Key Account Manager  
Fogmaker International AB*

### ■ How did you like being part of the Safety Village during TOC Europe in Rotterdam?

It was a great opportunity to inform on and discuss with industry stakeholders the importance of fire safety.

### ■ What did you learn about new safety solutions presented during the exhibition?

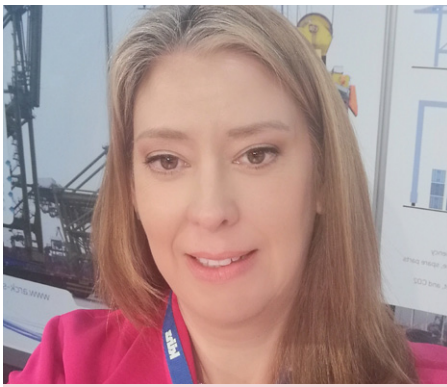
We learned that there is increasing awareness across the industry for all kinds of safety issues.

### ■ What new solution/product have you presented to your customers?

We presented our new environmentally friendly liquids for fire suppression.







## Aurélie Hamon

Sales Manager  
Arck Sensor

### ■ How did you like being part of the Safety Village during TOC Europe in Rotterdam?

It was a pleasure for me to be part of the Safety Village during TOC Europe in Rotterdam.

### ■ What new solution/product have you presented to your customers?

The solution I presented was the Twin-TWENTY detection system by Arck Sensor to assist crane operators in detecting a dangerous situation of two 20-foot containers under a spreader positioned in the 40-foot position.

Our SPICA sensor not only detects a gap [I/O Gap-NoGap], but can provide the gap measurement (to assist the crane operator in adapting its spreader). The Infrared signals emitted by the SPICA sensor are not sensitive to container terminal environmental conditions (fog).

The accuracy of our sensor is that a 0,4mm gap can be detected. Only one single unit is needed (very easy installation, less stock).



## Paul Amundsen

BRIDGEHILL  
Head of Sales – Europe

### ■ How did you like being part of the Safety Village during TOC Europe in Rotterdam?

This was our first time at TOC Europe, and it did not disappoint us. We were invited to be part of the expo together with our partner, ICHCA. We appreciate coming to TOC Europe, as it brings people in the industry together. We got the chance to talk to potential customers and existing partners, as well as recognise new solutions and products.

### ■ What did you learn about new safety solutions presented during the exhibition?

We were thrilled to discover new and innovative products at TOC. We gained valuable insights into alternative safety solutions tailored to the maritime industry.

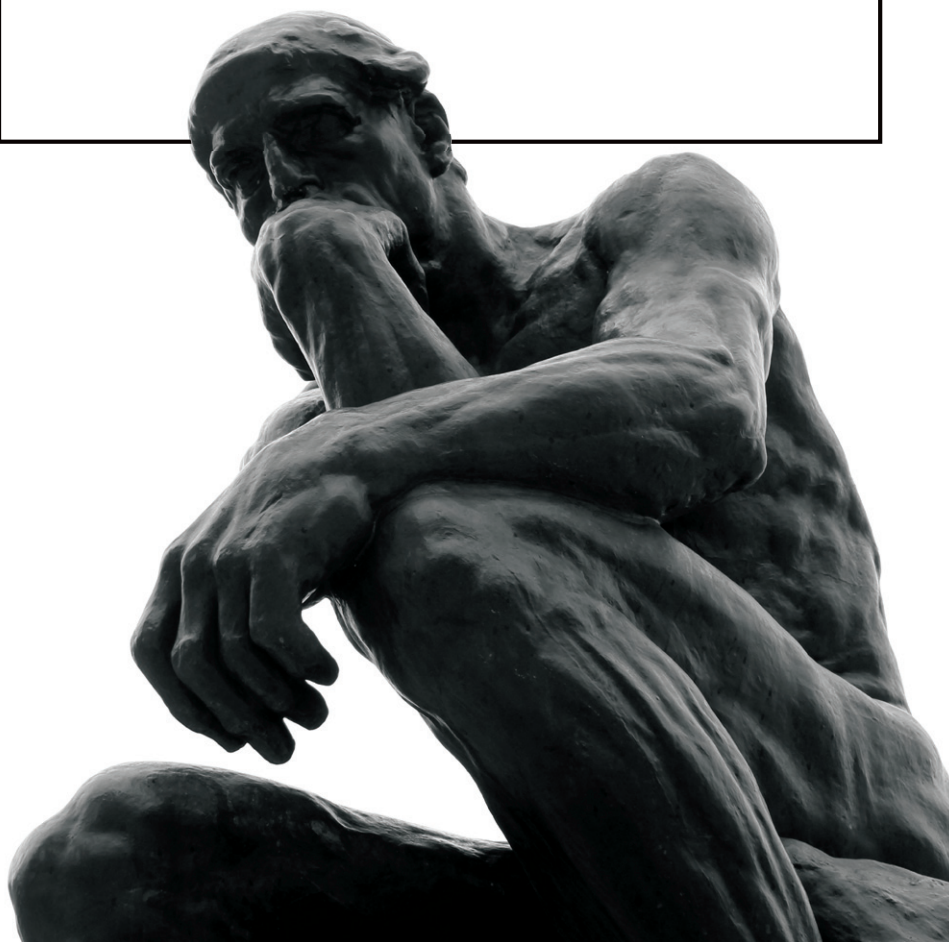
### ■ What new solution/product have you presented to your customers?

We presented Bridgehill electric vehicle (EV) fire blankets. With the increase of electric vehicles on the roads, the maritime industry has discovered new safety issues. As part of its ever-intensifying focus on marine safety, VIKING Life-Saving Equipment has signed a distribution contract for car fire blankets from Bridgehill. As it often takes a long time for a lithium battery to burn out, it is crucial that the fire is contained onboard as quickly as possible. On a car ferry, it's crucial to first isolate the fire and smoke quickly to prevent the fire from spreading in order to keep passengers and crew out of harm's way. The Bridgehill car fire blankets enable you to contain the flames, smoke, and toxic fumes in a car fire in seconds. It's the only solution that can effectively handle fires in electric vehicles.



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# toc europe survey

Photos: TOC/Informa



## Teck Seng Chew

*Product Manager Port Operations Specialty Tires  
Continental*

### ■ How do you like this year's edition of TOC Europe?

TOC Europe has delivered once again this year in bringing industry experts together and facilitating the exchange of ideas and fruitful networking. The programmes arranged over the three days are also relevant and informative.

### ■ What new solution/product have you presented to your customers?

Autonomous vehicles at ports is a growing trend where tire technology is playing a key role. That's why we presented our idea for the digital port solutions of tomorrow, in line with our vision "Smart Port - Better Flow". With our digital solutions such as ContiConnect 2.0 and the new bluetooth-capable sensor we are offering our customers more efficient and sustainable fleet management. A product highlight at the booth was the new bluetooth-capable sensor which enables tire data to be read directly from a smartphone.

### ■ How does the current market situation look from your perspective?

With the accelerating megatrend of automation and sustainability, terminal operators will need to make active investments in innovative solutions to achieve their strategic goals. Professional digital tire management as well to know how this can bring out the maximum efficiency and longevity of the tires will help the operators to improve efficiency and sustainability.



## Maciej Kniter

*Marketing Manager  
Flint Systems*

### ■ How do you like this year's edition of TOC Europe?

As visitors to TOC Europe, we found this year's edition extremely valuable and insightful. The event provided an excellent platform for us to connect with industry professionals, explore the latest trends, and gain a deeper understanding of the challenges and opportunities in the port industry. The networking opportunities were exceptional, and we had the chance to engage in meaningful discussions with key players in the market.

### ■ What new solutions/products have you presented to your customers?

We produce VR training simulators for various industries, with a strong focus on ports and logistics. Our products are designed to train professional equipment operators and have already proven their value. So far, we have delivered immersive and realistic simulators for STS, RTG, deck crane, forklift, mobile crane, reachstacker, rail crane, and CTV operations. You can find more details about them on our website.

### ■ How does the current market situation look from your perspective?

From our perspective, the current market situation for VR training simulators in the maritime and port industry is extremely promising, especially because VR training is one step ahead of the old-type screen simulator training. There is a growing recognition of the benefits that VR technology brings to training and development, particularly in high-risk and complex environments like ports. The industry is increasingly adopting immersive training solutions to address safety concerns, improve operational proficiency, and reduce costs associated with traditional training methods. As a result, we are witnessing a positive market response, with an increasing number of organizations embracing VR simulators for their training needs.

## Konecranes

Konecranes, a global port equipment and services leader in innovative and sustainable cargo handling solutions, can look back at another very successful 3-day TOC Europe exhibition that took place in Rotterdam.

On the first day of this exhibition, in an overwhelming well-attended TECH-TOC session, Konecranes, with Mikko Lepistö (SVP Solutions) as presenter, shared their insights on how port sustainability can benefit from automation and when it makes sense.

The Konecranes booth in Ahoy was at maximum capacity, with interested audiences and customers visiting. Konecranes highlighted their innovative solutions enhancing productivity and sustainability and had a designated area within their booth to showcase their complete port equipment and services portfolio with a live interactive 3D digital terminal. Outside the main entrance of Ahoy, Konecranes' award-winning electric forklift E-VER with the latest eco-efficient technology, drew the attention of visitors.

Infusing all Konecranes' efforts is a commitment to lead the cargo handling industry towards a more sustainable future, both in terms of their own operations and through the whole value chain.



**Norbert Klettner**  
*Managing Director*  
*Realtime Business Solutions*



**Harry Nguyen**  
*CEO/Founder*  
*Realtime Business Solutions*

### How do you like this year's edition of TOC Europe?

The event was bigger hence the hall was a little too spread out and divided. However, the show and the visitors were as good as expected. Wednesday was very crowded again, and there was a lot of interest in a new way of thinking TOS and moving forward into the data age. The combination of more data "appearing" in standards like TIC4.0 and solutions that can make use of it apparently was important to our visitors.

