BULK TERMINALS *international*

AUTUMN 2019

THE OFFICIAL MAGAZINE OF THE ASSOCIATION OF BULK TERMINAL OPERATORS

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BLACK ARTS
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TURBULENT WATERS AHEAD

BY SANDRA SPEARES

It has been a challenging few months for bulk cargo operators as the industry struggles with the ongoing uncertainties surrounding the trade war between the US and China, and international players seek to assess the likelihood of a crisis in the Middle East and the potential fall-out for shipping

Owners continue to scramble to fit scrubbing systems in the run up to new sulphur regulations in January 2020, which have left question marks over the viability of longer-term charter agreements as owners seek to assess the likely availability and price of low sulphur product.

Recent comments by bulker operators were fairly upbeat, at least as far as those with scrubber fitted tonnage or fuel-efficient ships were concerned. On the one hand, there would be no problem with burning fuel with higher sulphur content, while on the other, those with fuel-efficient ships can mitigate the effects of the expected heavy price differential for using low sulphur product.

Questions will also continue to be asked on fuel availability for those following the low sulphur route and the likely fall out for those ships that infringe the new regulations.

The open loop/closed loop scrubber debate is just one aspect as some ports have come out against open loop and will, presumably, be going to enforce their rules in local ports. Another question follows on from this, notably how effective ports will be in enforcing the regulations or whether they will take a more relaxed approach. The general feeling is consistency across the board is essential if the rules are to be effective.

For those who have fitted open loop scrubbers, there will be the demands of shifting to low sulphur in jurisdictions where they cannot use scrubbing equipment. Another issue will be fuel quality – will ships bunkering in different ports have to segregate fuel to ensure they do not have compatibility problems?

Potential trade war issues continue to dominate the agenda, particularly what impact, from ports' point of view for transfers of goods. Differing stances as far as the potential for a new tanker war have also been highlighted following the detention of an Iranian vessel in Gibraltar – complete with high-profile intervention by the Royal Marines – followed by retaliatory measures by the Iranians.

The issue of where to flag your ship has raised its head, with one commentator suggesting that a Chinese flag might be a good choice when transiting the Straits of Hormuz, although not necessarily when visiting the US.

Many of these topics will be on the agenda at our conference, *Bulk Terminals 2019*, in Amsterdam in October. Delegates will be able to get a feel for the range of products out there aimed at improving ports' efficiency as well as comment on the outlook for key commodities such as iron ore and grain.

Iron ore markets and availability or lack of the right tonnage to carry the commodity have been the subject of much comment, not least with new moves by the authorities investigating the tragic dam disaster in Brazil, which has had such a big role to play in where and who was providing supplies.

Following on from the International Shipping Week in London this month, Amsterdam will be the perfect place to carry on the debate on fossil fuels at our conference, with the country's decision to move away from coal handling.

Enjoy this edition of *Bulk Terminals International* and we hope to see you in Amsterdam in October.

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- Controlling cargo damage
- Wear protection and maintenance
- Cargo characterisation for handleability and other issues
- Practical Workshop: our first course earlier this year included a visit to The Wolfson Centre's pilot plant. Interest was such that in 2020 we will be offering an optional Practical Workshop, to be held in its on-site industrial-scale pilot plant.

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UNIVERSITY of GREENWICH
The Wolfson Centre for Bulk Solids Handling Technology

To register an interest in attending and further course details, please contact Simon Gutteridge **events@bulkterminals.org** **+33 (0)321 47 72 19** or see more details at **bulkterminals.org/events/courses-and-training.html**

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Integrated traction encoder	64 ppr
Traction motor duty cycle	S1
Traction ratio	1 : 1452
Max traction input speed	2.100 rpm
Tires arrangements	Hi flotation tires 1480x640 19.5.25
Steering motor	2 x 4KW @ 2.800rpm 330V AC
Steering motor duty cycle	S2 = 60, S3 = 70%
Max steering output torque	2 x 5.000 Nm
Steering gearbox ratio	1:276
Steering pinion/crown ratio	1:8.5
Total steering ratio	1:2366
Max steering input speed	2.000 rpm
Time for 90° steering with motor @ 2300rpm	12.6 seconds
Em parking brake	40Nm / 24V DC + heater and [illegible]
Maximum tilting angle in work	±6°
Maximum mechanical tilting	±9°
Minimum storage temperature	-50° C
Working temperature range	-47 to +35 °C
Painting color	Black Ral 9005
Coating specifications	C5 class ISO 12944 regulation

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BUSINESS AS USUAL

SIMON GUTTERIDGE, CHIEF EXECUTIVE ABTO

A new CEO takes over the helm of a vibrant and successful organisation and looks ahead to Bulk Terminals 2019 in Amsterdam this October

SIMON GUTTERIDGE, CHIEF EXECUTIVE ABTO

I am delighted to be appointed ABTO Chief Executive. For our members, many of whom I have met over the course of the past three years, the transition will be seamless and business as usual. I would like to pay tribute to my predecessor Ian Adams as the driving force behind ABTO's creation and success to date. Ian hands over a vibrant organisation that is well supported by its membership, with very successful publishing and conferencing divisions. Furthermore, he has forged a good working relationship with ICHCA International, through whom we attend IMO committees bearing on bulk terminal operations. Ian will continue to support me as Technical Advisor.

It is the conferencing division that I have been mainly responsible for up until now. This will continue. In the past three years, we have staged two successful Bulk Terminals conferences, our first in London, last year in Hamburg and we will be going to Amsterdam this year.

Bulk Terminals 2019 in Amsterdam will open with our now traditional view of *Markets and Opportunities*, with the opening session looking at *Prospects for the Dry Bulk Market in 2020 and Beyond*. Dry bulk markets have been rocked in recent months by a series of disruptions to demand, including Vale's Bumandinho dam disaster, US-China tariff wars and changing government policy on coal trade. Some disruptions are temporary, but others hint at structural changes to the bulker market that will have long-term ramifications for the types of cargoes traded and ships required in the future. Following presentations will look at investment opportunities in Europe and beyond and trends and challenges for transport finance.

The next session *Achieving Operational Efficiencies and Adapting to Change* will kick-off with an inspirational case study of how Redcar Bulk Terminal turned its fortunes around after losing a customer representing 95% of their throughput. It will describe the ongoing transformation of the former pure bulk import terminal for iron ore and coal into a multi user, multi products bulk import and export port facility and the challenges faced during this journey. Many of these challenges were complex by nature as the existing terminal handling equipment and personnel had to adapt to the differing characteristics of the variety of new products being handled for a number of port users with different quality requirements

BIMCO has spent some time looking at the subject of *Operational Efficiency* in ports. The adjustment of a ship's speed to meet a predetermined arrival time is a form of emissions' management being widely discussed. The reduction in time spent waiting at a congested port resulting from a reduction in speed reduces a ship's fuel consumption, generating financial gains for operators and charterers. It also reduces greenhouse gas emissions, which benefits the environment. The different methods of communication and exchange of data will be key to the success of operational efficiency. Supporting presentations will consider the optimisation of operations using terminal operating software, the benefits to bulk terminal design tools of using big data and the use of 3D radar technology for inventory control.

However, without maintaining the quality of the cargo through the terminal, the benefits of any operational efficiencies will – to a lesser or further degree – be lost. *Quality Issues in Handling Dry Bulk Cargoes* will seek to shine a light on the key range of different quality issues that need to be examined in dry bulk cargoes, the means for avoiding compromise of quality and reliable ways of evaluating it.

Day one will round off a session on *Biosecurity*. Case studies on *Cargo Damage and Infestations in Bulk Shipments* highlights the fact that poorly sampled product generates unreliable analytical results. Furthermore, while sampling during discharge is often the only way to establish the extent of any infestation, there may then need to be further fumigation of the product once in warehouse storage. Fumigation of shoreside facilities addresses the fumigation of cargoes stored in discharging ports' facilities, drawing on the speaker's experience of flat silos affected by borer insects – ex pupae and larvae – present inside grain kernels. Health and safety was found to be an issue with fumigant leaking to adjacent silos.

Dry bulk terminals lag behind their liquid bulk cousins in marketing themselves. Opening day two and new for Bulk Terminals 2019 will be an interactive *Marketing and Branding* workshop to learn and practice the techniques of effective terminal promotion.

The following session is on *Environment and Sustainability*. The presentation, *Sustainability and GHG update* will give an update on how ports and terminals are going to be affected – and what they might be able to do about it – by the interest that IMO is showing in them regarding emissions. This follows the spotlight on the shipping sector and the agreement on significant stepped reductions in emissions from vessels. The International Association of Ports and Harbors (IAPH) and Canada, joined by other maritime nations and NGOs, have asked IMO to approve a resolution on initiatives in ports. All of this is also linked to UN's 17 sustainable development goals.

Are *Scrubbers – a Solution for Ports* part of the answer for bulk terminals? The use of exhaust gas cleaning systems (EGCS) has been permitted as a method of compliance with MARPOL Annex VI since 1997. MARPOL Annex VI regulates air pollution from ships. We will explore the benefits of EGCS over compliant fuel for terminal employees. The presentation will examine how EGCS and scrubbers work and ask whether they are a better solution than compliant fuel.

With ever-increasing pressure of port operations to deliver greener bulk cargo handling, *Dealing with Emissions When Handling Bulk Commodities* will discuss the various methods around dust suppression and emissions during bulk unloading.

The ongoing need to improve the industry's record on *Terminal Safety* will be covered in depth. The different expectations and timescales of the various stakeholders in the sea and land interface (shippers, ports and terminals, and ship operations) are highlighted in the opening presentation *Liquefaction Case Studies: Management of People and Expectations*. Fires and dust explosions have always been far too common and are increasing due to the growth in shipping of biomass fuels. Through incident investigations *Protection Against Explosion and Fire in Handling Combustible Cargoes* examines causes and preventative measures.

Improving stevedore safety continues to be a top priority for the bulk terminals industry. *Ways to Improve Stevedore Working Conditions* looks at the risks and dangers to them and what technical measures can be incorporated into the machinery being operated and how better systems can assist the drive to improve safety. *Multi Layer Collision Avoidance* case studies systems that have been implemented using radar and complementing technologies. *Enclosed Spaces and Associated Risks* asks why in recent years there has been a spike in fatalities, whether in ships' holds or other spaces and what risk management approaches should be adopted.

To formalise the close co-operation that now exists between our organisations, Captain Richard Brough OBE, Head of ICHCA International and I will sign a MoU at the end of the conference.

All of us at ABTO look forward to welcoming you to *Bulk Terminals 2019* in Amsterdam 8-9 October. For more information or to book your places, please visit:
bulkterminals.org/events.html

WORLD NEWS ROUND-UP

Operators are upbeat about next year's new sulphur regulations, while the trade war between China and the US has caused some conflicting views

GOOD PROSPECTS

Dry bulk operators were upbeat about prospects for the segment following the introduction of new sulphur regulations at the beginning of next year, with a recent webinar organised by Capital Link exploring the likely effects of either using scrubbing technology or waiting to see what prices are likely to do for bunker fuel.

Presentations by key players from Scorpio Bulkers, Safe Bulkers and Star Bulk suggested that they were upbeat about the market for key products such as iron ore, steel and soya and coal as the fall-out from the turmoil following the Vale dam collapse continued to affect the market. Exports of iron ore, for example, continued to be buoyant as markets such as China's had quality issues that made them more pollution sensitive. As Polys Hajioannou, chief executive officer of Safe Bulkers, pointed out, there was a lot of coal movement to South-east Asia, Vietnam and the Philippines, as well as big movements into India.

According to Scorpio Bulkers president Robert Bugbee, one result of Sulphur 2020 was that it would create a differentiation between those vessels that have lower fuel consumption because fuel pricing will be higher, and between those vessels that have scrubbers installed and those that don't, because the cost of high sulphur fuel will be considerably lower.

One question Bugbee posed was how the fleet would evolve in a period of higher fuel prices. Owners of dry bulk ships, particularly larger bulkers, have been investing heavily in scrubber technology, with estimates that between one-quarter and one-third of capesizes will have scrubbers installed. The general feeling, though, was that Sulphur 2020 was good news for the bulk segment as a whole. Higher fuel prices would mean higher freight rates and charter rates.

While it was to some extent a question of waiting and seeing what happens when the new rules come into force, the view was that owners were likely to want to move away from time charters and towards voyage charters or placing ships in the spot market. One view put forward by Hamish Norton, president of Star Bulk, was that owners would prefer fleets to be on voyage charter, so fuel would be at their expense, but any savings to their benefit. Bugbee added that there was likely to be an increasing number of vessels operating in the spot market.

Most ship owners will have many ships in the spot market now because it would not be wise to tie them up on period charters of one or two years before the price spread was known, Hajioannou said.

He added there was unlikely to be a clear picture on the spread before October at the earliest, so it was inadvisable to fix ships for any lengthy period before then.

Meanwhile, Intercargo has expressed safety concerns over the introduction of Sulphur 2020. "It is extremely worrying that compliant fuels have so far been made available only in a limited number of ports and under unfavourable terms for voluntary early testing by ships, as charterers/operators are not currently obliged to purchase future compliant fuel. Hence, the practical testing of new fuels and crew training, which is only possible under real conditions aboard ships, is very limited and pushed to the end of year – this situation creates significant safety implications for the operation of ships, which could eventually threaten the safety of seafarers, ships and cargoes, as well as the marine environment."

ORE BACK ON TRACK

The spread between seaborne iron ore heading to China and iron ore at China's ports has widened to the highest in at least two years, following a rise in shipments from Australia and Brazil as disrupted mines gradually come back on track, according to analysts.

The price variable between seaborne iron ore with 62% iron content and supplies at Chinese ports recently reached $9.42/metric ton, the highest monthly average spread since S&P Global Platts began publishing iron ore prices for China's ports two years ago.

The widening spread between seaborne iron ore prices and port prices indicates that more cargoes are underway and mills are wary to make offers given the uncertainties in the macro economy, Reuters reports.

With increasing supplies, traders and analysts also note that mills have become more selective and now favour raw material with low phosphorous content.

"The uncertainties [of the economic and political situation] are drifting buyers away from taking seaborne cargoes," says Richard Lu, an analyst at CRU in Beijing. "People don't know how much the yuan would fall, so they tend to take small volume from port to reduce exposure to risks."

CONFLICTING VIEWS ON SOYA BEANS

Meanwhile, the trade war between the US and China has brought increased attention to the soya bean trade between the two countries, with 2019 offering conflicting narratives. On one hand, soya bean

exports to China in the first six months of 2019 are up 10.9% compared with the first half of 2018, while on the other, exports to China in the 2018/2019 marketing year are down 68.7%.

The 68.7% decline over the marketing year best represents how the trade war has impacted farmers and shipowners alike, according to BIMCO. "This is because, traditionally, the US exports most of its soya beans between September and December," it says.

"For example in 2017, of total US soya bean exports, 72% were sent to China, more than half of which were exported during the last four months of the year: 17.5m tonnes between September and December compared to 14.3m between January and August."

Because of the distinct seasonality of these exports, using a growth figure which only covers the off-season does not reflect the full picture.

"The decline in exports to China during the first 10 months of the 2018/2019 marketing season reveals the impact of the tariffs that Chinese imports of US soya beans have been subject to since July 2018," says Peter Sand, BIMCO's chief shipping analyst.

"Shipowners had become accustomed to high volumes being shipping during the final four months of the year and the low volume growth so far this year in no way makes up for the volumes lost during the last four months of 2018."

One of China's immediate responses to the latest trade war escalation was to announce that it would stop buying US agricultural goods, and thereby soya beans. At the end of July, the US announced 10% tariffs on US$300bn worth of imports from China, meaning that all Chinese imports to the US are now directly involved in the trade war.

"With a worsening relationship between the US and China, this trade is unlikely to return to previous levels any time soon, if it ever does. For any hope of the trade returning to previous levels, a trade agreement will need to be reached between the nations, and even then, once a market has disappeared, there is no guarantee that it will return," says Sand.

SAFETY ON BOARD

A disturbing number of man-overboard incidents occur every year in the maritime transport industry. Unfortunately, most of these incidents are fatal.

SOS (Multi-Sensor Offshore Safety System) helps to reduce the loss of lives at sea. It is a new, automatic man overboard alert system, which uses advanced integrated sensor technology to detect any person falling overboard in real time and immediately alarms the crew in such an event.

By interweaving a complementary array of advanced sensor technology (including the company's own proprietary LADAR solution – a compact laser "radar equivalent" for close proximity surveillance), the team at SOS has created a game-changing detection solution that, protected by European patents, fully integrates with last year's ISO/PAS 21195 standard for man overboard (MOB) incidents.

SOS gives the bridge team of deck officers and lookouts additional pairs of "eyes" across the whole vessel perimeter and surrounding environment. It works to instantaneously detect a person – and only a person, not a case, container or piece of equipment – falling overboard, immediately alerting the bridge to ensure no time is lost in the response.

The unique configuration of sensors then gives the shipmaster a 360° overview of the surrounding environment, with an extended range of up to 2,000m towards the aft of the vessel to enable exact pinpointing of the MOB for rescue.

The combination of complementary technologies means the solution is also "weather proof" (as some sensors are optimised for different light and weather conditions) to give accurate feedback regardless of environmental conditions, working effectively in extreme conditions such as those in the Arctic.

SOS technology has been rigorously tested and is approaching the stage of commercialisation. The company is currently looking for a partner, or partners, to help take the business to the next level.

MISSING BULK CARRIER

Search and rescue teams are scouring eastern Indonesia for a bulk carrier carrying nickel ore with 25 people on board.

The ship sent an initial distress signal, but observers fear another cargo liquefaction casualty as there were no further AIS signals from the 2002-built Indonesian flagged *Nur Allya*.

The *Nur Allya*, owned by Jakarta-based Gurita Lintas Samudera, was en route to Southeast Sulawesi province when it sent the signal while passing northern Buru Island.

Search teams have been facing poor weather conditions that are hampering efforts to locate the vessel. International dry bulk shipping association Intercargo published its latest annual bulk carrier casualty report in April, which highlighted the ever present threat cargo liquefaction faces to the lives of seafarers around the world.

SINGAPORE STEAMS AHEAD

Singapore has come out on top for the sixth year running in terms of the performance of cities that offer port and shipping business services.

The 2019 Xinhua-Baltic International Shipping Centre Development Index assesses port throughput and facilities offered, as well as services offered at the port and the business environment in general. Second in line this year was Hong Kong, followed by London.

Based on the evaluation scores, Singapore shows strength in ship management and shipbroking services, while Hong Kong is benefitting from China's Belt and Road Initiative and economic opportunities in the Guangdong-Hong Kong-Macau Greater Bay Area.

London's services in shipbroking, legal and shipping finance were also highlighted.

As important cities in emerging economies, Shanghai and Dubai are catching up with the UK's capital in their level of shipping development, and were ranked fourth and fifth respectively.

AYR DEVELOPMENT

The Port of Ayr in Scotland has announced a new multi-year contract with the leading Scottish trader of grains and animal feed raw materials, Cefetra.

A number of recent ABP investments in infrastructure and port handling equipment have helped secure this new contract. These include the construction of the port's new £2.2m Bute agribulk terminal, as well as new state-of-the-art cranes and wide-ranging improvements to shore side infrastructure. The new agribulk terminal has begun operations, but will be officially opened at a ceremony later in August.

Andrew Mackay, chief executive of Cefetra, comments: "We are pleased to announce that we will be expanding our operations in Scotland by adding the Port of Ayr as a location. This will enable us to offer our customers in the South West of Scotland a local port to source some of their key raw materials.

"We appreciate the effort and commitment that ABP has shown to Scottish Agriculture by agreeing to provide a first-class, purpose-built, facility that meets all the industry standards and that will allow Cefetra to provide the efficient supply of key raw materials to our customers in the South West of Scotland."

Built by 3b construction, a Scottish, family-owned company, the new terminal offers 4,000sq m of storage space and will enhance the port's customer offering.

The new deal will also result in an increase in the volumes of animal feed and foodstuffs passing through the port, which will in turn help support South West Scotland's growing agricultural sector.

Currently, the port supports a growing number of customers from the Scottish agricultural sector and it plays an important role in supporting the region's economy.

FREEPORTS BRING BOOST

The first new freeports will be established in the UK after it has made its departure from the EU, to boost growth and ensure towns and cities across the UK benefit from Brexit trade opportunities.

Ports and airports across the UK will be invited to bid to become one of up to 10 freeports. International Trade Secretary Liz Truss announced a new Freeports Advisory Panel to advise the government on the establishment of the freeports.

Freeports are hubs for business and enterprise for both manufacturing and services trade. These could be free of unnecessary checks and paperwork, and include customs and tax benefits.

The government believes freeports will ensure Britain's port cities and airports are ready to take full advantage of post-Brexit opportunities, including increased trade with the US and fast-growing Asian markets.

Welcoming the move, Tees Valley Mayor Ben Houchen says: "Teesport played a crucial role in this nation's historic trading past, and is key to our great trading future.

Creating a Freeport right here would turbocharge jobs and growth, bringing investment into the region and making us a global hub of enterprise and innovation."

CLUB WARNS ON CARGO THEFT

Food and drinks, tobacco and consumer products are key targets for cargo theft, according to a new report.

TT Club and BSI Supply Chain Services & Solutions have recently published their full year analysis of cargo theft, together with some tips on loss prevention.

According to the report, the risk of cargo theft continues to plague the industry and, the companies warn, in addition to the direct financial costs there are hidden and often more significant consequences connected to loss of market and brand reputation. Proceeds from cargo theft can also be used to finance other illegal trades.

Overall, food and beverages, alcohol and tobacco and consumer products account for 49% of all cargo stolen globally, according to the study. Electronics and clothing account for another 12% respectively and together make up the top five targeted commodities.

There are regional variations in illegal activity. In Europe, over 75% of cargo theft occurs while in transit; with "slash and grab" tactics reflecting a combination of the very low number of secure parking locations and the lack of enforcement resource to target this type of crime across Europe. The UK accounts for an overwhelming 86% of reported incidents.

Across Asia, China and India are the countries where cargo theft is most frequently recorded.

The most commonly targeted commodities in the region are food and beverages, metals and electronics, most likely influenced by local market conditions. While theft of cargo in transit is prevalent, the insider threat is more pronounced, as is the risk of theft from warehouse facilities.

In the Middle East and Africa region, cargo in transit is heavily targeted, with tactics such as the impersonation of enforcement personnel often being selected as an effective means of compelling drivers to stop at the road side, according to the survey. Corruption in the region also plays a significant role in cargo theft incidents.

In North America, there are two distinct intra-regional trends. The first, concerning the United States and Canada, involves perpetrators focusing on unattended and unsecured vehicles. The second trend is the much more aggressive and violent tactics employed by criminals in Mexico and the Central American countries.

The risk presented by the "insider" is also growing, according to the report and the recruitment of insiders becomes a more attractive proposition for those attempting to gain access.

The report highlights the importance of due diligence through recruitment and maintaining sound management controls. It is recommended that organisations implement layers of defence, starting with physical aspects, followed by clear management level procedures and policies.

BULK TERMINALS 2019

THE ONLY EVENT AIMED AT THE ENTIRE BULK TERMINALS INDUSTRY

The Annual Association of Bulk Terminal Operators Conference

8-9 October 2019, Mövenpick Hotel Amsterdam City Centre, The Netherlands

KEY SPEAKERS INCLUDE:

Professor Mike Bradley
The Wolfson Centre

Dr Penelope Cooke
Brookes Bell

Captain Richard Brough OBE
Brough Marine and
ICHCA International

Fergal Buttimer
Buttimer Engineering Group

Anthony van der Hoest
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OUTPERFORMING ALL OTHERS

COMPANY NEWS

Established in 1967, Negrini specialises in engineering and manufacturing a comprehensive range of grabs and buckets for rope machines and crawler mounted cranes. These products are well known for quality as well as for the accurate and skilful engineering work. Negrini supports clients by analysing the job to be done and, if required, adjusting the standard design of grabs and buckets to enhance their performances once in operation. Experience, skillful engineering, top production methods and materials guarantee that all Negrini products will outperform any other.

Negrini has three facilities of 750sq m, equipped with five overhead cranes. Its reputation is built on the professional ability and experience of its highly qualified working personnel, with the technical office always available to solve problems and provide solutions. Such extensive experience has been built up by studying case by case, job by job with skills and passion.

HIGH QUALITY

Choosing the right attachment is a major concern for any contractor and an important factor in guaranteeing the successful outcome of any job. Over the past 43 years, Negrini has engineered and manufactured attachments of the highest quality, such as mechanical and hydraulic clamshell buckets, cable clamshell buckets with radio controlled release, mechanical and hydraulic orange peel buckets, two or four rope scoop grabs, dragline grabs, trenching mechanical clamshell buckets and buckets for controlled digging depth with special valves to collect polluted mud from the sea or river bed.

Since its establishment, Negrini has engineered, manufactured and supplied contractors and port authorities with buckets for all those jobs and every one has been a success, earning Negrini its exceptional reputation.

Negrini's engineering concept is different because its engineers believe – and decades of experience show that they're right – that heavy buckets are not necessarily stronger; in fact, they prefer to combine high tensile steel such as Hardox with accurate engineering. Negrini buckets are therefore more resilient yet lightweight, therefore enhancing performance while saving significant amounts of energy.

Negrini's attachments are at work in many different parts of the world, from Italy to the US and from the Gulf Countries to Australia, making Negrini the brand of choice for many contractors. Performance and quality are the prime features that contractors want for the attachments that they will employ for their most demanding jobs.

IN-DEPTH PLANNING

When an enquiry comes in, its elements, including drawings, are studied and planned with the relevant head of department, in order to secure the established delivery time and the best use of resources. All technical data is entered into a CAD CAM electronic system and three-dimensional solid Cad, for better management and organisation.

All materials respect the technical specifications and drawings, and the company uses only reliable suppliers – it also has its own qualified welders. On demand, certificates and attestations can be provided.

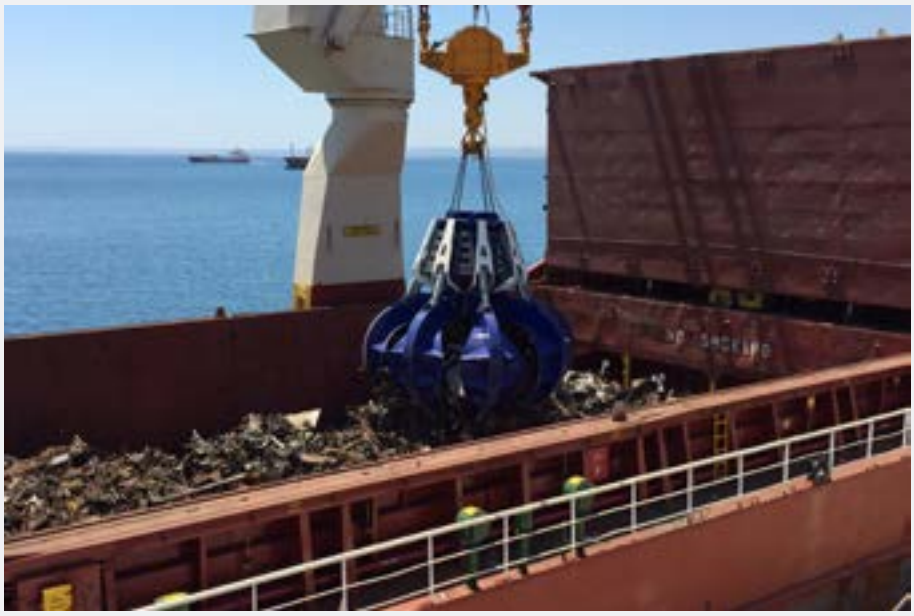
RIGOROUS TESTING

Product testing is carried out by skilled workers who are also sensitive to the customer's need. All products are subject to constant control: both on arrival into the

factory and during the production phase; before shipment, the finished product is submitted to further control and testing, with the aim of appraising the effectiveness of the applied manufacturing process and guaranteeing a quality product to the client.

It's a well known fact that any good machine, be it cable crane or hydraulic excavator, will perform at its best only if the attachment used to work is well engineered and manufactured. A high-quality attachment will not only do a good job, but will also reduce the machine stress, allow for safer working and help save energy.

negrini.org



CHAIN OF COMMAND

Igus UK's e-chain director Justin Leonard explains how the company's Energy Chain innovation solves not just efficiency issues in ports, but environmental concerns too


IGUS UK E-CHAIN DIRECTOR JUSTIN LEONARD

Offering a number of solutions aimed at the bulk handling segment, Igus UK is ahead of the game when it comes to meeting the challenges that face the sector.

E-chain director Justin Leonard says he has been hearing that more and more ports are being confronted by public awareness campaigns on environmental issues, in addition to those surrounding the new sulphur rules coming in next year, and Igus has been fielding more calls as a result.

"We are starting to get a lot of enquiries based around the fact that terminals are being forced to implement more environmentally friendly technology. In berthing vessels, there is a lot more talk about shore power outlets to connect vessels to shore power to stop them using onboard generators." This is where Igus' energy chain cable carrier comes into play to protect and guide cables.

Currently, there are two different systems that are traditionally used to connect moving equipment: cable festoons and cable reeling drums. With cable festoons, the cables are hung in bundles from trollies that move up and down the rails following the equipment as it moves. Because the cables are in bundles, taking an individual one out for maintenance is time consuming, Leonard explains. There are also a number of link components and that means regular maintenance and lubrication is required. The cables, when they hang in the loops, are unprotected and move around in the wind. Often composite cables are used, which means downtime for the equipment if a single cable function is damaged.

Cable reeling drums are the other system in use, but at the core of that is a slip ring, like a buzz bar, that is liable to corrode. It is also difficult to transfer high speed data through these kinds of systems, says Leonard. Cables can be lying in a trough on the quayside and therefore unprotected.

When called out to replace these systems, Igus' Energy Chain comes into play, to protect and guide cables, typically for long, straight travels. It can also be used for rotational handling.

The e-chain has an enforced minimum bend radius, so the cable will never get twisted or crushed into a small radius that might damage the core. "The main benefit for most people is that cables and hoses of different types can be run side by side in the same system, which means you can have your power, fibre optics and even water or hydraulics all together," Leonard says.