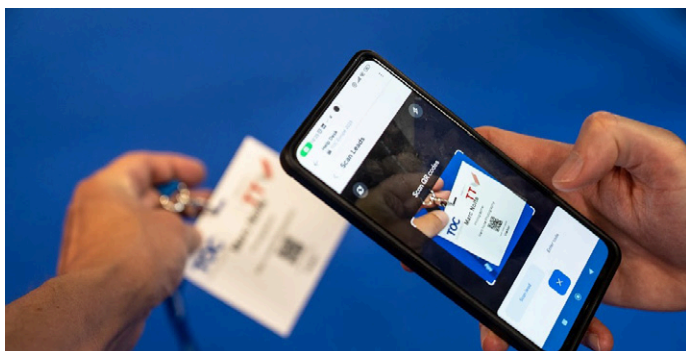
### What new solution/product have you presented to your customers?

For operation, we will present our new products:

- TOPX-Expert & TOPX-Intelligent – Digital Twin Reality, which is a totally embedded digital inside the TOS that supports the terminal in better real-time visibility, simulation and data-driven decision support. The new TOS modules will be TIC4.0 enabled, and the customer can plug in their data platform and feed the TOS with data. Then, our new TOS solution can support the users in operations and planning with better and more automated decision-making.
- Other Web-based products  
RBS: For many years, our TOS has been fully Web and Cloud enabled without any downside on features and functions. We implemented our first Cloud TOS in 2017, and also our new modules are fully cloud and Web-enabled. The latest TOPS-Expert suite includes TOPO-Expert, TOPS-Billings, TOPS-CFS, TOPS-KPI & BI, TOPS-VBS – Vehicle Booking System, TOPS-TruckFleet, TOPS-Report Designer. With this, we will continue to support our customers in both ways so they have the full technological choice on-prem or cloud without sacrificing functionality.

### How does the current market situation look from your perspective?

We see a lot of new potential coming ... since terminals mostly use the OLD version of various TOSs. Often, the architecture cannot keep pace with the increasing amount of real-time data and the need for real-time decision-making. The RBS latest products suite and second-to-none TOPX-Expert/Intelligent – Digital Twin Reality will help terminals improve their operation with our unique architecture to be able to provide real-time/future-predictive/preventative problem-solving.







## Dr Rafiq Swash

Founder and CEO  
AIDRIVERS

### ■ How do you like this year's edition of TOC Europe?

TOC was a fantastic event for Aidrivers. We welcomed a constant stream of enthusiastic visitors to our stand, and we were delighted to connect with colleagues old and new.

As an industry, we all need to work together – to collaborate, cooperate and innovate. TOC Europe provides the ideal platform to share ideas and experience across decarbonisation, digitalisation, innovation and automation.

Four years ago, we felt rather like the lone champions in the autonomous mobility sector, and many people saw autonomous solutions and innovations as rather abstract concepts. Back then, there was a distinct lack of knowledge around autonomous technology. How things have changed! We found that the conversation has really moved on for both Aidrivers and the autonomous mobility sector.

We no longer hear discussions around “if” or “whether” autonomous technology is going to be deployed in the ports and terminals sector. There is now a real understanding of the practical benefits that autonomous solutions can bring in terms of productivity,

efficiency, effectiveness, resilience, reliability and safety. We were pleased to see more companies focusing on this exciting and innovative sector.

Autonomous technology is being deployed in the real world, and it's happening now!

### ■ What new solution/product have you presented to your customers?

We were proud to make our joint announcement with Ashok Leyland about the production of an autonomous electric terminal truck, bespoke designed for autonomous operations in demanding port operating conditions.

Aidrivers and Ashok Leyland have a joint vision of making autonomous electric terminal trucks available and affordable to address the urgent Net Zero emissions reduction needs of the port industry.

To be based on an Ashok Leyland platform and fitted with Aidrivers' autonomous eco-system, the truck will be produced at Ashok Leyland's manufacturing facilities in India. We are ready to take commercial orders for delivery of the first trucks in 2024.

This announcement attracted great interest from journalists and delegates,

and we were happy to talk through the opportunities with those seeking more information.

### ■ How does the current market situation look from your perspective?

Ports around the world are facing the challenges of congestion and often unpredictable peaks and troughs in volumes. They are also facing difficulties in recruitment and skills. But they are also under more pressure than ever to deliver resilient, reliable, efficient, safe and sustainable operations as key hubs in complex, time-sensitive supply chains. The focus is on electrification, digitalisation and automation. Future port workers are more likely to be operating equipment by remote control than stepping into the cab of a crane themselves.

Aidrivers has championed the collaborative approach from the start – we have signed cooperation agreements, partnerships and MoUs with many high-profile companies, all experts in their field – terminal operators in Abu Dhabi and Singapore, equipment manufacturers in Malaysia and Turkey, equipment innovators and distributors in Asia and Australasia, to name just a few.





**Dave Walraven**  
*Chief Commercial Officer*  
 CERTUS Automation

■ **How do you like this year's edition of TOC Europe?**

TOC Europe consistently delivers the opportunity to connect with our esteemed customers and partners while also serving as a remarkable platform for meeting new people. One of the highlights was our presentation at the Tech TOC Theatre, where we could interact with so many people at the same time.

■ **What new solution/product have you presented to your customers?**

One of the solutions we presented at the TOC was Stacker OCR. With our OCR technology now available for empty handlers, identifying containers in your yard has never been easier. Our system incorporates sophisticated algorithms and advanced image processing techniques to accurately extract container codes from the containers in your yard. Say goodbye to manual data entry errors and embrace the time-saving benefits of automated container code recognition.

■ **How does the current market situation look from your perspective?**

We see an increase in suppliers that can extract data with AI technology. However, Optical Character Recognition (OCR) is much more than data alone. OCR is a technology that enables process automation. It is important that terminal operators consider the goals they want to achieve through process automation and select a supplier that can advise, deliver, and is able to support the full solution 24x7x365, including the software that is integrated with the TOS. At the same time, we are enthusiastic about AI technology because it gives us the ability to rapidly develop new features and improve the accuracy of existing features. As a result, our pipeline is filled with new opportunities from both existing and new customers.



**Jon Sojo Arana**  
*Export Director*  
 Tratos

■ **How do you like this year's edition of TOC Europe?**

It was another great opportunity to meet customers, industry colleagues and key stakeholders. Again, from TRATOS we emphasise the importance of face-to-face meetings as an opportunity to collect feedback and exchange impressions with decision-makers. The balance made by our top management on site, led by the TRATOS CEO Maurizio Bragagni, was very positive.

■ **What new solution/product have you presented to your customers?**

We showcased our special flexible cables for Port Machinery, with a special focus on high-pulling tension applications product of the speed and acceleration of automated and/or electrified cranes. This year, we brought as innovation our reflective and fluorescent outer sheaths that increase the safety at Ports and Terminals, specially designed for applications like RTG electrification or Shore Power.

■ **How does the current market situation look from your perspective?**

The market behaved very positively during the last exercise with the implementation of several investments and new greenfields. We remain very optimistic due to the welcome and excellent acceptance of our products from Crane OEM and Port Operators. Besides that, we expect to see a continuation of investments in electrification-related products, like shore power or the acquisition of a brand new all-electric crane or electrification of existing brownfields, so we expect the demand for cables to remain high.



On the left, Maurizio Bragagni OBE (CEO), on the right Jon Sojo Arana (Export Director)





## Martin Isik

Chief Commercial Officer (CCO)  
Fernride

### ■ How do you like this year's edition of TOC Europe?

FERNRIDE participated at TOC Europe as an exhibitor for the first time, and we can conclude that the conference was a great success for us. We had many insightful conversations with other exhibitors, potential customers and visitors. We discussed the industry's current challenges and received a lot of encouragement and confirmation for our 'human-assisted autonomy' approach. We plan to join again next year!

### ■ What new solutions/products have you presented to your customers?

During the conference, we presented our mixed-traffic horizontal transportation automation solution for container terminals. Our unique 'human-assisted autonomy' approach guarantees the reliability of operations from day one, improving workers' safety, productivity and efficiency. Over time, we plan to offer a fully autonomous logistics system

with minimal human involvement.

We also presented the status of our on-going project with HHLA TK Estonia at Tallinn's Muuga Harbour.

### ■ How does the current market situation look from your perspective?

It is encouraging to see automation and autonomous driving gaining traction in various industries, including mixed horizontal transport. However, our partners and prospects have shared that full automation is still challenging to implement alongside manual operations due to the vast number of exceptions and edge cases, such as incident handling and complex manual handovers. There are several other trending topics globally that may coexist, depending on the region or the actual operations. One key issue is the shortage of qualified workers, particularly those willing to drive terminal tractors. This creates an imbalance in supply and demand, resulting in difficulties in hiring and increased costs. Therefore, it is essential to increase the productivity of each

worker and improve the efficiency of the entire operation. Our solution does just that, also helping to upskill drivers and provide a more secure and comfortable work environment.

Another example of a challenge in the industry is the electrification of their operations. While pricing for containers handled/moved remains rather stable, terminal operators have to invest heavily in electric equipment and assets at significantly higher price points compared to diesel engines. Through our approach, we are able to reduce OPEX spending and therefore finance and accelerate the electrification of port operations.

What we have learned in the past year is that, like in other industries, vehicle supply disruptions and related delays can cause significant bottlenecks in planned or unplanned vehicle replacements or greenfield operation ramp-ups. Thus, the reliability of operations is a crucial factor that every terminal operator should consider when evaluating new services or innovative solutions.





## Elin Amrén

*Marketing & Communication Director  
sfPORTEQ*

### ■ How do you like this year's edition of TOC Europe?

This year's TOC Europe was a great edition, as the event, renowned for bringing together top industry professionals, serves as a platform for us to demonstrate the transformative potential of our container spreader solutions.

### ■ What new solutions/products have you presented to your customers?

At sfPORTEQ, we believe that innovative solutions have the power to shape the future and improve lives. Our dedicated team of experts is at the forefront of innovation, developing advanced technologies that redefine industry standards. During the fair, we showcased our fleet of container spreaders, contents of our Yard spreaders, Intermodal Spreaders, Ship to shore spreaders, and mobile harbour spreaders. Our latest innovation is our Piggyback spreader. It is our new SHRP & SHRP+ Single Hydraulic Piggyback. This is based on our Yard spreader concept, and it has four Piggy back arms that are foldable to be inside the width of a normal container when not in use. This will then not interfere with the normal container stacking procedure. Throughout the design, special attention has been given to keeping availability at a maximum and maintenance as simple as possible. The need for green transport can be solved by using rail for long transport and trucks for short transport. With the combination of lifting both containers to the top and trailers to the bottom, the crane installation has a versatile usage. sfPORTEQ is continuing to develop the next generation of sustainable spreaders that contribute to a more sustainable world.