Ports are constantly upgrading their systems for data transfer and the e-chain system means only a single cable will need replacing and not the whole system. The e-chain system is therefore future proof and, being made of plastic, is maintenance and lubrication free. It also runs behind the equipment and does not need a separate power source.

The system has undergone rigorous testing at Igus' labs in Germany, which means clients will have a pretty accurate idea of the number of metres' travel they

will get. The basic estimate is around the 10m movement mark, he says.

Development of zero emission vehicles is also continuing apace, notably where rubber-tyred gantries (RTGs) are concerned. These have been driven on diesel power, but Igus has developed a cable management system so that RTGs can plug in and go electric. "The big issue now is connecting a power supply to something that moves and that is what we are good at," he says. "We have literally thousands of ship-to-shore cranes and RTGs, RMGs and gantry cranes using e-chains round the world".

The company can also supply cables to go with the e-chains, which are also guaranteed for 10m movements. Project planning and design, as well as on-site support, are also available. Igus is now offering services that cover applications in ship unloading and loading, stacking and reclaiming, which are all getting the benefit from the same technology.

Igus also offers a range of solutions for shore power, for example in brownfield sites that have an existing terminal, but it is hard to fit systems in because the quayside might have been developed for a different type or size of vessel. Igus has developed the Chain Reel system – an e-chain system in a self-contained reeling unit, which can be picked up and moved to be near a vessel, thus connecting the fixed point with the vessel.

With greenfield sites, Igus offers a new product that embeds the system into the quayside from day one. "If you are building a new quayside, you could be looking at potentially putting anything from 10 to 20 different outlets. An e-chain system embedded in the quayside means a moving power system can reach any part along the quayside on demand with potential for twin systems in each area."

The company's E-Chain Dispenser is a smaller system that is used when there is a fixed connection, but a need to guide cables to cope with tidal movements of the vessel at the berth.

Igus's main customers include container terminals, coal-fired power stations, ship loaders and unloaders, with port handling extending to mining and construction, including bulk conveying: "Absolutely every area of ports where there is moving power or data required", says Leonard.

A big driver, therefore, for Igus is the redevelopment of existing systems for new use and the solutions they can offer to solve problems of changing use. Changes will continue, Leonard says and "we will continue to respond to the changes facing our clients".

One example he gives is a lignite power station project in the Czech Republic, where a 650m cable reeling drum system was in use for coal loading in and out of the power station. One of the cables kept freezing during the winter months. Igus installed a complete energy system and the power station now has the longest plastic energy chain system in the world – which has just had its 10th anniversary running trouble free.

The products are very long lasting, and with machinery such as cranes, the weight of a plastic component is significantly less, which means for lifting equipment power consumption will go down. The company has demonstrated that it possible to get as much as a 50% saving on drive power on a crane because of the low friction and low weight of the plastic part being used. "Technical plastics, when used correctly, offer a very long life and huge savings on energy and lubrication".

Given the concern over the use of plastics generally, is this an issue? Leonard stresses that environmental concerns about plastics relate to single use plastic as opposed to engineering plastic. Plastic uses a lot less energy to manufacture than metal and because the plastics used are naturally lubrication free, there is no need for lubrication, which might be leeching into the environment.

The plastic energy systems that Igus offers, including cables and project integration, are safe and reliable due to their physical protection and guidance elements that other systems lack. They also do not have any power or maintenance requirements as they offer a huge amount of reliability with low maintenance efforts.

Ultimately, it is a question of longer service life with lower running costs. "That is why people are driving us into the industry," says Leonard. "People are approaching us"

igus.co.uk

TUŠIMICE POWER STATION, CZECH REPUBLIC

AT THE LIGNITE-FIRED POWER STATION IN TUŠIMICE, CZECH REPUBLIC, IGUS HAS A ROLLER E-CHAIN WITH A TRAVEL LENGTH OF 615M INSTALLED ON A COAL STACKER. BEFORE THE SYSTEM WAS INSTALLED, A CABLE DRUM WAS USED. DURING THE COLD CZECH WINTER, THE CABLES FROZE UP, RESULTING IN FAILURES AND UNPLANNED SHUTDOWNS. WITH THE IGUS SYSTEM, THESE PROBLEMS HAVE BEEN A THING OF THE PAST FOR THE PAST 10 YEARS. THE STACKER PILES THE COAL INTO A HEAP. IT IS SUPPLIED VIA CABLES AND HOSES WITH POWER, DATA AND MEDIA, WHICH ARE SAFELY ROUTED BY THE LONGEST PLASTIC ENERGY CHAIN IN THE WORLD

PERFECT TIMING

COMPANY NEWS

Since the 1980s, Asean Bintulu Fertilizer (ABF), a subsidiary of leading Southeast Asian chemical manufacturer Petronas Chemicals Group Berhad, (PCG) has produced carbamide fertiliser in the Malaysian coastal city of Bintulu (Sarawak) on the island of Borneo. To meet growing demands, BEUMER Group was contracted to modernise and increase performance at the plant between the longitudinal stockyard and the ship loading system.

Carbamide, also known as urea, is currently the most widely used nitrogen fertiliser in agricultural industries worldwide, mainly due to its comparably low costs. Demand is continuously increasing due to the growing global population. The manufacturing plant in Bintulu has been one of the biggest of its kind in Asia for many years.

PCG is one of the largest manufacturers of chemical products in Southeast Asia and the leading producer in Malaysia. 25 companies are part of the group, offering a wide range of chemical products such as olefins, polymers, methanol and fertilisers. Its customers are based in about 30 different countries, with the most important markets including Malaysia, China, India, Thailand, Indonesia, Japan, South Korea, Taiwan, the Philippines, Vietnam, Singapore, Australia and New Zealand.

To meet the growing demand for urea, Asean Bintulu had to increase the capacity of its export facilities. BEUMER Group was awarded with the contract as a general contractor and in a consortium with the PBJV Group Sdn Bhd from Malaysia, which took over the assembly of the system. The service provider from Malaysia is responsible for the transport and installation of onshore and offshore pipelines, in addition to other activities. The company also equips ships for their respective jobs in the oil and gas industries.

TIME MANAGEMENT

"This order was a brownfield project," explains Heinrich Beintmann, senior project manager at BEUMER Group. "This means that we had to integrate our new systems into the existing ones in a way that ensured that the material flow from the longitudinal stockyard to the ship was not interrupted."

Another requirement was that the already available hardware and software components from third-party suppliers needed to be updated to match the increased performance."The maintenance of the entire system will become a lot easier thanks to this modernisation because all components are of the same technical standard," says Beintmann. BEUMER Group, in co-operation with PBJV Group, developed a technical solution that it presented to ABF, together with a schedule that met all the required milestones.

AFB's production location is running 24/7. "To minimise the downtime, we had only 55 days scheduled to complete the entire integration, which was quite a challenge," admits Beintman. BEUMER Group took over project management and engineering, supplied all the systems and supervised installation and commissioning.

The scope of supply included a portal reclaimer for 600t/h, the ship loader for 1,000 t/h, a fully automatic tripper conveyor for filling the longitudinal stockpile, a mimic panel to comfortably monitor and control the system, the adjustment of the motor control units, a substation, a transfer station with a capacity of 1,000 t/h and a screening station, the most critical element in the schedule. The system supplier installed a solution with a capacity of 2 x 500 t/h.

"We had to disassemble the existing screening station down to the main supports of the building and provide it with entirely new technology," explains Beintmann. The transfer station divides the material flow towards ship loading and truck loading. This allows the customer to load either ships or trucks or both at the same time.

The assembly of the portal reclaimer and ship loader was less time-critical, because the team could start working on it already prior to the 55-day shutdown, before the production plant was closed down. The assembly of the portal reclaimer in the longitudinal stockpile offered an entirely different challenge.

"The low ceiling height made it impossible for us to assemble the reclaimer on the floor and then set it up, as we usually do," says Beintmann. The system supplier had to find another solution: "Here, we had to assemble it segment by segment. It was challenging and time consuming."

BEUMER and PBJV were up for the challenge and, working in close co-operation, developed installation drawings and procedures for each work package, in compliance with the strict safety requirements of all parties involved.

ADAPTED TO REQUIREMENTS

The portal reclaimer traverses the longitudinal stockpile with the urea fertiliser, removes the bulk material in layers from the side slopes and transports it through a primary crusher to a belt conveyor at a capacity of 600t/h. The portal reclaimer is fully automated. An existing side reclaimer adds another 400t/h from a second longitudinal stockpile into the system.

"The existing belt conveyor systems were not designed for the higher performance of our new portal reclaimer," says Otto Schmelzer, engineering manager at BEUMER Group. "That meant that we had to upgrade the drive stations that were already there." It was not a problem for the system supplier – because y all systems used by the customer need to run seamlessly with each other, BEUMER continuously develops not only its own products further, but its Customer Support takes care of upgrading mechanical and control technology manufactured by third-parties.

"Our customers are incredibly satisfied with our modification concepts, because our goal is to keep already existing structures as much as possible," says Schmelzer. This helps companies to reduce their costs, by reducing the number of necessary components and ensuring fast return on investment. Adding shorter installation and handover times was also particularly important with this project.

EFFICIENT SHIP LOADING

Belt conveyors transport the urea over the screening and transfer stations to the new ship loader, also supplied by BEUMER Group. The mobile and swivel-mounted ship loader has a telescopic chute and a throw-off belt conveyor to make loading as efficient and flexible as possible. "With this system, our customer can now load ships with 1,000t/h," says Beintmann.

Petronas and ABF are completely satisfied with the solutions, the progression of the project and the work of the BEUMER and PBJV consortium. "Our part aligned perfectly with the milestones of the entire project," says Beintmann. "And the co-operation between the PBJV Group has been exemplary."

The commissioning for the ship loader took less than three weeks; the entire system was completely commissioned after eight weeks and handed over to the operator.

beumergroup.com

THE PORTAL RECLAIMER REMOVES THE BULK MATERIAL IN LAYERS FROM THE SIDE SLOPES AND TRANSPORTS IT THROUGH A PRIMARY CRUSHER TO A BELT CONVEYOR AT A CAPACITY OF 600T/H

BEUMER GROUP GMBH & CO. KG

SHIPLOADER BEFORE STARTING OPERATION

IT IS IN OPERATION 24/7 HOURS AT THE PORT

THE NEW SYSTEM LOADS THE UREA FERTILISER FAST AND RELIABLY ONTO SHIPS IN THE PORT OF BINTULU

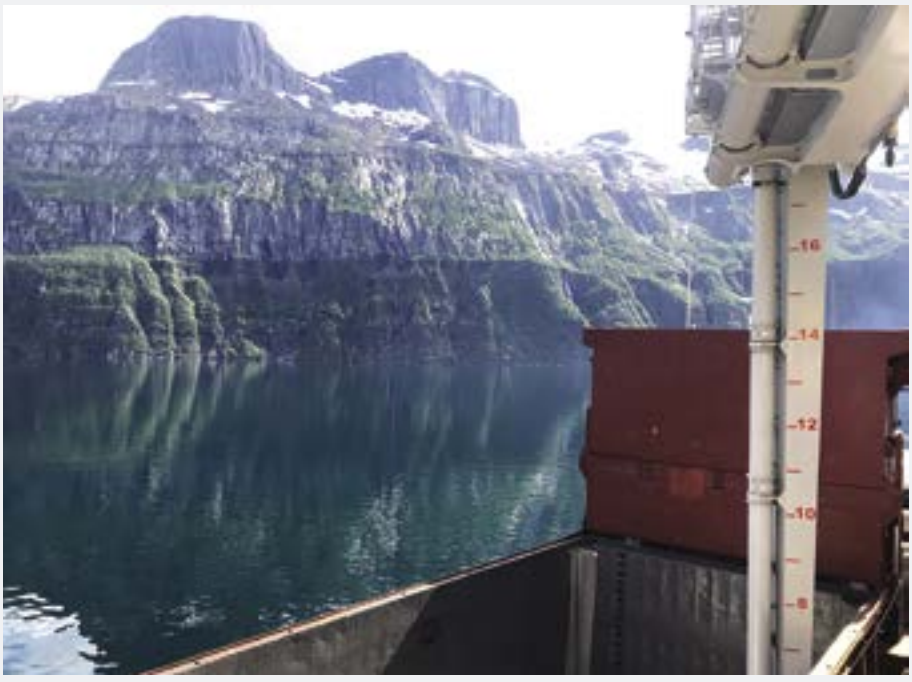
UNLOADING FERTILISER IN THE ARCTIC CIRCLE REQUIRES SOMETHING SPECIAL

COMPANY NEWS

High-capacity fertiliser handling in extremely cold temperatures, high winds and a pristine landscape that must be preserved dictates that only the best equipment is up to the task – and recently commissioned for the role is a Siwertell ship unloader

Environmental restrictions, combined with prevailing high winds, can limit the number of options for operators looking for mechanical ship unloaders; factor in extreme temperatures and choices are limited even further. These are the conditions faced by global fertiliser production company, Yara International, at its Glomfjord site, five kilometers into the Arctic Circle.

Established in Norway in the early 1900s, Yara is headquartered in Frogner and has two major production sites in Norway – one in Glomfjord and the other in Porsgrunn, in the county of Telemark, which ranks as the largest industrial site in Norway.



PERFORMANCE TESTS PASSED

Yara's expanding needs at Glomfjord prompted the company to approach Bruks Siwertell in 2017 for a new Siwertell ship unloader. The Siwertell ST 490-M unit has now been successfully mounted on to its rails and passed performance tests.

"Yara International is very satisfied and impressed that, just 18 months from the order being placed, it now has a new machine up and running and meeting the stringent environmental standards of the company and the site, without a single day of delay," says Peter Goransson, Sales Manager and Senior Advisor, Siwertell.

"Yara was one of Siwertell's first customers, taking advantage of our unique screw-type unloading concept in 1979," notes Goransson. "Its wealth of experience operating a Siwertell unloader, combined with our ongoing support and aftercare were big influences in Yara's decision to once again invest in proven Siwertell technology."

PICKED FOR PERFORMANCE

Norway's strict environmental regulations mean that in addition to high discharge capacities, Yara needed an installation designed to meet these requirements as well. "Siwertell's screw-type ship unloader easily meets these environmental protection requirements, delivering

high levels of efficiency and a totally-enclosed conveyor system, which eliminates dust emissions and spillage," explains Goransson.

"This technology is the only safe and acceptable discharge method that can be used in sensitive marine environments and is more than capable of working in the harsh Arctic climate."

The unloader is also equipped with an advanced electrical control system, including the Siwertell monitoring system, known as SIMON – a PC-based human machine interface (HMI) that offers quick troubleshooting, easy unloader start-up, an analysing tool for problem-solving, a preventive maintenance guide and remote access by Bruks Siwertell engineers. A collision protection system against objects on the quay, as well as a CCTV system for safe operation is also included in the unloader delivery.

OPERATING AT THE EXTREMES

Yara's Glomfjord site is the world's northernmost fertiliser plant and comprises four production units: two nitric acid plants, one nitrogen, phosphorous, and potash (NPK) complex fertiliser plant and one calcium nitrate plant. It also has its own harbour with installations for the unloading of ammonia, as well as storage, packaging and dispatch systems for fertiliser products.

The new unloader predominantly handles various types of rock phosphate and is also used to discharge potash fertilisers. It is capable of discharging ships of up to 20,000dwt and maintains a continuous rated discharge of 600 tons per hour, with a peak capacity of 700 tons per hour.

The new unit was delivered from Bruks Siwertell's southern-European production facility and transported fully-assembled via heavy-lift ship in June. It now operates alongside Yara's long-serving, existing Siwertell unloader.

"We are delighted to have once again been Yara's choice for this uniquely demanding application," adds Goransson. "They are an impressive pair of unloaders and we look forward to continuing our long and fruitful collaboration."

For more information, visit: bruks-siwertell.com

FACING A MINEFIELD

Donald Trump is something of a lonely voice in the world when it comes to championing thermal coal, as marine advisor Basil M Karatzas explains

"Clean, beautiful coal."

So said Donald J Trump, the American President. Coal – thermal coal, that is – has been the artifact of the industrial age, whereby calorific chunks of dirt powered the steam engines from steamer ships to locomotive trains to coal-fired power plants that brought the change of our civilization from the agrarian societies of the past centuries to the dawn of the heavy industry and industrialisation.

Coal, indeed, has been a great servant to our modern age and to our societies, as our current generations can attest to. But again, there were times when heavy industries and a middle class were the privilege of selected few countries. Still, back then our planet was a relatively pristine place, science had some way to go in terms of discovering economically-efficient alternative sources of energy and negative externalities (carbon dioxide emissions, green-house effect and acid rain, and so on) were still manageable, and often containable to the regions active in coal mining and coal burning.

Fast forward to the 21st century, and the debate for the value of thermal coal is now strongly debated. It's not only that science has now a better understanding of the effects of emissions and the citizenry experiences ever-increasingly hotter temperatures, it's also that now the technologies for renewables (mostly solar and wind) have become rather effective and cost-efficient to be plausible alternatives; it's also that other fossil fuels like natural gas have been found in massive quantities that offer a more economical and more environmentally friendly source of power generation.

In short, the business of coal is facing the proverbial perfect storm: under strong criticism by the environmentalists (and the citizenry, based on most polls and support for Paris Climate Accord – to reduce carbon emissions by 80% to 95% by 2050), but also under the threat of substitution, as a business case study would phrase it, by cheaper substitutes such as natural gas.

For sure, the stakes are high: coal – mostly as primary source for power generation and electricity – has been the economic backbone of our economies, which means huge investments have been made over the past decades and an expensive infrastructure has been built around coal as a source of electricity.

And, where there is economics, there is also politics, and along with politics comes "pork barrel" politics, and noise and manipulation. You see, often coal mining can be found in remote regions whether in the US, Brazil, Australia, South American and North Europe, in areas that have precious few economic alternatives. Jobs lost the coal mining industries are hard to be replaced in such remote areas – and, thus the risk of political games: the Appalachians, the US's traditionally producing coal regions are "swing states" and a highly valued political target. Despite Trump's promises to bring big coal back along its related jobs, only 2,000 coal mining jobs have been added since his election in 2016, for a total of 53,000 mining jobs, still a low watermark from the high-mark of 86,000 from a decade ago.

The headwinds of the coal mining industry are monumental: environmental, social and governance issues have dripped down from the halls of academia to the boards of asset managers, financiers and banks to even the halls of the mining companies themselves. Recently, BHP has announced its intent to sell altogether and exit the coal business in Australia and Colombia, following the lead of Rio that has already divested its coal exposure. With effectively a blacklisting of thermal coal projects by mining and energy companies, only traders and more speculatory investors have been willing to consider such projects, often on the back of promises of being the only sources of delivering electricity to under-developed areas in the world.

You see, while developed economies have started taking a more pro-active approach to gas emissions in the past few years (such as the German government's commitment to spend $40bn to close all

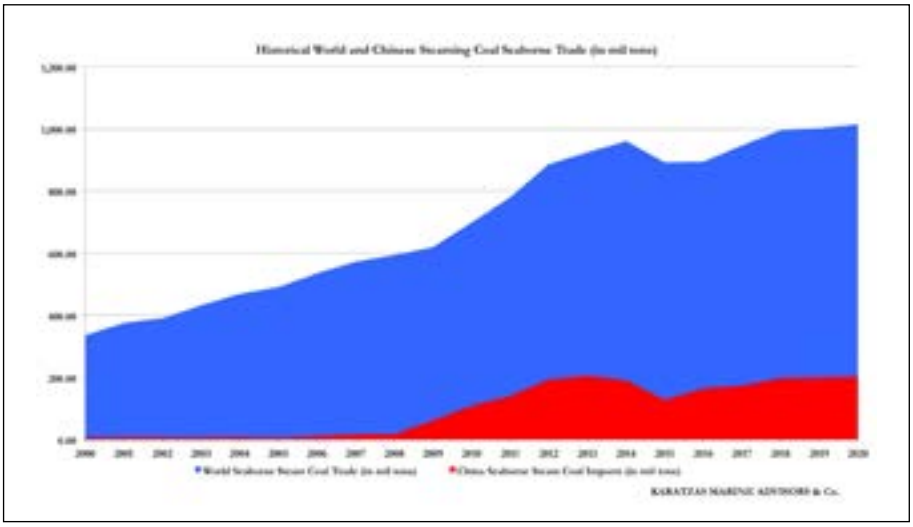
coal mines and coal-powered plants in the next two decades, and former mayor of New York City Michael R Bloomberg pledging $500m of his own fortune for closing coal-fired power plants in the US), developing countries have fewer options.

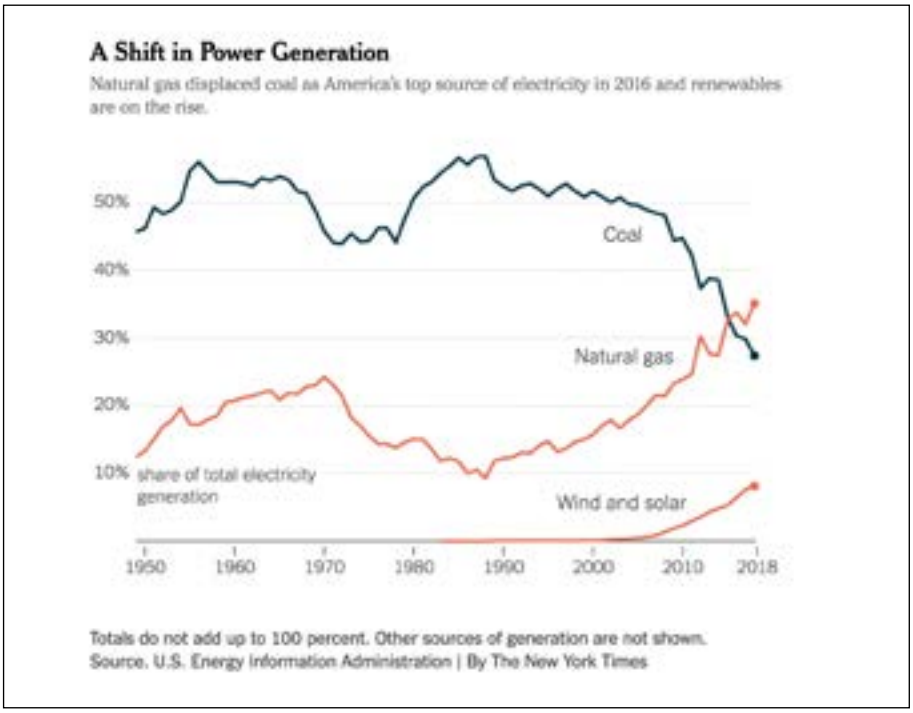
For those following Australian politics, India's Adani Group recently obtained a high-profile permission by newly elected Australian government for the Carmichael project in Queensland in order to mine and export thermal coal to India for a $2bn power-plant to be built and export electricity to neighbouring Bangladesh. While Australia has been considering its contribution to emissions, poorer India and poor Bangladesh only care for jobs and electricity, to which local politicians have precious few reasons to dispute.

And, taking a look on the world's biggest consumer of thermal coal – People's Republic of China with close to 200 million tons of estimated thermal coal imports in 2019, almost 3% increase year-over-year – the focus has been shifting on export credit and supporting their "Brick Road Initiative" and China's National Energy Investment Group and the China Huadian Corporation businesses, the world's largest construction companies for coal-powered plants with $10.2bn Chinese export financing in the period 2014-2017.

You see, while China leads the world in renewable investments with some $132bn in 2017 (with Europe and the US distant competitors at $58bn and $56bn respectively), according to data from Bloomberg New Energy Finance, China still likes supporting their export basis of power plant construction overseas and getting, at the same time, a foothold in many countries in the world along the BRI road is too tempting to resist.

As mentioned earlier, although there is a more than good-feel trend to do away with thermal coal in an effort to save the planet from global warming, jobs and politics and geo-politics come into consideration. Despite ESG considerations to move away from thermal coal, multi-billion dollar infrastructure and existing supply chains cannot be replaced overnight. From a shipping point of view, this provides





for a nice buffer – at least in the short and intermediate term – that drybulk shipping would handle thermal coal as cargo for years to come. Although it has been a great ride over the past decade, as per the graph, trade of thermal coal is a small growth business for now, and many headwinds ahead of us.

In the US, the second graph shows that thermal coal for electricity production is a dying business, political rhetoric notwithstanding. Natural gas has been substituting thermal coals as a primary energy source, while electricity from renewables is on an exponential curve. If this graph can offer any canary in the mine message, pun intended, it's that moving away from thermal coal is merely a matter of timing.

Basil M Karatzas is the Founder and CEO of Karatzas Marine Advisors & Co, a New York-based shipping finance advisory and ship brokerage firm working primarily with financial institutions active in the maritime industry. For more information, please call +1 212 380 3700 or visit: *karatzas.com*

MACHINE, REPAIR & SERVICES

COMPANY NEWS

Established in 1977, MRS Greifer GmbH is a leading engineering company providing design, manufacture, supply and after sales services for grab buckets up to 30 m³ capacity. Our commitment to continuous research and development ensures our grabs are world leaders in terms of technology, quality and performance.

With five decades of experience in the design, manufacture, research and development of grabs, plus an extensive after-sales service backed by our team of highly skilled engineers, MRS Grabs has clients from every corner of the world.

We design grabs to fully meet the needs of our clients and the parameters within which they work, producing equipment capable of unloading all kinds of bulk cargo. Our machines include the latest features and are of optimal weight, ensuring an exemplary performance for a longer period of time. When it comes to hydraulics and other outsourced parts, we only use trusted brands so the highest quality is ensured.

Each grab is manufactured under the industry's strict quality controls, according to the QAP approved by our experts. We are only too aware that delays in shipping can result in exorbitant costs so we keep a full stock of spare parts, and our committed after-sales service team is available to see to all our customers' needs in the quickest possible time.

With grabs to handle bulk, logs, scrap, underwater dredging and more, please don't hesitate to contact us to talk through your needs.

MRS GREIFER

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REMOTE CONTROL

Increased use of automation in ports is a given, but grab and crane manufacturers have also been expanding their offerings to improve safety and efficiency

Stemm recently launched Grab-Connect, which offers continuous remote monitoring, assessment and control.

Grab Connect allows the user continuous remote monitoring, assessment and control of the grab, which can be programmed and adjusted in real time. The aim of using the new tool is to optimise the preventive maintenance and improve efficiency of production process.

The grabs include an automaton that enables the user to visualise in real time the operating pressure, the oil temperature and level, the opening and closing commands and times, the number of manoeuvres and the hours of work, among other parameters.

The user will be will be notified, by email and text message, each time an event occurs, any incidence, stoppage or anomaly is detected, or the change of different components and spares parts is foreseen. Users will obviously have access in turn to a remote maintenance team and technical support service which will monitor use of the grab and issue regular reports on operations and maintenance.

The maintenance team will also supply any necessary components and spare parts offering preventative maintenance and the control of operations, including setting up, adjusting and modifying parameters.

MAKING CONNECTIONS

Konecrane's Truconnect retrofit brings the industry's leading real-time, data-driven remote monitoring to owners of Demag cranes.

The retrofit equips Demag DMR SafeControl equipped hoists and cranes with the hardware needed for Konecranes Truconnect Remote Monitoring, with the resulting data available for analysis on the Konecranes customer portal yourkonecranes.com.

"Customers will now have access to condition, usage and operating information for their whole crane fleet – whether it's Konecranes or Demag equipment – and Konecranes technicians can quickly install the retrofit with little interruption to the customer's operations," says Esa Kukkola, product manager, remote service.

Truconnect collects real-time data from crane control systems and sensors that can be used for maintenance planning and predicting possible component or equipment failure, thus reducing unplanned downtime and improving productivity and equipment safety.

The retrofit's hardware attachments and antennxas are specifically designed to fit Demag DR and DMR hoists and cranes. Data is communicated via 3G/4G networks so access to a local WiFi network is not needed.

"The ability to monitor Konecranes and Demag crane fleets comprehensively allows customers to make better-informed planning and budget decisions about lifting equipment maintenance needs," says Kukkola.

MAINTENANCE MOVE

Konecranes has also recently acquired Italian Trevolution Service, one of Italy's largest independent crane service companies specialising in crane maintenance, repairs, modernisations, spare parts and hoists and components.

The acquisition enlarges Konecranes' field service operations in Italy and expands its equipment sales. Trevolution Service, located near Milan in Barzago, has thousands of customers in a variety of industrial sectors, mainly covering the northern regions of Italy.

"Trevolution is a perfect fit for our service business, giving us the size and scope to take on even larger projects and agreements in one of Europe's largest economies," saysTomas Myntti, senior vice president of industrial service at Konecranes.

"The acquisition also bolsters our leadership position in providing OEM services to our core lifting market," Myntti adds.

CRANE COMMISSION

HES Gdynia Bulk Terminal SP (HES Gdynia), on the coast of northern Poland, has ordered an eco-efficient Konecranes Gottwald Model 6 Mobile Harbor Crane for continuous-duty bulk handling. The crane will be pre-commissioned and handed over by the end of 2019.

HES Gdynia Bulk Terminal is part of HES International, one of Europe's largest independent terminal operators in dry and liquid bulk products. HES terminals operate in Europe's most important ports at prime locations, including a bulk cargo terminal in Gdynia, one of the biggest sea ports in Poland.

The Konecranes Gottwald Model 6 crane adds to the terminal's existing stock of cranes. The crane is suitable to handle different kind of dry bulk materials and is furthermore able to travel between two quays. This results in more flexibility during the unloading process and enables HES Gdynia to offer even better service to customers.

"Another HES terminal in the Port of Rotterdam already operates a Konecranes Gottwald Model 6 mobile harbour crane, and it has consistently demonstrated high performance and reliability," says Sonia Florczuk, commercial director of HES Gdynia. "Its low cost of ownership and long service life convinced us to invest also in a Konecranes Gottwald

mobile harbor crane in Poland. It was also customised for the challenging conditions on the quay at our Gdynia terminal."

The new crane will be a Konecranes Gottwald Model 6 mobile harbour crane in the four-rope variant G HMK 6508 B for continuous-duty bulk handling. It features a raised tower cabin for a better view on the vessel, and an extended chassis with an additional axle to cope with special quay loading requirements, a design already proved in other terminals.

In addition to the eco-efficient diesel-electric drive, the crane is equipped with an external power supply, which boosts efficiency even more while also reducing local exhaust and noise emissions in the terminal.