### ■ How does the current market situation look from your perspective?

One big target for the container handling industry is the importance of sustainability; there is a growing emphasis on sustainability and reducing the industry's environmental impact. At sfPORTEQ, sustainability is at the top of our minds every day. Since our spreaders are the most sustainable on the market due to the fact that they are lightweight and we have reduced up to 90% adjustment points, which increases the spreader's uptime. We want to make a significant impact in shaping the future of the container handling industry!



## Jens Petersson

*Head of Sales & Marketing  
ELME Spreader AB*

### ■ How do you like this year's edition of TOC Europe?

It's always a pleasure to be present at TOC with the industry gathered and to meet in person. Due to the exhibition's focus, it makes it a highly relevant event to attend. We have exhibited since the start of TOC, and we find great value in meeting face-to-face with our OEM customers as well as end users and others who may have an interest in our products. It allows us to have valuable discussions, provide insights about our products and network with other actors in the industry. This year was no different; we had a lot of appreciated encounters with both visitors and exhibitors. We are pleased with this year and are looking forward to next year.

### ■ What new solutions/products have you presented to your customers?

We presented our spreader models 857 INNOVATION and 818 INNOVATION, which we launched this spring. These models are in accordance with our previous INNOVATION models with the benefits of increased life expectancy, increased strength, reduced weight and a new design that promotes easier service. We displayed a scaled-down model of 857 INNOVATION, which was appreciated by the visitors. We also brought a selection of spare parts for display, ELME Genuine Parts – our range of approved spare parts and accessories.

### ■ How does the current market situation look from your perspective?

With full order books, we are optimistic, looking forward and continuing our commitment to make investments in new machinery and efforts to streamline our production processes, thereby enhancing our production capabilities to better meet the market demand. Further, we continuously invest in product development, already working on new product launches.







## Maarten Impens

CEO

Gantrex

### ■ How do you like this year's edition of TOC Europe?

We consider this year's edition of TOC Europe a resounding success for Gantrex! Our team of experts from around the world engaged with many new contacts and enjoyed excellent networking opportunities. TOC Europe serves as a very good platform for promoting our products and services while keeping a close eye on emerging trends in the dynamic port sector. We're happy with the outcome and look forward to future editions of this influential event.

### ■ What new solutions/products have you presented to your customers?

During TOC Europe, Gantrex proudly unveiled the expansion of our Port Crane Solutions portfolio. We showcased an array of new offerings, including crane parts such as crane wheels, sheaves, and headblocks. Additionally, we introduced innovative crane diagnostics solutions like 3D scanning and vibration analysis. Furthermore, our crane services, including structural repairs and wheel replacements, got a lot of attention. We also presented our self-driven maintenance platform, a cutting-edge access equipment solution developed in-house. We're excited to provide our customers with these new solutions, enhancing their port crane operations.

### ■ How does the current market situation look from your perspective?

The current market situation is dynamic and ever-evolving, presenting both challenges and opportunities.



## Julia Dolgopolova

Marketing Manager

Bromma

### ■ How do you like this year's edition of TOC Europe?

Our team has enjoyed this year's edition of TOC Europe. The event provided an excellent platform for networking, knowledge sharing, and showcasing the latest advancements in the industry. The diverse range of exhibitors and attendees made it an engaging experience. We had the opportunity to connect with some of our key customers, industry experts, and potential partners and enrich our understanding of the current market environment.

### ■ What new solutions/products have you presented to your customers?

During this year's TOC Europe, we focused on showcasing our innovative solutions designed for spreaders: the Bromma Spreader Monitoring System, Bromma Hawkeye, along with our all-electric STS (Ship-to-Shore) spreader.

The Bromma Spreader Monitoring System offers real-time monitoring and diagnostics of spreader performance, allowing operators to identify and address potential issues proactively. With this solution, our customers can enhance operational productivity, reduce downtime and ensure the safety of their personnel. Bromma Hawkeye, another product we showcased, is a spreader-based camera platform that seamlessly integrates advanced vision technology with spreaders, aiming to improve operational efficiency and elevate safety. Designed with our customers' needs in mind, Bromma Hawkeye offers a range of applications to meet your specific requirements. From recognizing the container IDs to detecting container damages and identifying accidental twin lifts, when the spreader is in a single lift position, our platform has you covered.

In addition to these innovations, we also continued to promote our all-electric STS spreader at TOC Europe. Bromma's new all-electric ship-to-shore spreader is designed to support terminals in two major ways: it helps them to achieve their environmental goals and to boost productivity, efficiency and flexibility in all operations. The all-electric STS spreader is an eco-friendly alternative that aligns with our commitment to sustainability and supporting our customers in achieving their environmental goals.

### ■ How does the current market situation look from your perspective?

The current financial situation in the world has created a level of hesitation, with decisions being postponed over the past few months. We have, however, seen positive indications and activity lately, which signals a more optimistic view of the business environment moving forward.

We have also observed a growing emphasis on sustainability and digitalization as key drivers in our industry. Our company is actively adapting to these trends, and we are committed to a plan – which is aligned with the 1.5-degree pathway of the Scientific Based Target Initiative – to cut down greenhouse emissions by 50 percent by 2030.



## Ted Shelson

Marketing

RTE – Refrigerated Transport Electronics

### ■ How did you like this year's edition of TOC Europe?

RTE considers TOC Europe a staple event. Few conferences attract the attention of our key customer demographic than TOC. Being here allows us to connect with many clients, partners, and prospective customers at a single time and place. And despite this year's event occurring during an unusually active and competitive trade show cycle, which attendance reflected, we still made several great connections that otherwise might not have happened. So, we continue to plan for future TOC Europe participation. Kudos to the TOC management team as well. They are extraordinary to work with.

### ■ What new solution/product did you present to your customers?

RTE provides innovative reefer monitoring solutions for site-based refrigerated container operations. And our engineers are always looking for unique ways to meet changing customer demands.

This year we presented the WRAD II wireless reefer monitoring device, a prime example of our commitment to innovation. This second generation of our popular Wireless Reefer Acquisition Device is equipped with Bluetooth wireless technology, providing fast, reliable, low-energy connectivity crucial in port settings. We have also included NFC capability to ensure efficient installation, setup, and diagnostic interaction for on-site personnel.

Focusing on the terminal operator's needs, WRAD II features a weather-resistant, easily identifiable safety-yellow casing, and prominent visual LED status indicators. As with all our reefer monitoring systems, RTE provides its customers with high-quality solutions that meet their unique requirements and challenges.

### ■ What is your perspective on the current market situation?

The current mood appears quite positive, especially from reefer operators that appreciate the changing nature of refrigerated transport. Demand for reefer cargo is increasing, and discerning terminal operators understand that investment is required to stay ahead of this trend and attract new business opportunities.



## Dennis Monts

COO

Advent eModal

### ■ How did you like this year's edition of TOC Europe?

It was a pleasure to attend TOC Europe and connect with different professionals across the intermodal and supply chain industries. Throughout the event, I had the opportunity to speak with customers and listen to sessions that highlighted some of the trends impacting logistics. It was great to see how TOC Europe has grown over the years. The conference is a great opportunity to network and learn about the innovative technologies and companies that are shaping the industry.

### ■ What new solutions/products have you presented to your customers?

We had a few solutions of focus at TOC Europe. The first is Envio 360, a freight orchestration solution Advent created for beneficial cargo owners (BCOs) and logistic service providers (LSPs). Envio 360 enhances appointment and fee collection processes, providing complete control over intermodal freight logistics. With Envio 360, BCOs and LSPs gain visibility and control over their end-to-end journeys to help ensure the smooth flow of goods and efficient fee payments. Envio 360 integrates with existing transportation management and planning systems to help streamline collaboration between port operators, logistics providers and retailers.

While at TOC Europe, Advent also met with customers using our eModal platform. eModal is a SaaS platform with executional tools, payment processing, cargo visibility, data-enabled business intelligence and APIs for BCOs, LSPs, marine terminal operators (MTOs) and intermodal equipment providers (IEPs). It helps remove supply chain friction through the optimisation of fleets, pickups and deliveries, and accounts receivable. During TOC Europe, I had the pleasure of visiting Genesee & Wyoming, Freightliner Birmingham, where eModal is helping power gate and appointment management. The G&W team shared insights into how eModal is helping contribute to faster turn times and improved operational efficiencies.

### ■ How does the current market situation look from your perspective?

The industry is still grappling with the effects of the pandemic and resulting supply chain challenges, including congestion and how to manage detention and demurrage. Digitisation will continue to influence the supply chain and intermodal logistics industries. For example, the demand for real-time access to operational data is growing steadily due to ongoing supply chain challenges and stricter regulations governing demurrage calculations. Software tools and platforms that allow one point of access to different data will not only streamline and simplify processes but will also provide visibility and access to information for decision-making. Looking forward, digitisation will continue to shape legislation and critical decision-making that impacts the future of the global supply chain.





## Ramana Jampala

*Chief Executive Officer  
Avlino Inc.*

### ■ How do you like this year's edition of TOC Europe?

As newcomers to TOC, we found this year's edition incredibly promising. It was a remarkable experience to witness the vibrant energy and the synergies that emerged throughout the event. This dynamic atmosphere was exactly what we had hoped for, and we are pleased that we successfully achieved our goals to gain increased attention for the products we have developed. Thanks to the exposure and networking opportunities provided by TOC, we were able to captivate the interest of prospects and key stakeholders, as well as initiate discussions with relevant ecosystem vendors for future partnerships. The positive response we received has solidified our belief in the value and relevance of our offerings. Moreover, the opportunity to present a session at the Tech TOC Theater was a pivotal moment for us. We had the privilege of sharing two compelling case studies directly provided by one of our esteemed clients and one of our partners. This platform served as a powerful catalyst in achieving our objectives and fostering valuable connections.

### ■ What new solutions/products have you presented to your customers?

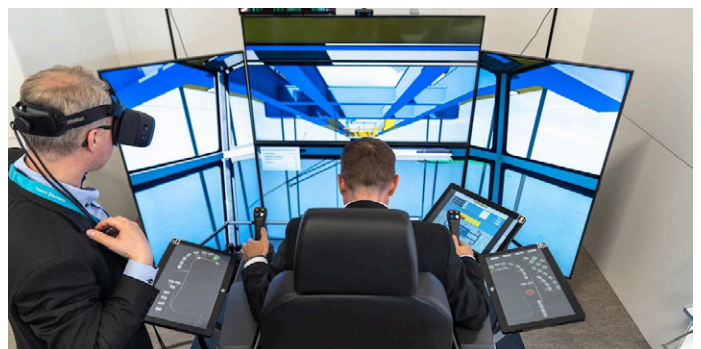
We introduced AICON, our suite of AI-based Solutions, integrating advanced technologies to drive operational excellence within container terminals, specifically addressing yard planning, equipment dispatching and berth utilization.

Leveraging the power of AI, machine learning (ML) and operations research, AICON offers actionable insights, real-time work instructions and autonomous workflows for terminal operators. By combining these approaches, AICON allows terminal operators to tailor their operational strategies to different objectives and optimally respond to the challenges posed by changing conditions. This results in tangible benefits such as cost reduction, higher throughput and improved customer service. With its ability to adapt and optimise in real-time, AICON provides the necessary tools to navigate the complexities of container handling operations, enhance efficiency and ultimately achieve superior outcomes.

### ■ How does the current market situation look from your perspective?

From our perspective, markets have been significantly affected by unpredictability and disruptive events. Delays, congestion, blank sailings, direct

and indirect impacts of wars, lack of data, lack of capacity and insufficient investment make it difficult for businesses to plan and forecast with certainty. Also, the lack of comprehensive and real-time data presents a significant hurdle. Accurate and timely information is crucial for effective supply chain management, but the industry often faces challenges in obtaining complete visibility across the entire chain. However, the market is gradually normalising, with predicted stabilisation or reversal of recent volume drops. Various studies suggest that future investments will focus on cost optimisation, sustainability, and productivity enhancements, so it is fair to expect that businesses will seek innovative solutions to streamline operations, reduce costs and minimise environmental impact. So, considering the current challenges and trends in the market, we see AI-based solutions as well-suited to address the complexities of the container supply chain. By leveraging AI technologies, businesses can enhance their operational capabilities, optimise costs, improve sustainability practices and ultimately drive productivity in the industry. It can also facilitate better coordination among different actors in the supply chain, improving interoperability and overall efficiency.





## William Tsang

Director of Asia Pacific  
Westwell

### ■ How do you like this year's edition of TOC Europe?

TOC Europe provides a great communication platform for every solution provider, port operator, industry leader, as well as potential clients and enthusiasts. We value the platform TOC Europe provides for us to connect, and the positive feedback and recognition we've received thus far are invaluable.

The event topic of this year, #GOSmart #GOGreen, meets the development trend of the port industry and also coincides with Westwell's idea.

Westwell's presence at TOC Europe has already garnered significant popularity among attendees. Our autonomous driving truck, Q-Truck, and latest artificial intelligence-supported smart port solution WellOcean have attracted a broad audience. As such, we are eager to replicate this success at next year's event.

### ■ What new solutions/products have you presented to your customers?

Westwell is launching TerminalGPT, which transforms a traditional manual operation into a robot mode and creates a brand-new intelligent operation expert, which provides intelligent interactive service to better couple with the real needs in production/operation scenarios. TerminalGPT can also make "smart recommendations" through self-learning and big data-based predictions, enabling each system to be "smarter." By deeply integrating with the production and operation processes of forefront ports, the model is able to enhance digital capabilities in port operations effectively and empower port companies to improve operating quality and efficiency.

The other solutions Westwell brought this year: WellOcean, the AI-driven Smart Port Solution and Qomolo, the Green Energy Intelligent driving solutions for commercial vehicles.

### ■ How does the current market situation look from your perspective?

#GOGREEN: In recent years, the requirements for environmental protection and sustainable development have been getting higher and higher all over the globe. This has had a certain impact on the port market, requiring ports to pay more attention to energy conservation, emission reduction and pollution reduction during operation.

Westwell also initiated Ainergy Strategy, which uses AI+Energy to help increase efficiency while reducing costs and delivering sustainable development options to the port as well as the great logistics industry.

Q-Truck, the green energy autonomous driving truck, uses green energy that can achieve battery swapping within 5min; equipped with WellFMS (Fleet Management System), which enables the management of the fleet in ports and other scenarios efficiently, realizing 1-1 task assigning to reduce the vacancy of vehicles.

In the case of pure green electricity, it is estimated that the new energy vehicle can reduce carbon dioxide emissions by 50 tons per vehicle per year in actual production scenarios and remarkably contribute to "decarbonization" in port operations.



## Anna Westman

Marketing and Communications  
Manager, ABB Ports

### ■ How do you like this year's edition of TOC Europe?

This year, TOC Europe had high ambitions with the new conference program and bigger and more refined stands. Moving into 2024, this can hopefully be even further developed with improved settings for the seminars. The event offers an opportunity to connect several stakeholders in an efficient way; we had many interesting interactions with both new and existing contacts in the industry, so TOC Europe delivered in this aspect.

### ■ What new solutions/products have you presented to your customers?

At TOC Europe, we presented how we have solved these challenges for terminals around the world. We also put focus on our OCR solutions for crane, gate and rail.

### ■ How does the current market situation look from your perspective?

We see fewer greenfield terminal projects due to lower volumes, higher costs and environmental concerns. So, moving forward, terminal automation will be focused on transformation – optimising investments based on existing terminal space and shape and existing equipment. One clear objective is to increase the density and productivity in the yard and, at the same time, think about how to integrate with existing operations as well as make investments future-proof.



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## interviews

Interview with Federico Jiménez, Head of Business Field Port Operations  
Speciality Tires, and Teck Seng Chew, Product Manager Port Operations, Continental

Photos: Continental

# Making the black box transparent

by Przemysław Myszka & Przemysław Opłocki

One can have spanking new port cargo handling equipment but jeopardize the investment by not properly caring for what ‘drives’ the machinery – its tires. We are talking with Continental Speciality Tires’ Federico Jiménez and Teck Seng Chew about the benefits of having your tires backed up by data.



**t**eck Seng Chew, Product Manager  
Port Operations, Continental



**f**ederico Jiménez, Head of Business  
Field Port Operations, Continental

### ■ What difference does adding a sensor to a tire make?

In the past, a terminal operator knew the number of TEU movements its machinery did and when a tire needed replacement. Everything in-between was a black box.

Today, on the other hand, much of that ‘grey area’ became visible thanks to sensors that can be attached within our tires. The telematics system picks up the data gathered by the sensors, which are then sent to the cloud for further added-value processing. There can be variations in how this setup works, e.g., information can be transmitted virtually on the go or collected when the machinery passes a data-collection point in the yard. Our sensors now also have Bluetooth capabilities, meaning one can access the data through an app and not a dedicated device.

### ■ What will be the next upgrade to sensor-enhanced tires?

In the future, tire data will be fed to a terminal operating system (TOS).

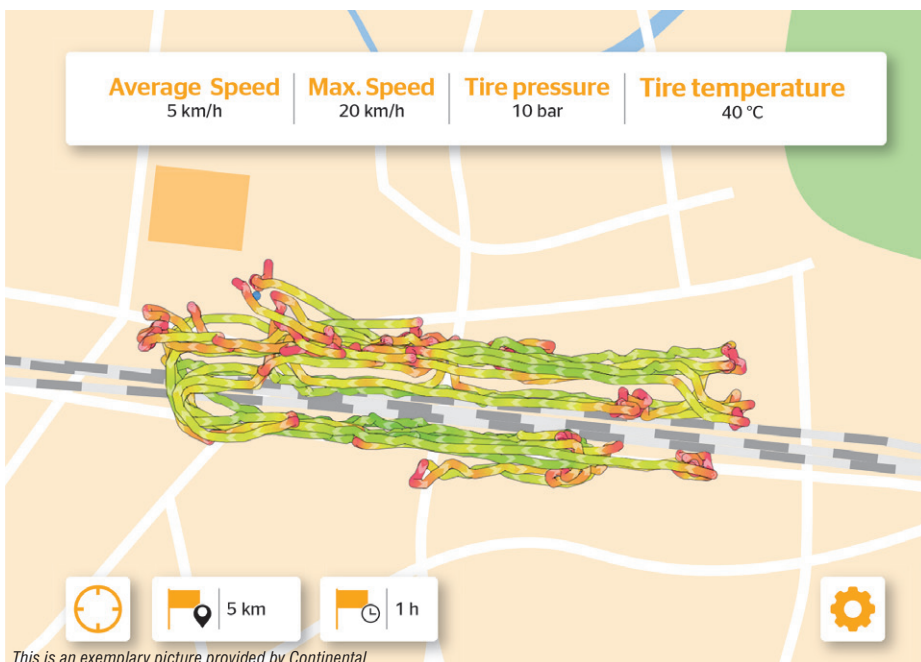
As such, more dots will be connected, which will be crucial for getting the most from automated terminals. Nowadays, tires are one of the missing TOS links. Knowing the condition of what makes your equipment run will surely benefit overall performance, among others, by tending to tires only when it is necessary. In short, TOS-connected tires will increase efficiency, safety, and sustainability. We are trialling this tire-TOS future of port cargo handling equipment all over the world, in Asia, North America, and Europe.

All of our hard- and software has been developed in-house. We gather data, which at present go through smart analytics to offer our customers recommendations on optimising their fleet operations. It is a back-and-forth development: we are learning from each other as partners, seeing the needs of our customers and develop the best fitting solutions.

### ■ What are some of the data-led benefits next-gen port tires can bring about?

The solution we’re bringing to the market is new, and clients, big & small alike,





analytics that makes a difference. We at Continental are convinced that using digital tire management is improving performance, using resources more efficiently and contributes to a more sustainable operation. Perhaps the players moving more weight, so to speak, will be the early adopters of our digital solutions. But truth be told, We believe that smart digitalization will reach everyone in the port industry.