"With this crane, we are continuing our success story of four-rope grab mobile harbour cranes for continuous-duty bulk handling," says Hans-Juergen Schneider, regional sales manager for Konecranes. "The deal also reflects the good momentum we have seen lately with Baltic Sea customers, who really appreciate our continuous-duty bulk handling capabilities and ability to specially outfit machines as needed."

PORT ORDER

Cranes at Immingham's Bulk Terminal (IBT) will be replaced with the latest high-capacity equipment

Associated British Ports (ABP) has commissioned crane manufacturers Kocks Ardelt Kranbau to supply three new high-capacity grabbing cranes for the Immingham Bulk Terminal.

IBT handles raw material imports for British Steel. The operations were taken over by ABP from British Steel in November 2018. The crane purchase is part of the previously announced £65m investment, committed by ABP to the terminal and site facilities.

The investment will help to support the long-term future of steel manufacturing in the Humber region.

Martin Downey, head of Immingham Bulk Terminal, says: "Within six months of taking over the operations at IBT, we've made significant improvements to the site. We're keen to improve our handling rate and these cranes will enable us to do just that."

The new Ardelt cranes, Tukan K, model 3000 – 50, will provide a grabbing capacity of 50t at 50m radius. The cranes have been ordered to replace the existing ship unloaders and are expected to provide a step-change in capability. The Tukan Ks will handle in excess of 6m tonnes of iron ore and coals each year.

The Ardelt Tukan K was selected as it provides a cost-effective solution in addition to high performance, design classification and energy efficiency, along with the benefit of local support provided through the UK office of Kocks Ardelt Kranbau.

In addition, the Tukan K has its hopper built into its structure allowing a linear load path – the most efficient of any jib crane, ensuring the shortest possible cycle time and energy curve.

The bespoke cranes are anticipated to be complete and online by the end of 2020.

ON THE UP

Another new product on the market is the LiUP Crane Driver Elevator for Mobile Harbour Cranes, which aims to get the crane driver to work as safely as possible.

The lift is capable of transporting up to two people or a payload of 200 kg.

The inhouse developed Liebherr crane driver elevator LiUP is designed to transport operators in a save and efficient way to their workplace.

The LiUP saves the driver's energy and time compared to climbing up several stairs. Service engineers also save themselves the trouble of climbing up stairs to the crane cab to carry out maintenance work.

The elevator has already been deployed successfully for a number of years with Liebherr tower cranes. The device features an innovative drive technology powered by an electric motor with lithium-ion battery. This has the advantage that no cables are necessary. When the lift is lowered, the drive concept is also able to recover up to 40% of energy.

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COMPANY NEWS

Cimbria is an international company with its headquarters in Thisted, Denmark. Established in 1947, the company has a long history of supplying good, reliable equipment and solutions based on in-house technology and in-depth product knowledge. Credibility, quality, efficiency and flexibility are among the criteria that have convinced an increasing number of customers throughout the world to invest in Cimbria technology and today Cimbria is one of the world's leading suppliers within the grain storage and seed processing technology.

At Cimbria, we design, develop, manufacture and install customer-specific solutions, regardless of whether this involves individual machines, complete processing lines or large turnkey projects. Our underlying approach always emphasises increasing quality and energy efficiency, as well as reducing operating costs. Cimbria's project and turnkey installations extract and leverage all the experience and expertise acquired from the business areas of conveying, drying, seed processing, electronic sorting, storage and service.

Cimbria's ability to deliver fully integrated and efficient solutions is based on an understanding of our customers' business and their needs, wishes and demands. This is why Cimbria has built up competences and skills over the decades within crop science and agricultural logistics that are used in our solution development and in consultation with our customers. This agricultural knowledge, in combination with our operational excellence within manufacturing, engineering and project management, has made Cimbria a strong and dependable partner for customers that are looking for their projects to be completed on time, within budget and which deliver the maximum return on their investment.

Cimbria's knowledge of agricultural production and processing is applied as part of our services to optimise plant performance and to ensure that operating staff are trained to utilise the full potential of a Cimbria product or solution. With a shared objective between our customers and us, this crystallises into our values of "Solutions Together".

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ON THE MOVE

Trying to increase efficiency and speedy throughput of product is particularly demanding in tough environmental conditions and ports have been looking to upgrade their equipment in order to beef up capacity

Mobile solutions are becoming increasingly popular in ports whether for reasons of flexibility or to get around the problems of change of use in terms of handling different products.

One product on offer from Siwertell – which recently merged with Bruks to form Bruks Sewertell – is the port-mobile unloader, the PMU. The aim of the PMU is to offer full port mobility, excellent efficiency and rated capacities and reduced investment costs.

The PMU uses heavy-duty rubber tyres and an advanced steering system and is available as a 400t/h or a 600t/h unit. The company says it is an ideal solution for operators looking for a port-based system to discharge vessels up to 60,00 dwt.

PORT-MOBILE UNLOADER

One advantage highlighted when unloading grain with screw-conveyor technology is low material degradation. The Siwertell PMU offers similar discharge rates as pneumatic unloaders, but generates significantly less cargo degradation because of its dramatically lower conveying velocity, according to company information.

It features a dual truck-loading system, with the option for a third loading system. As these systems are independent of each other, the unloader is totally flexible during truck loading, delivering the fastest loading operation possible.

Furthermore, to minimise the impact of truck changeovers and an irregular truck supply, the unloader is equipped with a large-volume intermediate surge hopper. This hopper allows for discharge operations from a ship to continue even if no trucks are available immediately.

Operational costs depend on total unloading times and therefore it is important to maintain high average through-ship capacities to reduce any demurrage costs. Unlike a pneumatic unloader that can only operate its intake nozzle in a vertical direction, the Siwertell PMU can move its vertical arm +/- 30° and reach all areas of the cargo hold, including the troublesome area underneath the hatch corners. This minimises any cargo left for the payloader at the end of the unloading operation and maximises efficiency rates.

Additionally, it uses simplified, standard technology, which keeps maintenance and wear parts costs relatively low, compared with other unloading systems on the market.

Bruks Siwertell has secured a further Siwertell ship unloader order recently from Israel's Ashdod Port. Supporting Ashdod's major expansion plans, the Siwertell 15 000 S road-mobile ship unloader will deliver sulphur handling operations and complements the high-capacity capabilities of the recently ordered rail-mounted Siwertell ST 490-M ship unloader.

Both unloaders will handle the highly volatile and corrosive commodity, sulphur, without dust or spillage. "The customer chose to invest in Siwertell technology because we have decades of well-proven experience in sulphur unloading," notes Siwertell president, Per Karlsson.

"Current grab crane unloading systems simply no longer meet the port's requirements when it comes to efficiency, safety and environmental protection.

"Furthermore, due to Ashdod's intake of sulphur in both large and small vessels, the 15 000 S was the best choice to secure safe, high-capacity through-ship operations for the smaller vessels," says Karlsson.

The unloader will be based in the Port of Ashdod, on Israel's Mediterranean coast, and will offer significant flexibility. "The operator plans to deploy the unloader at different locations within the port area," adds Karlsson. "It is ideal for this purpose."

It features a double-bellows system to ensure efficient truck loading capabilities and will also be fitted with the Siwertell sulphur safety system (4S), which detects and extinguishes fires early, shutting down the system to stop their spread, and safely containing them before they become a risk.

The fully-enclosed road-mobile unit will offer a rated capacity of 350t/h for the continuous discharge of sulphur from vessels up to 15,000dwt. It will be built in Sweden and is planned for delivery in September 2020.

RUSSIAN SOLUTION

Thyssenkrupp Industrial Solutions has recently supplied a new coal handling system to the State Transport Leasing Company (STLC) in Russia. The system will be the centrepiece of a new terminal for coal exports in the port of Lavna near Murmansk, on the western shore of Kola Bay. With a planned capacity of 18m tons of coal per year, the terminal will significantly increase the coal handling capacities of the region. It is expected to be fully operational in 2021.

Torsten Gerlach, chief of the mining technologies business unit at thyssenkrupp, says: "Together with our partner LNK Industries, we will equip one of the largest ports in Russia with a state-of-the-art port handling facility. We are pleased to contribute our extensive experience in the planning of such systems. As one of the few full-range suppliers, we can provide our customers with fully integrated solutions that ensure high performance and resource-efficient operation."

The terminal project will be completed in two phases: first out-shipments are expected to take place in 2020. In that same year, a total of nine million tons of coal will be handled on site. In 2021, the volume increases to 18m tons. The project will augment regional coal exports and release pressure on existing terminals in the Baltic Sea. It is closely connected with the development of the Murmansk Transport Hub, one of the biggest ongoing infrastructure projects in the Russian north.

Thyssenkrupp will supply two ship loaders, stackers, reclaimers and car dumpers as well as one combined stacker-reclaimer, several belt conveyors and auxiliary equipment. The contract includes engineering and procurement, and site erection and commissioning.

Within the project, thyssenkrupp's partner, the Latvian construction company LNK Industries, is responsible for the design and construction of the conveyor system. In order to keep dust emissions from the handling site at a minimum, all coal transfer points, wagon unloading stations as well as ship loaders will be outfitted with dust suppression equipment.

RUSSIAN PORT OF VLADIVOSTOK

SPREAD THE WORD

COMPANY NEWS

As the world's leading independent spreader manufacturer, Swedish company ELME Spreader supports organisations across the globe with container handling solutions to make their work easier and more profitable. Over a period of four decades, its customers have attached over 21,000 ELME spreaders to lift trucks, reach stackers, straddle carriers and cranes.

ELME Spreader was established in 1973 by Gösta Karlsson, a 25-year-old mechanical engineer who dreamed of running a business of his own. Four decades later, that dream has turned into a multi-million-dollar organisation employing 200 people who develop, design, produce, market and service over 1,000 spreaders annually.

What hasn't changed is that every spreader is still built at the plant in Älmhult in Sweden – from start to finish it's a totally in-house production. In Northern Europe, that concept is rather unique, but the reason for this is simple – it gives ELME 100% control over the production and final product quality. And President Gösta Karlsson, now 70 years old, still plays a very active part in the daily operation and strategic development of the family-run company.

While all production remains in Sweden, the two subsidiaries in Shanghai and the US enable ELME to give a high quality service to customers on seven continents – both recognised OEM manufacturers and end users.

The ELME spreader product line includes spreaders for trucks, cranes and straddle carriers, with a considerable share of the business related to the mobile truck sector for mast trucks and reach stackers. In addition to this, ELME offers a wide range of piggyback slave attachments and special equipment, such as spreaders with tilting functions, tool changers and slab handlers, together with approved spare parts from ELME Genuine Parts.

ELME's top lift spreader models 327T (fixed, 20ft) and 817T (telescoping, 20-40ft) have a tilting function for the handling of laden containers with, for example, grain, wood chips and other bulk materials where a tilt operation is required. Both models are designed for mounting on reach stackers and are available in 45° and 60° versions. The standard capacity for model 327T is up to 32 tonnes (lifting/tilting) and the standard capacity of model 817T is up to 45 tonnes (lifting) and 32 tonnes (tilting).

For more information, visit: elme.com

EFFICIENT UNLOADING THE FLEXIPORT WAY

COMPANY NEWS

Flexiport was designed in the 1970's by ship unloading specialist Neuero to provide an efficient solution for meal discharging at feed mills. Back then, capacity was low and a stationary unloader design was usually used for small river ships.

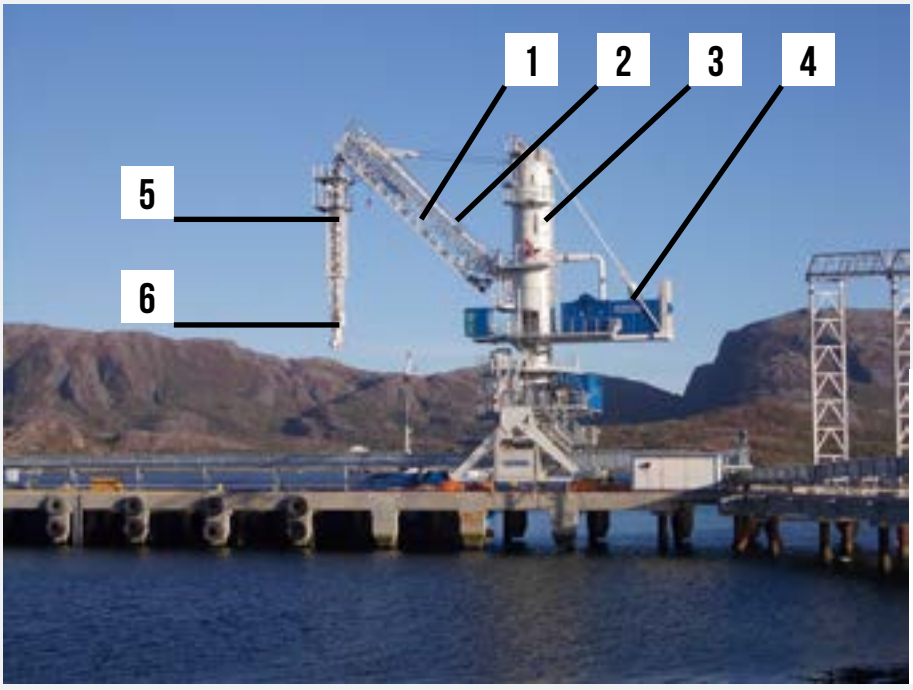
By combining a mechanical feeder with a suction nozzle and unloading using a layer technique, Flexiport offers extreme efficiency. It combines the flexibility of a traditional pneumatic ship unloader with a special feeder to work efficiently with non-free flowing materials. The result is minimal need of payloaders – they are required in the ship only during the final clean-up operation.

Flexiport's design means material is picked up with air from the bottom, compared with mechanical systems that need product pressure to bring material up. This simple physical characteristic gives the Flexiport design the advantage: unlike other systems, the feeder does not need to force the material inside the conveying line, but simply loosen it.

Although the initial investment might put some off, the advantages of Flexiport are quickly realised. With a normal pneumatic unloader, the vertical pipe will simply hang on a flexible joint. With the Flexiport design, the vertical pipe can be forced into the material. The result is a vertical truss system reinforced though the entire structure. A simple system adapted by other pneumatic unloader designs makes bigger holes in the material, but does not increase the efficiency.

In 2002, Neuero supplied a machine for Essent Energy at Gertruidenberg in The Netherlands. It was designed to unload biomass including wood pellets, wood chips, wood pieces from demolition, palm pit kernels and even ONF – organic natural fraction that in essence is dust and has a bulk density lower than 0,2t/m^3. Low noise emission was required due to a nature park at the other side of the river.

The goal of one ship per eight-hour shift was achieved and tests showed an average of 70% efficiency during the entire ship unloading operation. The installation was later upgraded from 600 to 800m^3/h.



DETAILS OF THE FLEXIPORT:

1 HORIZONTAL BOOM
2 HORIZONTAL CONVEYING PIPE
3 FILTER WITH AIRLOCK
4 MACHINERY HOUSE WITH BLOWER AND ELECTRIC
5 VERTICAL BOOM WITH VERTICAL CONVEYING PIPE
6 NOZZLE WITH ROTATING FEEDER

In 2013, MOWI/Graintec used Flexiport to unload fishmeal and a variety of other meals in Bergen, Norway. Flexiport's success not only with fish meal, but also with corn gluten and a variety of other meals and grains was reflected in an order for a second similar unloader for a new plant installation in Scotland in 2018 (see Fig 4, below).

A higher capacity for biomass is expected to be sold in 2019.

FLEXIPORT'S ADVANTAGES

As the material is vacuumed, it is not necessary to have a material column to force the material inside the conveying line as required by other systems, such as chain or screw mechanical unloaders.

With mechanical design systems, there is always around 300mm or more of material that is not possible to pick up. For a standard Mississippi river barge, that means total volume =3mx12mxx60m=2.160m^3 – 0,3mx12mx60m=216m^3 – 10%.

With the use of clean-up payloaders, this volume is reduced to 1.5%, but it still needs to be lifted to a separate hopper.

Our estimates show that without using a clean-up payloader, Flexiport achieves between 1%-0% and with a cleanup payloader, it is just 0.1%-0%.

INVERTED CONE AND MATERIAL LAYERS

Flexiport is efficient for unloading both non-free flowing materials and free-flowing materials from small ships or barges. Systems using regular pneumatic, chain, screw or belt unloaders lose efficiency as they have less product height column.

Fig 1 and 2 (right) show the differences when using Flexiport x Multiport or other chain or belt equipment.

In big ships, the first inverted cone (Fig 1) at the hatch centre can take hours to reach the hold bottom. In this case, an automatic sink system is useful and allows the operator to take care of other works without losing efficiency. The pipe is then introduced at each hatch corner with a similar procedure to the hold bottom. For small ships, the inverted cones are small er due to the reduced hold height.

With the layer method (Fig 2), Flexiport removes the material by travelling, slewing or combined movement. This makes adifference when the product is non-free flowing or partly non-free flowing. Wood pellets, for example, generate an inverted cone with a small angle, depending of dust content. This small angle reduces the volume to be unloaded and the resulting inclined product wall can collapse, burring the nozzle or simply generating dust.

Fig 3 shows the unloading of separate products that are needed in small volume. When it is difficult to introduce a payloader, Flexiport can completely unload the hold.

For more infomation, visit: neuero.de

SMALL SEPARATION HATCH (FIG 3)

NON FREE-FLOW – LAYER AFTER LAYER (FIG 2)

FLEXIPORT AT MOWI IN SCOTLAND (FIG 4)

REGULAR FLOW – INVERTED CONE OF MATERIAL (FIG 1)

SET IN STONE

Conveyor systems are a key component of cement handling and there are a number of solutions available that aim not only to reduce wastage, but also to ensure that product can be handled as cleanly as possible

MARTIN ENGINEERING'S CLEANSCRAPE SECONDARY CLEANER

Martin Engineering's CleanScrape Secondary Cleaner has been engineered specifically for challenging applications where traditional designs fail to deliver the necessary performance or wear life.

The CS2 is particularly effective in conditions where continuous production is a high priority or cleaner service is difficult, including corrosive or high-temperature environments.

Typically requiring just one re-tensioning during its lifespan, the extremely low-maintenance requirements and outstanding cleaning ability help reduce cost of ownership in a wide range of industries, such as mining, coal processing, quarrying, cement production, scrap and other bulk material handling operations.

Operations in restricted space have been a particular consideration. The stainless steel design incorporates a matrix of specially-engineered carbide tips and is tensioned lightly to prevent damage to the belt or splices. Despite extremely low contact pressure between belt and cleaner, it has been shown to effectively remove potential carryback material that was not dislodged by a primary cleaner.

The CS2 can be used with any primary cleaner, but was engineered to

be paired with the company's original CleanScrape® Primary Cleaner (CS1). When used together, they form a rugged, low-maintenance system that effectively removes carryback, helping to prevent fugitive material and the associated clean-up. The company claims the system delivers superior cleaning and up to four times the service life of conventional designs, with half the maintenance. The combination has been shown to remove as much as 99% of the carryback in most belt-cleaning applications. The reduced service requirements and exceptional durability deliver a low life cycle cost, while allowing crews to focus on other tasks.

"Many carbide-tipped belt cleaners require high pressure against the belt in order to be effective and they typically need to be re-tensioned often throughout their service life," explains chief technology officer Paul Harrison. "Like the CS1, this design is extremely effective, with light tension against the belt, which helps avoid the damage to belts and slices that can occur with other carbide-tipped secondary cleaners. And because it only needs tensioning once during its lifespan, the maintenance requirements are very low." Harrison says.

Harrison said that the negative rake angle of the CS2 is also key to the new design. "Some manufacturers use a positive angle of attack at the secondary position, which is greater than 90°. "That's common in a urethane primary cleaner, which is tensioned tightly against the pulley. But using a 'peeling' action in a secondary cleaner can damage and prematurely wear the belt cover. It can be catastrophic on 'beaver tails' [small sections of belt damage where a section of the top cover has separated from the belt carcass]. With a negative rake angle and the 'scraping' action it provides, the CleanScrape Secondary Cleaner delivers outstanding performance, while mitigating potential belt damage."

The "free flow" design, with an absolute minimum of exposed surface area, delivers optimum cleaning results while allowing material to pass through the arms and return to the cargo flow. The compact system requires very little free space and can be easily installed inside or outside of discharge chutes, while the crowned main frame compensates for cupping or wear of the centre of the belt.

The carbide blade tips have a small corner radius to protect against belt damage and each one is supported on spring-loaded arms at both ends. The load springs allow independent blade rotation back and forth, as well as up and down. This range of motion provides equal load pressure across each blade, bypassing obstructions and conforming to ever-changing belt undulations.

"This new design is engineered to withstand high production demands in which maintenance and conveyor stoppages must be minimised," says Harrison. "The combination of CleanScrape primary and secondary cleaners offers these customers a matched set of components that require half the maintenance of conventional designs, helping to reduce service costs and production downtime."

The CleanScrape Secondary Cleaner is suitable for conveyor speeds up to 5m/s (900 fpm) on belts with vulcanised splices, and up to 3m/s (600 fpm) on belts with mechanical splices. Supplied with a stainless steel tensioner, it can withstand temperatures as high as 260°C.

Available for any size belt in full belt widths or 150 mm less than belt width, the unit can be specified with Martin's unique Safe-To-Service technology – giving maintenance personnel the ability to work on the assembly safely from outside the chute wall or conveyor structure – without breaking the safety plane.

"Some plants require a confined space permit if workers are going to reach through the outer edge of the chute work," Harrison adds. "With all adjustments being made from the operator side, there is no need to enter a confined space."

THE UNIQUE STAINLESS STEEL DESIGN INCORPORATES A MATRIX OF SPRING-LOADED CARBIDE TIPS.

THE NEW SECONDARY BELT CLEANER IS ENGINEERED TO MINIMIZE MAINTENANCE AND CONVEYOR STOPPAGES.

ROBUST DELIVERY

Robust apron conveyors (SZFs) are used in cement plants to transport clinker safely and economically from the kiln cooling system to the silos. Beumer's own particular take on the system is the belt apron conveyor (GSZF), which uses a belt instead of a chain as traction allows higher speeds and a slimmer design while still delivering the same level of performance.

In general, the clinker comes out of the cooler at 80° plus ambient temperature. But during the process, a so-called kiln flash can occur caused by a raw meal flash from the pre-heater tower or by caked clinker coming off the kiln and within a few seconds, several tons of raw meal or clinker shoot through the cooler. The material to be conveyed cannot cool down sufficiently and reaches the conveyor at temperatures of 500 to 800°C.

With the Beumer apron conveyors, the specific design of the cells allows safe, low-friction transportation of any hot material. Sealed and overlapping side walls and bottom plates in the cells prevent the clinker from exiting and minimise the escape of dust. The traction element in this conveyor is usually a single or double strand sprocket chain.

The cells are attached to the long-lasting, steel-wire reinforced belt in a way so that the heat of the clinker in the steel cells is not transferred to the belt. Partition plates are attached in the feeding area below the cooler and can be easily removed for maintenance, protecting the belt against hot clinker in case of a kiln flash.

With speeds of 0.6m/s, the belt apron conveyor can reach double the conveying speed compared to apron conveyors with a chain and can be retrofitted. If operators want to increase the kiln capacity for example, they can replace an existing chain apron conveyor with a belt version of the same size – this means double the capacity without having to make any changes to the steel structure or the conveyor bridge.

The cement plants also benefit from a new construction application: The thinner, lighter design of the GSZF reduces costs for steel structure and freight. Furthermore, the decreased net weight lowers the static and dynamic loads that affect the clinker silo and foundations for example. A new construction project can be designed for a smaller load and is therefore more cost effective to build. The lightweight design also lowers operational costs.

The entire belt lies with its surface on the drive and return pulley, which avoids the unwanted polygon effects caused by the chain. The particularly smooth running of the machine also reduces noise emissions considerably. The noise is less than half as loud as conventional SZFs with chains, which is advantageous for both the employees and the environment.

The use of the durable Beumer steel wire belt lowers the maintenance costs, and extends maintenance intervals. Chains can break, if preventive maintenance is not performed properly, which will lead to the conveyor collapsing. The rubber of the steel wire belt only becomes brittle with age, but it would never completely break. Lubrication is also not required for the belt, whereas used frequently on a chain, if for no other reason than to reduce noise levels. Grease and oil are not only a cost factor, but also detrimental to the environment and the conveyor. The clinker dust gets stuck on it and settles in the chain links, which accelerates the wear and tear.

BELTING UP

ASGCO has also recently introduced a new addition to its belt cleaner line. Its new rotary brush cleaner uses the speed and force of the belt rolling over hundreds of SBR Rubber Fingertips to significantly eliminate material accumulation and dust. Rotary action, finger length and spacing allows the carryback to fall free instead of clogging.

Useful on worn or pitted vulcanised or mechanically spliced belts, it is designed to effectively clean chevron, cleated and raised-rib belts without the wear associated with conventional brush-type cleaners.

The bolt-up style mounting found on the new rotary brush cleaner makes for easy adjustment up and down, allowing the cleaning pitch to be set with the turn of a wrench as the SBR Rubber Fingertips wear.

SBR rubber provides abrasion resistance for longer drum service life, which ranges from one to three years depending upon the application, conditions, and the material being transported.

BOOM TIMES FOR BIOMASS

Biomass is big business these days and the global material handling equipment market for biomass power plant is expected to grow by more than 7%, according to market research organisation Technavio

A key factor driving the growth of the biomass market is the growing need for cleaner energy. In 2016, fossil fuels accounted for the largest share of 76% of the total electricity consumption. The high adoption of fossil fuels can be attributed to their low cost and reliability in producing electricity and transportation fuels.

The market is advancing rapidly as far the purchase involved in biomass energy production and energy conversion technologies is concerned, a report by market research group Technavio suggests. The production costs of biomass energy have reduced due to the development of improved harvesting and post-harvesting technologies.

"In biomass energy conversion, the technological advances take place in three sources, which are improved fuel processing technologies, enhanced efficiency of biomass energy conversion technologies and enhanced efficiency of end-user technologies," says a senior analyst at Technavio for research on power. "Another improvement is that of co-firing with other fuels, such as coal. The biomass and coal blend co-combustion is an efficient combustion technology. Using coal

in the co-firing process can reduce ash, dust, nitrogen oxide, and sulphur dioxide emissions

The research report segments the global biomass power generation market by feedstock and geographical regions, the Americas, Europe, the Middle East and Africa and the Asia/Pacific region. Some 36% of the incremental growth is expected to originate from the EMEA region followed by APAC and the Americas with 34% and 30%, respectively.

"Apart from the increasing requirement of managing municipal solid waste, factors such as the emergence of competing end-user industries for biomass and the growing activisms against biomass power generation will have a significant impact on the growth of the material handling equipment market in biomass power plant during the forecast period," the report suggests.

RHINE PARTNERSHIPS

Handling biomass has always required specialist equipment and ports are investing in more as the traffic of biomass down main waterways such as the Rhine continues to grow.

While it has been suggested in the past that biomass, at least at this moment in the development of its use, requires substantial government investment to make it viable, considerable attention has been paid to developing equipment to handle it effectively.

Stemm is one of the company's that has teamed up with other industry players to develop equipment that is fit for purpose. Stemm's clamshell grabs 4CH-16000-1,1 type, with a capacity of 16 m3, are designed to handle all kinds of bulk commodities and biomass, up to a density of 1.1t/m^3.

The company recently teamed up with Swiss company Stephan, which specialises in all types of lifting equipment, bridge cranes and special equipment for combustion of wood and biomass sectors, wood burners and boilers feed, silos. The two companies have been partners in a new start-up last year at the port terminal of Auhafen Muttenz Basel which is how using a completely new system for biomass unloading and storage in large silos.

Given the transport of biomass by river, specific techniques have need to be developed to handle product and to ensure that it is safely stored in silos. Correct handling of biomass is essential if dangerous situations are to be avoided.

On this occasion, Stemm installed an electrohydraulic clamshell grab powered by four hydraulic double acting cylinders, which work directly on the grabs' shells, applying a powerful, uniform and constant penetration strength.

The way the grab works ensures that maximum filling capacity is achieved, even though biomass can be irregular in shape and grain size

These grabs can work in any position within the ship, even sloping working conditions, in almost a horizontal position. Stemm's grabs work for 24 hours non-stop.

For boats carrying very compacted materials, due to their holds or in difficult weather conditions, Stemm grabs have a system called scratching, which operates automatically and performs a previous and/or simultaneous scratch when handling the product inside of the hold, thus improving filling factors.

IMMINGHAM INVESTMENT

Immingham port on the UK's Humber Estuary began to get serious about renewable energy in 2013 when an investment of around £135m kick-started the creation of the Immingham Renewable Fuels Terminal – the largest biomass handling facility in the world.

Developed by ABP as part of a 15-year deal with Drax, the revamp of the former coal port saw an update of its unloading, storage, rail and road facilities to make it biomass-ready.

A key component of Immingham is its continuous ship unloaders. Replacing the port's grab cranes in 2013, these two structures use a combination of suction and an Archimedes screw to discharge 2,300 tonnes of biomass an hour from docking ships.

The continuous unloaders are bespoke for Immingham and designed to keep operating at a constant rate as the Humber's tide rises and falls. Biomass is drawn up through the unloaders to a conveyer that then takes it all the way from the jetty to one of the port's eight silos.

Unlike coal, which can be stored in the open air, biomass must be kept dry. Immingham stores wood pellets in eight silos, each capable of holding 25,000 tonnes of biomass.

With the port doubling its storage space from four silos in early 2016, the site's total capacity now comes in at 336,000m^3 – the equivalent of more

IMMINGHAM UNLOADS 2,300T OF BIOMASS EVERY HOUR


IMMINGHAM PORT HAS DOUBLED ITS STORAGE

than 120 Olympic-sized swimming pools. Here, the biomass can be stored for any time between a couple of days and a couple of months, depending on Drax's demand.

ABP has outlined some of the particular challenges of dealing with biomass handling and storage. These include dust, with associated health issues, potential explosive atmospheres through self-heating, combustion and smouldering and oxygen depletions though the presence of CO^2, CO or methane.

Commenting on the suggestion that biomass use or development is only achievable with subsidy back-up from government, an ABP spokesperson says: "We operate a commercial operation with a good client base, which we feel is sustainable for the future, whatever the subsidy regime."