#### ■ What currently drives tire sales in the port & terminal business?

The coronavirus pandemic and logistics & supply chain issues took a heavy toll on cargo handling equipment: many ports & terminals were pushing the limits to keep the goods flowing. The situation now is calmer, which, however, doesn't mean that there aren't other factors 'motivating' the transport industry to renew their fleets. The environment is a big thing, and various stakeholders are pushing to green their operations as well as those of their partners. That is certainly one area where we can help – a good-condition tire will always require less energy to move the equipment and the cargo it handles. In general, customers require solutions regarding total cost of ownership, sustainability and digital solutions. All of this fits in perfectly with our overall business approach, bringing the best flow to our customers with regard to efficiency, total cost of ownership, and safety. Our ambition is to become the most progressive tire manufacturer in terms of environmental and social responsibility by 2030.

Sustainability is an integral part of Continental's „Vision 2030" strategy for the Tires group sector and is anchored in the foundation of our company values. We relentlessly drive forward innovative technologies and sustainable solutions. We at Continental aim to become carbon-neutral along our entire value chain by 2050 at the latest, from sourcing sustainable materials to recycling end-of-life tires. We aim to use 100 percent sustainably produced materials in our tire products by that time at the latest. Also, the main goals of Continental's sustainability ambition are 100% emission-free industrial products and factories by mid-century at the latest. The same holds for striving for entirely closed resource and product cycles and 100% responsible sourcing and business partnerships. ■

need time to wrap their heads around it. Think of it as a shared journey during which we explain what benefits can be reaped from having more data on the use of machinery. We can already share that, electric container handling equipment is heavier, which in itself presents a challenge to tire producers. However, automated machinery is also subjected to less wearing out, as the system that operates it is noticeably gentler than human operators who 'like' to take accelerating and breaking over the top. Comparing an automated straddle carrier with one driven by a human, the former's tires will be in far better shape. Data analytics can also uncover undesirable operation behaviours: thanks to the information we provided, it was seen that certain night shift operations

were driven with the machine a way too fast. Such performance discoveries, even as extravagant as the above, are the intended outcome of having data that 'speaks to you.' More clients are looking into investing in new machinery or retrofits to enable semi- or fully-autonomous operations. 'Sitting' in that black box takes the wind out of many terminals' sails: they under-deliver on performance and safety as they run the machinery in suboptimal, failure-prone conditions. But what business wouldn't like to decrease their equipment's total cost of ownership? This transition may require some hand-holding, but we're more than ready to assist anybody in their switch towards better tire behaviour supported by data



Photos: Advent eModal

Interview with Dennis Monts,  
Chief Operating Officer, Advent eModal

# The tech fabric

by Przemysław Myszkowski & Przemysław Opłocki

One of the lessons learned from the recent supply chain disruption was that technology could add capacity & flexibility almost in a twinkling – compared to setting up a new quay, yard, or depot. We are talking with Advent eModal's Dennis Monts about the particulars of what software can do, as well as the company's new freight orchestration solution that will invest shippers with better logistics while transport service providers with more business opportunities.



**D**ennis Monts, Chief Operating Officer, Advent eModal

## ■ Could you kindly introduce Advent eModal to our Baltic & European readers?

Advent eModal is a software-as-a-service company with a platform that offers 13 applications that work together to enhance intermodal equipment interchange. We provide the tech fabric that connects a terminal or carrier operating system to an external stakeholder: other shipping lines, shippers, freight forwarders, etc. This way, the latter parties have a clear view of a container lifecycle. We aren't a visibility company, though: it comes as a by-product of us booking the appointments to a terminal and paying the fees (say, demurrage). Advent eModal is in 85 terminals, with 90% of the appointments made in North America through our solution. That equates to some 80% of the region's container traffic going via Advent eModal. We are also active in Australia (liquid bulk operations in New South Wales), our system serves the Hawaiian intra-islands barge network, and we're present in the UK across Freightliners' rail depots. Looking forward,

Advent eModal will look to expand its efforts in Europe. The regions differ, e.g., Australia wanted to implement a top-down port community system (PCS), which didn't stick, as terminals were keener on using their software. In North America, on the contrary, a PCS works just fine (from a tech point of view, we 'are' the PCS in the US).

Let me picture the impact of what we do with an example: a terminal approached us, wanting to achieve a truck turnaround time of 30 minutes vs. three hours. Truck turnaround at the terminal is now down to ten minutes, of which the gate transaction takes 15 seconds (98% automated, so just 2% are exceptions). That is the difference between having a truck queuing in different lines for paper tickets vs. technology running the process.

## ■ Did port congestions impact you?

The whole supply chain 'hiccup' affected us greatly. Containers simply weren't moving the way they should, yards got stuck up, and charges piled





one atop another. To deal with the challenge, we focused on automating our dual transactions: a truck bringing an empty box and leaving with an import one. Tying that together resulted in a more fluid flow of containerized trade. In the US, the issue is that if you're picking up 'empties,' you don't necessarily know where they'll go. Five terminals are booked instead of one, a severe waste of appointment capacity. That is the practice – the way of going around it was automating the cancellation procedure and making sure terminals couldn't make an appointment without ticking off all the boxes on the list. Another consideration during the logistics crisis was ensuring that there was always a slot for critical supplies like pharmaceuticals.

Today's situation is noticeably better, with congestion taking place more in the hinterland. There has been an evident shift from West Coast to East Coast US ports, including those in the Gulf of Mexico. Shippers have learned their lesson on the importance of flexibility. Ports and terminals were reminded of the importance of this too. One can have cutting-edge quay and yard equipment, which, however, won't do well for anybody if a carrier decides to surprise everybody with a blank sailing

– doing it overnight for added confusion. Software that can swiftly accommodate such events is critical for mapping operations out. A 'piece of code' configured to serve a kaleidoscope of terminal setups is what powers the land trade machine in the 21<sup>st</sup> century.

#### ■ What is your company's latest development?

We have launched a new product called Envio 360 that enables companies to embed an application programming interface into their systems. In effect, it orchestrates freight operations – automates appointments by setting certain parameters. Envio 360 will book the appointments, monitor them and ensure the settlement of any fees due to avoid disrupting the flow.

Envio 360 helps to maintain a fluid supply chain. The software enables beneficial cargo owners (BCOs) and logistic service providers (LSPs) to have control over their end-to-end journey. Envio 360 integrates with existing transportation management and planning systems for smoother and more reliable operations. By having one location to manage a variety of processes and stakeholders, Envio 360 increases efficiency, and reduces confusion, ultimately improving terminal logistics. ■



**Interview with Ricky Hirani,  
Global Product Manager Big Trucks,  
and Junior van Remortele,  
Big Truck Sales Director,  
EMEA, for Hyster**

Photos: Hyster-Yale

# Future tech at the fingertips

by Przemysław Myszka & Przemysław Opłocki

Almost all say that hydrogen is the future. But one thing is to voice it, another to walk the talk. We are speaking with Ricky Hirani and Junior van Remortele from Hyster about hybrid fuel cell port cargo handling equipment, electric machinery, and what prompts their clients to pick greener machines over those still running on fossils.



**R**icky Hirani, Global Product Manager  
Big Trucks, Hyster



**J**unior van Remortele, Big Truck Sales  
Director, EMEA, for Hyster

## ■ What are you highlighting this time around in Rotterdam?

We came to this year's edition of TOC Europe to showcase our first-ever hybrid (lithium-ion batteries) hydrogen (fuel cell) terminal tractor, an early adopter we developed for HHLA's operations in the Port of Hamburg. It will work together with an empty container handler, also hydrogen-powered. We are trialing this technology to assist clients in their journey towards carbon neutrality. Naturally, the colour of the hydrogen our machinery will use is green. Worth mentioning is that Nuvera Fuel Cells, LLC, a company that has been developing fuel cell technology for over 25 years, is part of the same group as Hyster. We have leveraged each company's unique strengths in developing the machines. That said, it's also about seeing how operations will change: diesel has been with us from time immemorial, and everybody knows how to handle it to get the needed performance. We must ensure that hydrogen does the same, but sparing the environment the negative externalities of fossil fuel. Refuelling hydrogen should be as simple as tanking

diesel; the battery pack and how & when it's charged will probably demand more careful scrutiny towards future tailoring to the client's throughput requirements. Terminals, too, need to experience the technology with their fingertips, so to say, before it really comes to crunching the green transition. One electric/hydrogen machine may be pretty simple to handle; think of 10, 20, 50 or 100, and you truly must be as thick as thieves with the future.

Of course, we'll also dwell into maintenance as a fuel cell-battery drive is an entirely different animal than a combustion engine. We anticipate that the former should be more pocket-friendly, as an electric motor has fewer parts that wear & tear, not to mention the absence of lubricants. The cabins will be the same, so drivers should have no problems with swiftly switching from one to another. This is also crucial for anybody learning to drive a heavy-duty machine: going from diesel to electric/hydrogen won't be like getting a new driving licence.

And while the two above are brand-new, we also piloted a laden container handler that operates in the





Among others, we have introduced an electric heavy-duty forklift truck, the battery capacity of which can be scaled to meet whatever workload awaits. Another customer of ours will take hold of an all-electric empty container handler.

The coronavirus pandemic has also thrown a spanner into the works, impacting how we work, buy things, and companies operate. For instance, e-commerce boomed over the past couple of years, fuelling logistics and intralogistics. Container traffic has slowed since then, congestion eased, and operators now have the time to focus on renewing their machinery when the volumes spike again. They also have the opportunity to feed two birds with one scone by opting for greener equipment.

#### ■ What is the digital side of what you're manufacturing?


We gather data on driver behaviour to see how a given piece of machinery performs. This information is then used by our clients to optimise performance and by us to further develop the products, including automation. ■

Port of Los Angeles last autumn to start learning how hydrogen stacks up against fossils. Next, we'll deliver a hydrogen reachstacker to the Port of Valencia soon.

#### ■ What are the driving forces behind the green transition from your perspective?

Overall, we can see an increased interest in decarbonisation from the ports & terminals' side. The industry is nudged in the lower-zero-emission direction by the public sector, to mention the European Green Deal only. While testing hydrogen, we see electrification as a way forward too.





## Interview with Scott Holland, Chief Product Officer, Kaleris

Photos: Kaleris

# More openness

by Przemysław Myszka & Przemysław Opłocki

Since the coronavirus pandemic, we have been seeing an accelerated uptake of digital solutions, also across the world of transport & logistics. We are talking with Scott Holland from Kaleris about whether the supply chain mess changed anything. We also discussed the challenges & opportunities that transportation players and tech companies serving them face (and is there indeed a difference between them).



Scott Holland, Chief Product Officer,  
Kaleris

### ■ What has changed for Kaleris since 2022's TOC Europe?

After the acquisitions we did, our portfolio includes many supply chain solutions – from yard management, via terminal operating systems (TOS) and shipper TMS, to rail & road operation & maintenance systems. Our TOS offer contains three key elements: cloud software-as-a-service, a solution for mixed cargo terminals, and, naturally, for container facilities (in two versions: cloud IT lean footprint for terminals with standardised processes and advanced container operations).

We have spent much time looking at what's happening on the market. Among others, carriers are moving more & more into end-to-end, vertical-integration solutions, which may be a promising avenue to explore for us. We have been upgrading our solutions to accommodate what this trend can bring about. The rail & road operation & maintenance systems would be one example of that: serving hinterland depot markets. We have also been investing heavily in the mixed cargo segment. There has been

a noticeable change regarding client TOS expectations: from 'give me nothing but throughput/just get it through the yard' to 'more efficiency/uptime.' That is why we've invested in schedulers and yard management during the past year. Data provision & openness would be the thing that would properly close our recent to-invest list.

In short, the whole supply disruption reminded our customers about the importance of resilience and flexibility. If anything, this months-long perturbation has accelerated many companies' digital journey. While deploying technology and learning how to use it performantly takes time, erecting another yard would likely take (almost) an eternity longer. Specifically, our clients asked us for advice on creating a more frictionless integration with their trading partners. In other words, operators began thinking outside their terminals' premises. Data interchange became even more critical for trade, overseas likewise overland. Some work involved 'squeezing' more of the 'lemon' they already had. A company was using, say, 10% of Kaleris' suite and now wanted to go





to 20%, or from 30% to as much as 80%. We have lately had a lot of such scaling-up work.

While the rail & road community was in the past somewhat slow on adopting digital solutions – slower than the maritime industry, not particularly known for moving fast & breaking things – the situation changed for them pro-tech too. It is all a system of connected vessels: even if you don't solve an issue 100% (and doing so is hardly the case), you still improve the entire logistics chain. Bettering terminal operations will also benefit land hauliers, and vice versa.

#### ■ What are the challenges & opportunities that lay ahead of your organisation?

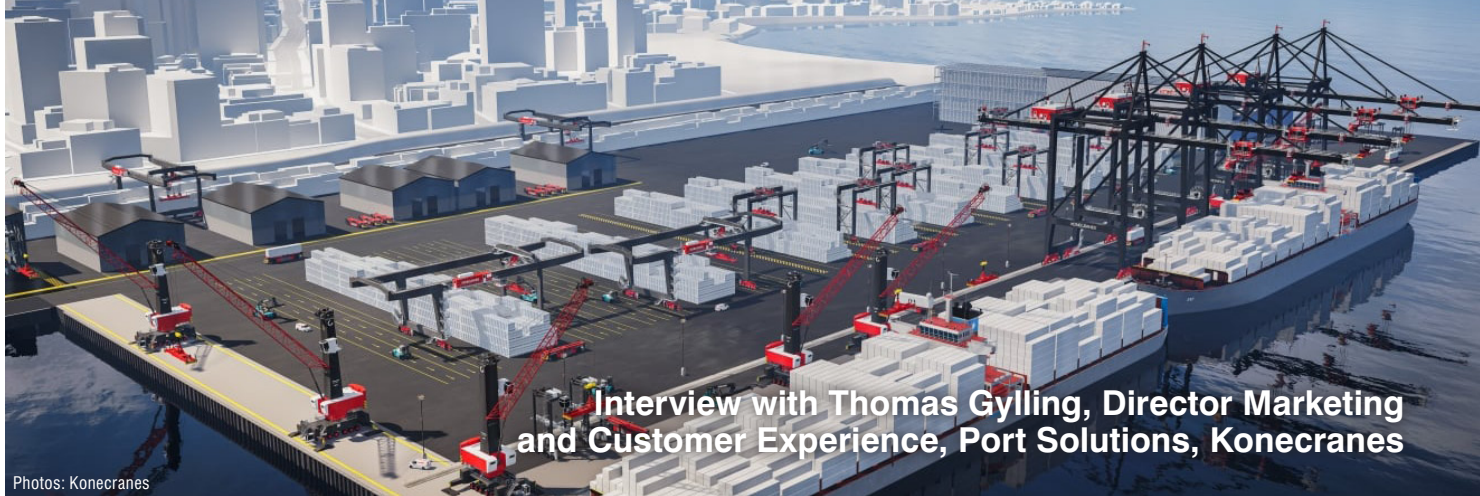
I wish there was a difference to that question and that these were different ten years ago & ahead! Technology is there, and it's evolving. I would like to say the same about change management and stakeholder alignment, yet, there's a noticeable difference between the two sides of the digital transformation coin.

It would be a godsend getting different players – carriers, terminals, hauliers, etc. – to march in the same direction (agreeing on where & how). Executive sponsorship might be either a head- or

tailwind: pondering whether investing in hard- or software will get you the most bang for the buck.

Change management might be exceptionally hard if somebody has been working with a solution that doesn't break (so why fix it?). 'Better is the enemy of good' can be a tricky message to throw over such a silo attitude. Learning new skills can also be challenging, as, more often than not, new solutions do not mimic what a company has been working with for years. And, of course, we'll be working on EDI issues in 30 years just as we did three decades ago... Europe deserves an honourable mention as it pays greater attention to standardisation and regulations (and compliance with thereof), which drives innovation, e.g., on lowering harmful emissions.

More openness is what we probably need the most: for cooperation (on standards); for thinking out of the box (how my investments will improve others' businesses); for technology (perhaps betting on software to do the job instead of buying machinery or pouring more concrete). Other than that, a global regulatory body that fines everybody \$100 each time someone sends a bad EDI file would undoubtedly move the needle in the right direction! ■



Photos: Konecranes

Interview with Thomas Gylling, Director Marketing and Customer Experience, Port Solutions, Konecranes

# Eco-awakening

by Przemysław Myszka & Przemysław Opłocki

To decarbonise, ports & terminals are looking into renewing their cargo handling fleets by replacing machinery running on fossil fuels with greener options. We are talking with Konecranes' Thomas Gylling about electrification, hydrogen, and automation. We are also spotlighting the digital side of modern port hardware, the company's own sustainability agenda, and what can boost – or flop – future development.



Thomas Gylling, Director Marketing and Customer Experience, Port Solutions, Konecranes

## ■ With what Konecranes came to this year's edition of TOC Europe?

Last year at TOC Europe, we revealed new products complementing our Ecolifting portfolio: the all-electric (battery) straddle carrier, mobile harbor crane, and RTG. This year, we are promoting the Ecolifting portfolio with a focus on the all-electric heavy mobile machines. This is in line with our strategy, as we offer – light as well as heavy-duty – equipment that runs on electricity, to support our customers to transition towards zero-tailpipe emission fleets.

We have signed the Science Based Targets initiative, to reduce greenhouse gas emissions following latest climate-science in line with the Paris Agreement goals, according to which we will provide an electric or exhaust-free alternative by 2027 (at the latest) of our fossil fuel-based machinery. We follow the battery manufacturers recycling policy, where matters such as the battery packs get a new lease of life after serving Konecranes. The global battery supply chain is busy fulfilling the demand, but fortunately, we also observe that European manufacturers are joining

the game. Container terminals that have electric Konecranes equipment love it, especially the operators! The driving experience is often compared to a Tesla – smooth, silent and powerful.

Our approach regarding batteries is that port cargo handling equipment should have enough battery power to carry out a full work shift. Sometimes this is easier to achieve, for instance, a mobile harbor crane will use the stored energy to move into a quay, on which it should connect to an onshore power supply. An RTG, on the other hand, needs greater capacity to do its work. In these cases, for specific products, we assist our customers by offering batteries as a subscription service – it eases the 'how long will it work?' risk.

Transitioning to electric equipment is typically a bit more CAPEX-intensive due to charging station infrastructure, but the operational benefits will compensate for that. Additionally, given the environmental sustainability momentum, investors are increasingly looking for companies that make greener choices. This sense of awakening – being in the same boat – has been in the air for the past three years.





#### ■ What are the other opportunities you're pursuing?

On a parallel track, we are keeping a close eye on hydrogen power developments and we are exploring what it has to offer. It is encouraging to see that many sectors in the EU and the US are pitching in. Earlier in the spring, a research team in Germany have improved the overall energy utilisation efficiency of green hydrogen from 60% to 80%, which is a more than auspicious outcome. Hydrogen may prove to be the fast track to 'greening' the port industry. There is still much testing to be done, but I'm optimistic about this development.

Automation is another megatrend driving Konecranes' offering development. Here, the challenge is that many customers use various brands or suppliers. We help them automate the 'bunch' so that the different machines don't have issues 'talking' to each other and will work together without constant human intervention. This usually involves making the other equipment as Konecranes-like as possible by means of adopting the same user interface, remote stations, etc.

Our customers mainly turn to automation

to stabilize production and to make it more predictable and safer, as labour may be costly but also scarce. Automation isn't a binary thing; you either have it or not. It is a growth path, containing various steps. Container terminals can automate what they need at the pace that suits them. This transformation or change isn't so much about technology as for the human aspect – people need to understand what automation entails, which, naturally, takes time. Container traffic growth in combination with limited space typically drives the decision to implement automation in a port: you have to scale up from reachstackers to rail gantries to get more boxes in the same area. Therefore, stacking density improvement as well as yard performance optimisation becomes growth-critical.