In considering the market for biomass going forward in the UK, the spokesperson says: "Biomass as a source of fuel is clearly heavily dependent on the future of the UK energy policy. The current indications of the government suggest that there is a reasonable security for biomass as a future source of fuel for the foreseeable future."

The company has made Investment in safe handling and storage equipment and facilities, dust suppression and prevention methods, temperature monitoring, cleaning regimes, nitrogen, fire detection systems, fire suppression systems, DSEAR assessments, PPE, training and access control systems ABP says.

GRAANUL ACQUISITION

Graanul Invest affiliate Woodville Pellets submitted the winning bid in a recent auction for the assets of Texas Pellets and German Pellets Texas (collectively, Texas Pellets). The assets include Texas Pellets' Woodville, Texas pellet manufacturing plant and its Port Arthur terminal.

The estimated manufacturing capacity of the wood biomass pellet plant in Woodville, is 450,000t of pellets per year. The Port Arthur terminal has a total storage capacity of 68,000t, and is capable of loading vessels up to approximately 60,000t.

Acquisition of Texas Pellets' assets enables Graanul Invest group to expand its business to the US to ensure greater security of supply to its customers, the company says. It also provides better logistical solutions for entering the Asian market, in particular the fast-growing markets in Korea and Japan.

With 11 pellet plants located in the Baltics, Graanul Invest group´s annual production volume is 2.2m tons of pellets, making it the biggest pellet producer in Europe. Acquisition of the Texas Pellets pellet manufacturing plant offers a possibility to increase the group´s production capacity up to 25%.

"We have been looking for a suitable opportunity to start pellet production in the US for more than 10 years. Once we have successfully completed this transaction, we will have firmly established our presence in North America," says Raul Kirjanen, head of Graanul Invest.

Graanul Invest group operates in the field of bioenergy and renewable energy production, forestry and biomaterials development.

DRIVING FORCE

COMPANY NEWS

Founded in 1971, Italy-based Borghi Assali has become well known for its expertise in the bulk market, producing equipment and moulds. Its state-of-the-art-technical department researches, develops and produces all kinds of innovative drive and steering systems. Through an international research project in 1992, the company started developing steering axles for forklifts and airport tractors, which it now exports across the world. Thanks to its broad offering, the company can easily satisfy the many different requirements of its customers, both in Europe and internationally.

The company's technical focus is on customising equipment and using a system of electric and hydraulic traction. It can produce electric traction and steering systems in smaller, more compact sizes that can move slowly (0.30km/h) in any environment and with any load, without the problems. Customers include Mitsubishi Caterpillar, Yale (NMHG Craigavon Irlanda), Rico, Orion Lifts, Rocla, Nexen, Linde, Cesab (Toyota M.H.), Cargotec (Moffet), ORI ALTINI, Italgru, Terranova Technologies, Bedeschi, Telestack, RBL-REI, Van Aalst, Technobalt, Unibelt, Ascom, Colmar, Plan, Gipo, Glama, Isoloader, BMC Cranes, Manitex and Aviogei e Ormig.

With the support of Italy's Emilia Romagna region, Borghi Assali has launched an industrial investment project that aims to sustain the company's growth strategy by producing innovative and high-performance axles for the premium segment of the market. The opportunity to gain multinational companies as costumers is crucial and it is what this strategy offers.

MINING INDUSTRY

Borghi Assali designs and produces traction and steering systems, both electric and hydraulic, for self-propelled machinery on the ground and for the railways The structural strength of Borghi Assali's drive wheels in heavy-duty work is well known and has led to a strong presence in the mining industry. Where reliability and endurance under adverse conditions are essential, Borghi Assali's products are a guarantee of satisfaction. Moreover, if the customer requests electric motors, Borghi Assali can offer AC motors in high tension (380V-400V), as necessary in mining machines.

BELT CONVEYORS

Belt conveyors in mines and quarries require some particular characteristics:

- Considerable protection from adverse weather conditions and from dust, mud and dirt in general
- The capacity to endure hard work cycles, even 24/7
- The ability to work in temperatures over 50°C and in intense cold, down to -56°C

These characteristics make these drive wheels the best option to move – both with hydraulic and electric propulsion – mining machines used in even the most remote areas of the planet.

STACKERS

Stackers used in mines and in quarries need the same features as conveyors, but also need assured traction and steering even on unstable pavements, and in snow or mud. Borghi's drive wheels are the best option.

CRUSHERS/MOBILE HOPPERS

With characteristics the same as belt conveyors and stackers, it's important to notice that mobile hoppers have only four support points on the ground. In this case, Borghi's drive wheels (that can charge up to 120t of load capacity) are the right solution for every kind of mobile hoppers.

CASE STUDIES

Belt conveyors

One company collaborated with Borghi Assali to implement traction systems for some of the belt conveyors it was using in Africa. Borghi Assali has created some special two-wheeled electric drive wheels with a load capacity up to 35 tons and 56 tons. Considering the movement of the belt conveyor, the said units have no system of steering, only motor traction.

1. Borghi Assali created a two-wheeled unit with the biggest load capacity ever produced. To obtain the load requested, it uses wheels with a diameter of more than 1.80m, with the height of the drive wheel more than 2m.
2. To guarantee the protection of the electric motor and reducer, a special protection grid has been designed to prevent mud, stones and debris interfering with the performance.

Stackers

A US company is creating the plant – including electric self-propelled stackers – for a mine in Siberia. Here, weather conditions are severe in the winter and the temperature can drop to -50°. The company turned to Borghi Assali to ensure that the drive wheels of its stackers could endure and work at such temperatures.

1. To ensure the requested performance, the designg office had to:
» Design oversized structures to ensure the load capacity at every temperature
» Use special materials for the structure and components
» Use special reducers with oil and seals that are capable of enduring temperatures of -60°C
» Use special electric motors to provide the self-regulating heater element for the electromagnetic brakes.
2. Borghi Assali has produced electric two-wheeled drive wheels of 30/36 tons and four-wheeled electric boogies of 65 tons. All of the two-wheeled drive wheels are equipped with steering motors, fifth wheel and pinions, while boogies, which are liftable, have a pin connection to a hydraulic cylinder.
3. These stackers have to go incredibly slowly – the maximum speed requested is 0.37km/h. To achieve this, it was necessary to use double reducer tractions and special electric motors.
4. In order to guarantee the best protection of the motor and reducer, a protection grid was created to prevent mud, stones and debris entering the interior.

Crushers/mobile hoppers

A European company requested electric power for its mobile hopper, so Borghi Assali designed and created two-wheeled groups with electric traction and steering with a load capacity of 20 tons.

Thanks to a joint venture with an italian company that specialises in this field, Borghi Assali has even provided the software and hardware needed to manage the movement of the machines. The possibility to provide even the management system and the control system of the drive wheels makes the transition for our clients from the hydraulic system to the electric system even easier.

These mobile hoppers stand still for long periods of time, so in order to avoid the wheels deforming due to the high load that they sustain, Borghi Assali has designed a special plinth under the structure. This plinth, when the mobile hopper is "parked", corresponds with a mound on the ground so that the support of the machine is guaranteed by the plinth itself, by slightly deflating the tyre. Moreover, this plinth is an additional security factor that guarantees the vehicle's stability in case of explosion or rapid tyre deflation.

GOING FOR GROWTH

Borghi Assali is growing its production capacity and expanding the machinery fleet. It is also upgrading the quality of its products by reducing component flaws. Productivity and competitiveness is being increased by implementing automation and robotics systems for critical processes.

As well as strengthening and diversifying its skills internally, it is adding its products to new machines and expanding operations to Asian markets. It is also improving the automation of its processes by introducing modern robotic technologies referred to as "Industry 4.0", which will be fully functional by 2020.

It has also implemented an innovative non-destructive inspection system, which is a prerequisite to increase the quality of final products, in a project co-funded by the European regional development fund.

ASSEMBLY PRECISION

Borghi Assali guarantees to provide high-quality drive wheel assemblies. During the manufacturing process, mechanical parts are always under dimensional control an whether in limited space or in unique on-field situations, the company is able to fulfil 3D measurements with precision up to 0.03mm.

CERTIFIED

Its technical department is fitted with state-of-the-art systems for design and calculation, so the company can quickly meet any demand from costumers and then prepare special products for single applications. Quality control ensures the highest quality products and puts customers' minds at ease. Borghi Assali is ISO 900 I-certified and it follows Italian legal requirements in the field of safety at work.

The company is currently working on ISO I400I environmental certification. It is also working with US companies so it meets the standard for anti-terrorism called C-TPAT, an initiative conceived by customs in collaboration with a community of businesses in the global supply chain.

Finally, staff welfare is paramount and it adheres to an ethical code for the staff management.

For more information, please visit: borghiaxles.com

UNDER COVER OPERATION

Covered storage presents a number of challenges – notably ensuring facilities are clean to avoid dangerous contamination

The fumigation of grain cargoes using certain pesticides, namely plant protection products, may not be effective in controlling insect larvae, resulting in cargo damage or loss.

Javier Quintero Saavedra, head of HSE at Terminales Marítimos de Galicia (TMGA), an operator of bulk terminals in Galicia, Spain, and chairman of the Bulk Cargoes Working Group, ICHCA, says: "We are finding that the pupae and larvae inside maize kernels in various consignments, and which were subjected to in-transit fumigation, are not affected by phosphine or phosphine-generating fumigants and growing into weevils while cargoes are in storage."

Weevils remaining in the port warehouse after the lot has been transported to its ongoing destination is a real issue for terminal operators, particularly if they have only been accustomed to handling grain, meal or feedstocks that are not prone to such infestations.

Saavedra, who will present a case study relating to the pest control challenges facing terminal operators at the Association of Bulk Terminal Operator's (ABTO) annual conference this October, explained that while consignees had arranged for cargo fumigation both in transit and during storage upon discharge, "insects plagued our silos", resulting in the extensive cleaning – space treatment with contact insecticide (silos in empty condition) and restoration of silo walls to prevent further infestation.

"Bulk terminals need to implement a fully integrated pest management plan. Operators must monitor silo temperatures and moisture and be able to spot insect and larvae infestations in large storage premises. They should also carry out regular cleaning of empty stores and better understand the use of different pesticides and their effects."

ABTO chief executive Simon Gutteridge says: "While grain cargoes are usually fumigated at origin or in transit, if larvae survive and evolve it can be a real issue for terminal operators. It can write off the whole consignment. There is obviously a strong case for fumigating cargoes stored in silos at discharge ports, especially where maize kernels

are stored, but this is not without its own problems."

The fumigant typically used is phosphine or a phosphine generating product, which is a well-documented health and safety risk in the seaborne transportation of grain. Exposure to this gas has resulted in acute intoxication, hypoxia, asphyxiation and seafarer fatalities, and the risk in shore storage premises is that the fumigant leaks to adjacent ones.

Methyl bromide, another pesticide widely used in the containerised transportation of grain, has also been attributed to intoxication-induced fatalities. It is, however, banned in a number of countries as it is a well-known ozone depleting substance.

"There are IMO guidelines for the use of pesticides in-transit, but the rules governing their use in storage facilities ashore are at national level. Although the European Commission oversees the approval of active substances, it is the individual state that decides whether to allow their use or not," says Saavedra.

"What the bulk terminals industry needs is more globally-focused best practice guidelines, an initiative supported both by ICHCA and ABTO."

Richard Brough from ICHCA International says: "We are delighted that the Chairman of our Working Group on Dry Bulk Cargoes (an important grouping from its International Technical Panel) is able to make this presentation. ICHCA is now an integral part of the annual ABTO Conference and pleased to be fully involved in this event."

Javier Quintero Saavedra will present his case study on port-side fumigation at Bulk Terminals 2019, which takes place on 8 and 9 October 2019, in Amsterdam.

ABP UNDER COVER

The Association of British Ports (ABP) has some of the largest agribulk handling facilities in the UK and Europe, including Immingham Bulk Park (IBP) on the Humber Estuary, which offers more than 1.3m sq m of undercover storage, and Humber International Terminal, also located at the Port of Immingham, which allows cargoes of up to 100,000t of bulk material to be discharged and stored in dedicated facilities.

ABP provides covered storage for individual clients as part of the port facilities services. Keeping products clean and moisture free in storage is obviously vital and ABP has invested in specifically designed storage solutions for biomass on the Humber to provide customers with segregated, clean and dry storage in flat stores and silos.

"We have a number of customers who use these facilities, typically for products such as biomass and animal feeds," a spokesperson explains, adding that ABP could not comment on plans the company has to expand covered storage facilities in different ports.

Keeping storage facilities clean is evidently an important factor, so how does ABP manage deployment of its workforce to achieve this? "We have a large team whose specific role it is to clean the facilities and in particular to keep dust under control," says the spokesperson.

"Our flat storage facilities are operated by loading shovels and Immingham Renewable Fuels Terminal (IRFT) is fully automated."

SAFETY SHIELD

Ensuring that silos are properly managed is essential given the dangers of fire or casualties among personnel entering a facility. Two years after introducing the Shield silo protection system, silo pressure safety experts Hycontrol has launched the Shield Lite SPS, which protects powder storage silos from the dangers caused by excessive pressure during tanker deliveries.

The system uses purpose-designed, state-of-the-art pressure monitoring and control equipment. "The new, compact panel is designed for simple operation and to be easily understood, giving users a range of new monitoring and diagnostic tools and indicating when the system is suffering from blocked filtration or is being endangered by poor delivery driver behaviour. Powder storage silos are commonplace in many industries but are at risk of over-pressurisation during tanker deliveries. The root causes of this are invariably either driver error resulting in uncontrolled air pressure being discharged during the fill procedure, or a failure of the filter venting unit. Pressures from as little as 1 or 2psi are enough to rupture a silo or blow its filter unit off the top. This poses serious risks, which is why a comprehensive, failsafe safety and control system is vital."

Shield Lite incorporates essential high-accuracy pressure safety components into a modular design that can be adjusted to suit site requirements. Maintenance is simplified and the long-term cost of ownership is significantly lower than any other system on the market, the company claims.

Along with many new features, Shield incorporates Hycontrol's Ground Level Testing, in which a single key-turn enacts a full-function test of all the crucial safety components, reducing the need for working at height. Importantly the system is also completely failsafe, a vital feature that's often overlooked, the company claims.

"Building on the success of the first Shield system has allowed us to develop new tools for site personnel to improve safety," says Hycontrol managing director, Nigel Allen. "We have insisted for many

years that simplicity is the key to safety and now with developments such as ratio alarms, filter blockage warnings and tanker driver delivery behaviour diagnostics, we can effectively remove the risk of human error completely. Hycontrol has led the silo protection field for more than a decade through both innovation and product performance.

"The purpose of developing Shield Lite is to make sure that every single pressurised powder delivery into every single silo is completely safe. We anticipate that customers in the ready-mix and concrete sectors will be impressed by both what this new system can do and the price we are able to offer it at."

Allen adds: "We are determined that safety for staff, contractors and drivers should be the number one priority across all industries. With SHIELD Lite, Hycontrol is showing that true, failsafe silo safety is not only achievable, but with the right equipment it's easy, too. We understand that human errors in maintenance and testing are inevitable. Our philosophy is to accept this and to provide a system that monitors and safely alerts you when these errors occur. As we say – safe silos are tested every time."