#### ■ What forms the digital side of modern port hardware?

We have been tapping into the digital revolution for many, many years. Connectivity is of paramount importance. Our customers and we benefit from knowing more about what's happening with the equipment. One thing is remote operations, while the added value of diagnostics would be another. Among others, we see how many containers our machines are moving globally, giving us good insight into market trends. Similar to automation, there are different digital steps and solutions to choose from, suitable for different ambitions and digital maturity. Equipment data has lots of information in it, and when combined with analytics, it becomes valuable. We have noticed the need of our customers, who want the equipment data fed into their own systems. This is why we introduced this year a suit of API options

to enable data transfer and communication between the different used digital platforms. Standardized interfaces are crucial here, and I'm proud to say that we as Konecranes have fully supported the works of the Terminal Industry Committee 4.0: harmonizing the 'languages' of the various brands machinery with a standard interface. This standardization in equipment language is essential for container terminals operators since most of them operate with multi-machinery fleets. The more data, the better – if you can make them actionable. Ports have loads of moving parts, so it might be tricky to come forth with overall recommendations, like e.g., on maintenance. The more automated a facility, the easier it gets as there's more data available to gain insights and base recommendations on. We have been data mining for years and analysing the information in more and in less controlled environments, developing algorithms to predict when a machine can have a breakdown. Such knowledge is crucial for any competitive terminal that aspires to keep its quays and yards moving as efficiently as possible.

#### ■ What is your company doing to better its own ESG?

We want to neutralise our footprint; for instance, all Konecranes factories globally use renewable electricity, and we are committed to cutting our global emissions in half by 2030. Sustainability is also about fairness: Konecranes strives to be a trusted partner. Naturally, this approach goes both ways: we also demand that our suppliers are reliable. It is a big job to implement this when you are operating globally. Needless to say, it's more than worth it. Transparency is key. We were the industry's first with the Environmental carbon footprint Product Declarations (EPD), which show that operations are the largest contributor, hence the importance of shifting away from fossils. On the manufacturing side, steel has a large share. That is why we're exploring the use of carbon-free metal.

#### ■ What does your company have in store? What, on the flip side, might hamper future development?

Short & sweet: we are growing and continue to do so. Then again, geopolitics is a topic that can really hit the fan, and one cannot do much about it other than clean up the mess it has created for you (we had to pull out from specific markets, for obvious reasons). Other than that, we're well-prepared. ■



Interview with Gösta Karlsson, President,  
and Örjan Karlsson, Vice President, ELME

Photos: ELME

# Lighter = better

by Przemysław Myszka & Przemysław Opłocki

The transport & logistics industry has started changing – and the same goes for companies that cater to their demands for greener equipment. We are speaking with ELME's Gösta and Örjan Karlsson about the manufacturer's latest addition to its spreader portfolio, what the company does to lower its carbon footprint, and hiring new talent.

## ■ What did you bring to the 2023 edition of TOC Europe?

We highlighted our new product: an intermodal handler for piggyback and swap bodies. The equipment is lighter, which gives you increased lift capacity on the truck side, meaning that the cargo unit can thus be heavier, and fewer emissions on the operations side as the cargo handling machine carries less weight. Moreover, the design is such that the life expectancy of the intermodal handler is higher.

We have tested it for a few years, but the product is already running in the fields. It is an evolution of what we already were feeding the market with: it took us more or less two years to fine-tune the less-weight & longer life upgrade. The timing is also correct: you can observe an increase in trailer traffic, including the part that goes by rail. It is both a market change and something the society at large starts to demand from the transport sector, namely more eco-friendly logistics. With the new handler, we are also contributing to making the world greener: less weight means reduced

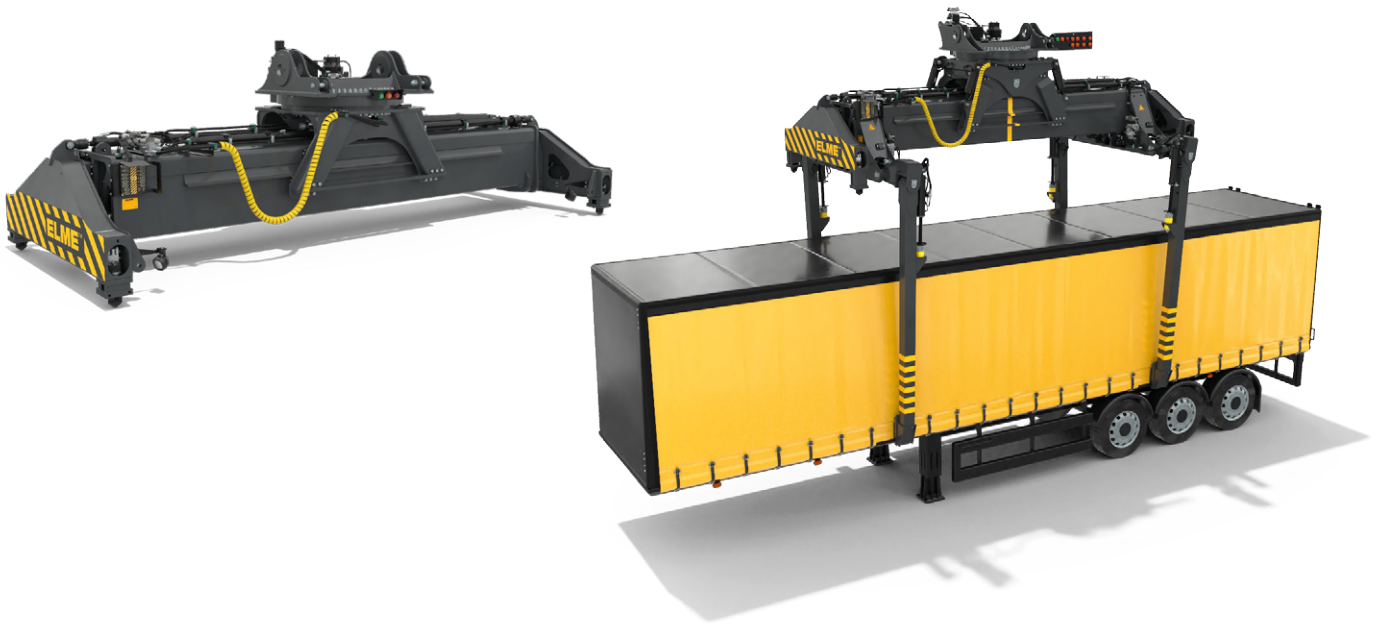
steel use, probably the single most significant CO<sub>2</sub> contributor in manufacturing cargo handling equipment.

At the same time, we strive to lower other 'steps' that add up to our overall carbon footprint, like energy consumption in the form of heating, electricity, and fuel. For instance, we have lately reduced our electricity use by 15% thanks to, among others, LED lighting. Naturally, we are waiting for carbon-neutral steel to become commercially available. That in itself will, however, require a lot of green energy. For the time being, we will have to cope with the up & downs in steel pricing, likewise electricity bills in Sweden.

## ■ Do your products also have a digital side to them?

Sensors are built into our products, enabling cargo handling machinery manufacturers to embed that data into their systems for client benefit. In that sense, we provide one of the data subsystems that makes it possible to have a complete picture of how a machine performs.






■ **How challenging – or maybe easy – is recruiting people to work in the spreader manufacturing sector?**

Our production is automated as much as it's economically feasible. The labour force is and will increasingly continue to be an issue: finding educated & skilled people willing to work in the manufacturing business, from the person on the workshop floor to top engineers. Much of that depends on perception: modern production facilities aren't these greasy, noisy, smoky & dangerous places from a novel by Charles Dickens, but clean & safe high-end environments. Truth be told, nowadays, it's often louder in a school

classroom than in a factory. Young people should be encouraged to see how it looks with their own eyes – not necessarily tuning in to their parents' recollections (and especially grandparents') of when industries in Sweden were nothing but tough places.

■ **What is your outlook?**

It is very much a question of world trade: whether we will have global supply chains owing to which goods are moved over thousands of kilometres in such handy & cost-efficient 'packaging' as the container is. And we don't see that changing, at least during our lifetime. Otherwise, it's the interweaving cycles of ups & downs. ■



Interview with John Lund,  
Global Sales and Marketing  
Director, Visy Oy

Photos: Visy Oy

# Under-promise, over-deliver

by Przemysław Myszka & Przemysław Opłocki

There is much talk about visibility in the modern supply & logistics chain. But one cannot have general visibility without seeing the concrete particulars, such as the licence plates of trucks serving terminals, likewise, the numbers on the containers they're carrying. We are talking with Visy's John Lund about his company's loping development, the importance of nearly 100% accurate read rates, and what, apart from technology, drives the business forward.



John Lund, Global Sales and Marketing  
Director, Visy Oy

■ Visy has been on the market for almost three decades: what fuels the company's development?

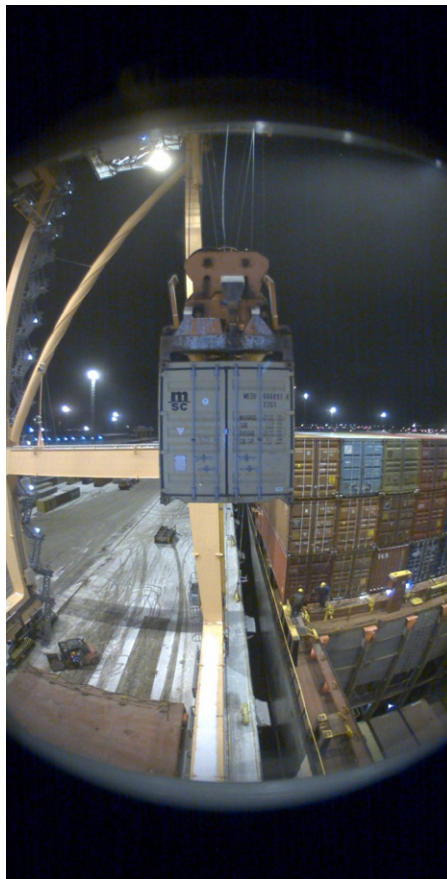
We are as busy as we have ever been. Last year was a record one and will hit a new, all-time high in 2023. During the TOC Europe week, we got word that we won a very competitive bid for the project extension for the Port of Helsinki. A couple of months ago, we finished the crane OCR project with APM Terminals Gothenburg, our long-standing partner. The company also entrusted us with a quayside contract for their facility in Aarhus. The automation rollout for Baltic Hub in Gdańsk is also underway. We are also helping Stena Line across 15 sites. And these are just the major projects – we've got mountains of smaller after-market projects happening at the same time. Interestingly, Visy is also present outside the port & terminal industry, e.g., in the border control sector through our partners from Rapiscan. Via them, we deploy our technology

in places we don't even know, hundreds of systems worldwide.

There are a few reasons behind this stellar growth trajectory: a couple of operators took a chance on a smaller company from Finland like ours and saw that our tech works and how 'Mac-Gyver-ish' we are regarding unique R&D. After building us into a smaller part of their operations and seeing the results, they asked us whether we can scale up – and we were more than obliged to. Getting some projects like those, the word started to spread, and the momentum began to build, winning us heavyweight customers in Europe and abroad.

We have grown organically over the years, which comes with its own challenges. To that end, one must be profitable without some business angel stitching up our moneybag. We never over-promised but always over-delivered. It might not be a great sales pitch – such risk awareness – yet, it's a very Finnish 'thing' that bore fruit repeatedly, making our customers happy. The other thing would be scaling up the





team. We have a pretty good retention rate, and many people come to Visy working on their dissertations or having recently completed one. They have a vision, and if it fits our organisation, we are more than open for them to experience the academic perspective from a practical one. Besides, Visy has a friendly working environment where people can be themselves and thrive.

■ **Why accuracy in reading all the different numbers is so crucial for you as well as the clients you serve?**

Everybody can say their accuracy is 99.5-99.7%, but verifying that is a totally different story. If we lie, e.g., during a presentation on a project with the commissioning company in the audience, that would be a trainwreck. The numbers are real – they come from our customers and not us. As such, we are confident in putting them into contracts: if we under-deliver, we are ready to go above & beyond what a vendor would typically do for the read rates to go back up. Read rates are critical because each mistake costs the operator time and money – exceptions must be handled manually, and no clerk has Flash powers to do it faster than artificial intelligence (AI). Exception handling

defeats the point of the system. The missing 0.3-0.5% are unreadable markings, e.g., when a container is so banged up, the numbers just don't exist anymore. On the flip side, our solution can even read some licence plates on which the letters & numbers were written freehand.

Weather can be a tricky factor. Luckily, we come from the Nordic region where there can be four seasons in a single day – atop the famed snow that, when it really blows, can even fly from underneath. But that only speaks volumes about the robustness of our solution. Challenging environmental conditions can also win contracts – doing a project in Canada was straightforward after wrestling with the Finnish aura.

■ **What are some of the other factors that make instead of breaking the deal in your field?**

Developments in AI technology have enormously helped us improve our solutions. As such, tech in itself isn't an issue. On the other hand, the supply chain disruption has given us a headache or two as we do not manufacture any of our hardware. Then again, when the lead time on delivering a specific piece of equipment is unacceptably long, we can

always source a comparable one. Customer participation is a differentiator across the board. The worst thing one could do would be to polish a gem that nobody wants. Feedback, working together, and learning from each other are crucial for success. We have a good relationship with the team from APM Terminals, spanning many years, and we did a lot of nifty R&D collectively.

Our philosophy has always been to work in partnerships. We cooperate with regional partners from all over the globe, from Europe to North America and Indonesia. This approach turned out invaluable during the coronavirus pandemic, which, believe it or not, didn't rain on our project parade. These trusted local teams could do the job on time, spec, and budget. Whereas we had less control over the project and a thinner slice of the contract cake, we nevertheless managed to exceed customer expectations in times when doing overseas work was a trial by fire. The pandemic taught us that we do things even better than we thought – and that's an optimistic notion when looking ahead. There is still a lot to learn and think through, but we are – like Rocky Balboa – eager to rise to that challenge. ■

# Future tech & people: good friends

by Przemysław Myszka & Przemysław Opłocki

**Will future technology take our jobs – or will it add quality to how we work instead? We are talking with Realtime Business Solutions' Harry Nguyen and Norbert Klettner about their company's new product, claimed to revolutionise container terminal operations. We also spotlight the future of terminal operating systems (TOS) and what all-embracing consequences a completely new tech architecture can bring about.**



Harry Nguyen, Founder & CEO, Realtime Business Solutions



Norbert Klettner, Managing Director, Realtime Business Solutions

## ■ What new did you bring to TOC Europe 2023?

Our new module, TOPS Intelligent, goes together with a standard terminal operating system, like our TOPS Expert that does the everyday business, so to speak. The new solution – which harnesses light-speed quantum logic (yet without the need for a quantum computer), plus super intelligence atop that artificial (AI) – adds new layers of insight.

One that could immediately be seen would be the 3D visualisation of quay & yard operations as well as vessels and their stowing, instantly created by the system itself based on TOS data as part of the TOS. Another and more critical feature would be advanced decision-making (support). The system is not only predictive but provides solutions. Think of the risk of yard congestion spotted in advance and dealt with before it happens. In hindsight, that would save the transport & logistics many sleepless nights over the entire supply chain disorder we had to endure not so long ago!

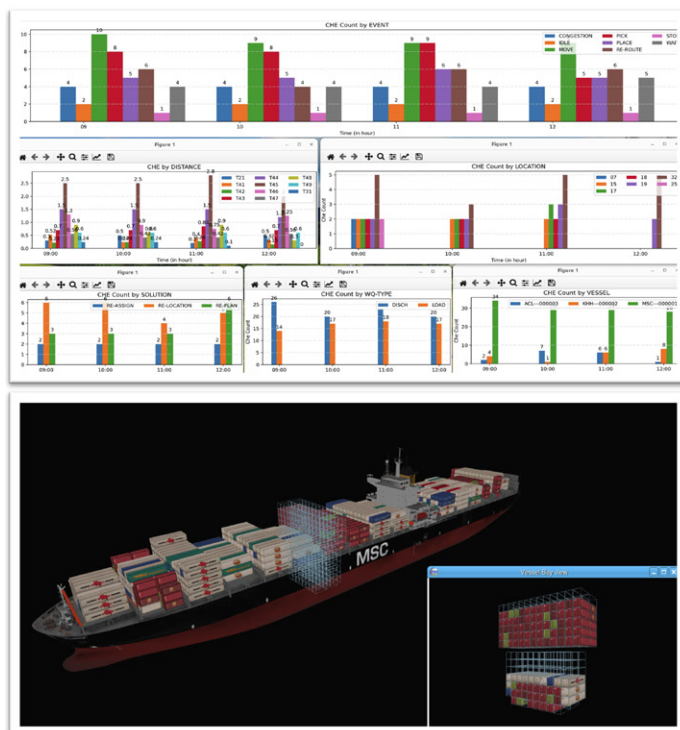
In essence, TOPS Intelligent merges all the data available through machinery

sensors inside the TOS. For that reason, RBS is a big supporter of data standardisation and what the Terminal Industry Committee 4.0 (TIC4.0) has done towards that goal. Data integration will be crucial for future operations with electric equipment, which will necessitate careful planning to match operations with charging the battery-run machines, not to mention when a maintenance issue will occur, necessitating the on-the-go change of routines to make up for the decreased capacity. TOPS Intelligent will be instrumental in getting all those data sets for transitioning to increasingly electrified terminal operations.

## ■ Who do you specifically target with your product?

The solution is cloud-based as well as on-prem possible and can handle operations up to 140m TEUs. That said, players of different sizes and terminal set-ups (on the coast or in the hinterland) can too benefit from our new product. As a case in point, our 'smallest' client is a terminal in Hamburg that does 10k TEUs/year with one mobile





crane and two reachstackers, who, nonetheless, opted for a single data source and put it to good use with our cloud solution since 2017. We have lately assisted in setting up a multi-modal hinterland terminal near Cairo, with plans to scale up to 200k TEUs/year. In the Baltic, our long-standing partner is the Klaipėdos Smeltė Container Terminal (as the Lithuanian seaport overall became the region's Top 2 box-handling hotspot in 2022). Our cloud TOS system, in general, is cost-effective, given the pay-per-TEU model. Learning is, of course, needed: getting your head around our TOS and TOPS Intelligent should take roughly three months. Benefits are instant and only grow as one's 'RBS-skill base' builds up. Additionally, the more & higher the data quality, the better. Ideally, one data standard would be the gold standard. 'Plug & play' should be the way of adding new equipment before long.

#### ■ What is the difference between the past, present, and future of terminal operating systems?

After seeing the new module, somebody asked us whether we'll still need a TOS. The answer is: yes & no. The latter is because there won't be a place for today's TOS tomorrow,

speaking figuratively. The former is because new is coming, and we're not talking about just better AI delivering higher quality added value, such as predictive maintenance. So not just patching around small solutions that do parts of the intelligence. The underlying architecture will profoundly change: our system is as lean as possible ('one server-one memory-one knowledge,' as we put it) to merge all the data in a flash – and then work on them future-wise to optimise operations now-wise. It is similar to a brain, a real-time closed system with all the knowledge. A TOS of the past would just choke on the amount of information it needs to process, let alone perform analytics, predict what's likely to occur, and come up with solutions to potential problems. Developing the new architecture took us many, many years of research. It was sort of reverse engineering type of work: we knew what we wanted to achieve, and now it was the question of how we get there – essentially, what technology can get us from the start to the finish line: quantum logic, artificial & super intelligence, cloud, the Internet of Things, etc. We call it an 8D system because we managed to merge all the different solutions into one. Think of it as a one-person

orchestra (that can play on your smartphone for good measure!).

#### ■ What tech challenges lie ahead?

Managing transparency will be one thing: mistakes and underperformance will become instantly visible. People will, in general, need to get used to working with new technology that will at least somewhat overlap with their work: and from, e.g., Go-playing AI, we know that software can take decisions that might shock us but ultimately deliver better outcomes. We can observe the same in shipping: AI proposing to speed through a storm rather than slow down and wait for bad weather to go away turns out to be a better choice time- and emission-wise.

The first automated terminals are around 25-30 years old – it just takes time to convince people that tech can help instead of making us redundant. The architecture we created was developed to be a good friend of people, not an enemy. In Europe, the situation is that it's highly likely that there won't be enough people willing to work 24/7/ holidays in the port business in ten years. Switching to remote and more automated (not only robotized) operations for a better working environment is already a thing. ■



Photo: Pexels

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