HARVEST FESTIVAL

The CBH Group has completed the first of the permanent storage expansion projects for this year's harvest, with works at the Gairdner receival site in Western Australian recently unveiled to growers and industry stakeholders.

Expansion works at Gairdner, located 150km north-east of Albany, included the construction of two open bulkheads that have a combined storage capacity of 46,800t. It takes the total storage capacity at the site to over 293,000t.

Throughput enhancements installed include a conveyor loading system with two stackers positioned at the new open bulkheads, which will increase the rate that grain can be received from trucks. In addition, an existing conveyor system at the site is currently being upgraded to receive grain at an increased 500t per hour.

The expansion is part of CBH's ongoing investment into the network, with more than $150m budgeted for capital works this year, which will add over 800,000 tonnes of new permanent storage to the network and associated inloading and outloading equipment.

CBH general manager project delivery Pieter Vermeulen says practical completion of the storage expansion at Gairdner was achieved at the end of July this year. "We're very pleased that we are able to complete the expansion at Gairdner on schedule," Vermeulen says.

"The Project Delivery team is currently working closely with Operations to ensure a safe and smooth handover process that will pave the foundation for a good start to this year's harvest."

CBH general manager operations Ben Macnamara said investment into the network will continue to evolve to meet the requirements of growers.

"With the new storage and increased throughput capacity at Gairdner, we will be able to offer growers improved services and the option to offer additional segregations. This is especially important in this region, which continues to see steady growth in grain production every year."

"By continuing to invest into the network, the co-operative can keep its network fees competitive, increase throughput capacity and efficiency, and meet export demand at the right time to capture value for our growers' grain," Macnamara says.

Perth-headquartered WCP Civil was the lead contractor at Gairdner.

BAGGING UP

Safe bagging of products is essential as the industry reacts to public demands to mitigate the impact of ineffective and messy product movement on the environment. Weighing bagging and palletising goods in the most efficient way will also help ports to improve their turnaround times

Food specialist Davert has opted for the Beumer stretch hood A for packaging its palletised organic products. Davert specialises in organic foods and finished, high-quality organic products such as rice, vegetables and cereals such as sugar, dried fruit, nuts, oilseeds and sprouting seeds, which must be protected from dust and pests during storage.

The stretch hood A covers the mixed pallets of bags, cartons and buckets with a highly elastic stretch film, protecting them against external contamination as well as keeping the merchandise secured during transport.

"We are ensuring the highest degree of cleanliness to meet our strict quality standards," explains Erwin Tenbrink, technical director at Davert. Before being shipped out, the products have undergone special quality controls and the incoming raw products are examined and cleaned. Different sized grains are separated using screens. Weed seeds and light particles such as defective grains are also removed by an optoelectronic sorter that removes the foreign particles. "Another preventive measure is the pressure treatment that we use to prevent any pest infestation from the start," explains Tenbrink. "The sudden pressure release kills off any

pests such as bugs, moths or mites and their larvae and eggs, without compromising quality in any way."

In compliance with the quality assurance process, employees pack the merchandise in a variety of ways, depending on the product: rice, flour, linseed and grains are packed into bags; larger storage quantities into big bags. Packaged legumes, nuts, dried fruit and muesli are filled into boxes and honey into buckets.

Depending on the store order, the team stacks the various unit loads on to mixed pallets. "Up to this point in the process, we assign the highest priority to cleanliness," explains Tenbrink: "Now it is just as important to keep this level of cleanliness and protect the products from dust and pests during storage in our high-rack warehouse." The units also have to be loaded safely on to the back of the trucks and reach the distributor without any damage. This is where the packaging comes into play.

The Beumer stretch hood is a high-capacity packaging system. "The machine is very easy and safe to operate," describes Volker Feldmeyer, sales engineer at Beumer and responsible for the project at Davert. "In order to make work easier for the maintenance personnel, which also means higher levels of availability, the machine does not require any platform." Maintenance work, such as changing the blades or the sealing bars, is handled at floor level. The operator simply opens a drawer, providing free access. Additional benefits include the compact design and the resulting low height and small footprint.

A film transport system, which is particularly gentle on the material, introduces the previously cut and sealed film hood into the system. On its way to the crimping and stretching unit, the sealing seam on the film hood cools down so that it can be crimped without losing time. Energy-consuming cooling units and delayed cooling times are unnecessary which means that the pallets can be packed in a shorter cycle time.

Environmental considerations are also important. "The elastic film also increases the safety during transport considerably," describes Feldmeyer. At Davert, the stretch hood A packages the pallets for high-bay storage systems: the pallet base remains unwrapped, so that the forks of the fork-lift truck won't damage the film. This prevents any remaining film from interfering during the contour check before the pallet is stored in the high-rack system.

FLEXICON APPROACH

Flexicon has come up with a number of different systems for bulk handling, including a new heavy duty bulk bagging system for abrasives, high-density solids and other difficult-to-handle bulk materials from upstream processes or storage vessels, filling the material by weight into bulk bags.

The system is comprised of heavy-gauge variants of the company's patented twin-centrepost filler and a flexible screw conveyor consolidated on a robust skid with integral forklifting tubes for mobility.

The filler is equipped with fill-head-height adjustment to accommodate all popular bag sizes, pneumatically retractable bag hooks and an inflatable connector to seal the bag inlet spout. A feed chute outlet port can be supplied with a filter sock for dust-free air

SELF-CONTAINED, ULTRA-HEAVY-DUTY BULK BAG FILLING SYSTEM FROM FLEXICON FILLS BULK BAGS WITH ABRASIVES, HIGH-DENSITY SOLIDS AND OTHER DIFFICULT-TO-HANDLE BULK MATERIALS ENCOUNTERED IN MINING, GLASS, CERAMICS AND OTHER DEMANDING APPLICATIONS

displacement during filling, or vented to an optional bag-vac dust collector or the plant's bag house.

Other equipment includes a conveyor system, which consists of a steel outer tube with a rugged flexible screw that self-centres as it rotates, preventing material from grinding between the screw and tube wall, while eliminating the need for a bearing at the intake end. Since the screw is driven at its upper end beyond the discharge point, material contact with seals or bearings is eliminated.

Once the operator attaches the bag straps and activates the inflatable spout seal, all functions are automatic. The conveyor runs at full rate as the filler's vibratory deck cycles on and off to densify and stabilise the material. Load cells transmit weight gain data to the PLC, which slows the conveyor rotation to dribble-feed rate, stops the conveyor once the bag has gained its target weight, and releases the bag straps, enabling a forklift to remove the palletised bag.

Options are available for human-machine interfaces, with touch screens and graphic representations of equipment inputs and outputs, customised by application, Flexicon says.

The company also offers Rear-Post bulk bag fillers for pass-through roller conveying, and Swing-Down fillers that additionally pivot the fill head to the operator at floor level for the fastest and safest bag connections.

A new Bulk-Out bulk bag discharger features a bag piercing receiving hopper and side-mounted flow promotion devices to feed downstream processes at ultra-high rates.

The BFC Series discharger features a cantilevered I-beam with electric hoist and trolley for loading a bulk bag without the use of a forklift, and lowering it on to the hopper's four-bladed knife. For applications that are suitable for single use bags, piercing the bag bottom from seam to seam reduces labour and cycle times by up to 95%, compared with connecting reusable bags to conventional unloaders, according to the company.

Pneumatically-actuated Flow-Flexer bag activators press and release opposite sides of the bag at timed intervals, promoting rapid and complete evacuation of free- and non-free-flowing materials.

Dust collection options include a dust plenum consisting of a hollow hopper rim vented to a plant dust collection system, as well as a wide-diameter gasket at the rim of the hopper, which forms a seal against the bottom of the bulk bag while it is being lowered on to the blade assembly. Compared with reusable bags, many of which are discarded after one use, single-use bags are typically less costly to purchase, and contain less material to be discarded or recycled.

The hopper transition charges an optional flexible screw conveyor that transfers free- and non-free-flowing bulk materials from large pellets to sub-micron powders, including products that pack, cake, seize, smear, fluidise or break apart, with no separation of blends.

BULK-OUT® DISCHARGER'S BAG-PIERCING HOPPER SLICES BAGS BOTTOM FROM SEAM TO SEAM, REDUCING LABOUR AND DISCHARGING CYCLE TIMES BY UP TO 95% PER BAG

ALARM CALL

Tackling fires on board ships have been much in the news recently, while the TT Club has highlighted a recent legal challenge involving the scope of the "fire" defence in English law

TT Club reported on a recent legal case involving the vessel *Lady M* on which the chief engineer deliberately started a fire in the engine room. The engineer was suffering from extreme emotional stress at the time. The ship was towed to Las Palmas in Spain, where general average was declared.

Bills of lading incorporated the Hague-Visby rules, as the Club explains in its online newsletter, *TT Talk*. Cargo interests Glencore claimed $3.8m for salvage and arbitration costs from Freeport, the owners, who in turn counter-claimed $560,000 in general average contributions.

Three issues were put to the court at first instance: first, did the chief engineer's conduct amount to barratry; second, did the "any other cause" exemption at Hague-Visby Article IV.2(q) apply and third, did the "fire" exemption at Hague-Visby Article IV.2(b) apply?

According to the TT Club on the barratry issue, the judge said he would have needed more information in order to decide whether the chief engineer would have had a defence of insanity in criminal law. However, this was not necessary in order to decide on the two Hague-Visby exemptions. "The judge

found that Rule 2(q) was not available because the chief engineer was acting within the scope of his employment and was therefore a "servant" of the carrier, or alternatively (and on an analysis preferred by the judge) he was acting as the carrier's agent. However, Rule 2(b) was available, regardless of whether the chief engineer's conduct was barratrous," the club explains.

Glencore appealed on two grounds, namely whether the chief acted barratrously and did barratry depend on a state of mind and second, whether rule 2(b) fire defence was available

"The Court of Appeal dealt with the second question first, approving the reasoning at first instance. Glencore argued that at English common law a fire defence would not include fires caused by negligence or barratry. Glencore also attempted to invoke the *travaux préparatoires* to demonstrate 'context' and 'purpose' of Hague-Visby.

"These arguments failed on the grounds that 'fire' was not a term of art and there was no existing judicial interpretation, or any other reason, to interpret its clear use in Hague-Visby other than by reference to its universally accepted meaning. It was not appropriate to impose English common law principles on international conventions especially where this would require substantial adjustment to the wording. The wording of Rule 2(b) contained no qualification as to how the fire had started or who had started it, and this was supported by a comparison with the wider wording of Rule 2(q). In coming to this conclusion the court was guided by the Vienna Convention on the Law of Treaties1969."

Glencore's attempt to rely on Volcafe, where reference to English law principles of bailment was made to decide the burden of proof under Hague-Visby, was also unsuccessful. This was mainly because, in contrast to the issues in the present case, Hague-Visby was silent on burden of proof.

In view of the finding on the second ground, it was unnecessary to decide whether the conduct of the chief engineer was barratrous.

The TT Club comments: "This is a welcome decision for carriers, confirming the availability of the Hague-Visby fire exemption (unless of course the ship is found to be unseaworthy). It is also a reminder that English Courts will seek to give plain meanings to words in international conventions. There are also lessons to be taken away on the selection of preliminary issues that cannot be resolved on the information made available to the court. "

ALARMING FACTS

Shipowners' P&I Club has recently released details of a survey on the effects of shipboard alarms on watch keepers that highlighted a number of issues that needed further attention to ensure safety.

In 2017/2018, the Club ran a survey in conjunction with the Department of Psychology at Royal Holloway, University of London, to investigate whether alarms on the bridge affected the attention and focus of bridge watchkeepers.

According to the Club: "It is evident from the feedback of these seafarers that the current regulations and arrangements relating to bridge alarm monitoring and systems can be improved upon to allow crew to fully utilise the benefits of the technology being made available to them. Doing so would improve the working environment of seafarers and may assist with the reduction of related claims experienced by Members and the wider maritime industry."

Some 89% of participants in the survey thought false alarms were a problem and, in a further question, 66% said the alarms were not easily detectable. Some 57% of responses disagreed that alarms are graded by sound.

The survey participants were asked to comment on their knowledge of alarms and the systems they represent. It was positive to note that 85% of participants agreed that they were aware of the alarms and the systems. Some 50% of participants reported some frustration with the format of the alarms themselves. The issues disclosed mainly concerned the sounds being the same tone for all alarms and there being no distinguishing factors between alarm systems.

Other issues raised included whether alarms that reoccurred frequently were ignored or silenced and not actioned, as they are not considered a priority when carrying out other navigation or watch-keeping duties and the survey also raised concerns a danger that the crew will not recognise the importance of the alarms sounding and could be unaware of an emergency developing.

Another concern was the crew's readiness to silence alarms without investigation due to "alarm fatigue" caused by repeated alarm soundings for no apparent reason. Some 45% of the respondents agreed that this happened. When this was analysed by the level of role, 44% of masters, 41% of chief officers, 48% of second officers and 60% of third officers agreed, showing that this practice was prevalent among all ranks.

A further concern is that, with respect to the Bridge Navigational Watch Alarm System, 24% of participants reported that they never or seldom engaged this system.

CLUB WARNS ON CARGO THEFT

Food and drinks, tobacco and consumer products are key targets for cargo theft according to a new report.

TT Club and BSI Supply Chain Services & Solutions have recently published their full year analysis of cargo theft, together with some tips on loss prevention.

According to the report, the risk of cargo theft continues to plague the industry and the companies warn in addition to the direct financial costs there are hidden and often more significant consequences connected to loss of market and brand reputation. Proceeds from cargo theft can also be used to finance other illegal trades.

Overall, food and beverages, alcohol and tobacco and consumer products account for 49% of all cargo stolen globally, according to the study. Electronics and clothing account for another 12% respectively

and together make up the top five targeted commodities.

There are regional variations in illegal activity. In Europe, over 75% of cargo theft occurs whilst in transit; with "slash and grab" tactics reflecting a combination of the very low number of secure parking locations and the lack of enforcement resource to target this type of crime across Europe. The UK accounts for an overwhelming 86% of reported incidents.

Across Asia, China and India are the countries where cargo theft is most frequently recorded. The most commonly targeted commodities in the region are food and beverages, metals and electronics, most likely influenced by local market conditions. While theft of cargo in transit is prevalent, the insider threat is more pronounced, as is the risk of theft from warehouse facilities.

In the Middle East and Africa region, cargo in transit is heavily targeted with tactics such as the impersonation of enforcement personnel often being selected as an effective means of compelling drivers to stop at the road side, according to the survey. Corruption in the region also plays a significant role in cargo theft incidents.

In North America, there are two distinct intra-regional trends. The first, concerning the US and Canada, involves perpetrators focusing on unattended and unsecured vehicles. The second trend is the much more aggressive and violent tactics employed by criminals in Mexico and the Central American countries.

The risk presented by the "insider" is also growing, according to the report and the recruitment of insiders becomes a more attractive proposition for those attempting to gain access.

The report highlights the importance of due diligence through recruitment and maintaining sound management controls. It is recommended that organisations implement layers of defence, starting with physical aspects, followed by clear management level procedures and policies.

DURABLE DAVITS

A new range of davits designed to increase safety and reduce corrosion of critical parts has been introduced to the market by safety solutions specialist Survitec.

Designed and manufactured in Europe, to European standards and with many elements made using European marine-grade stainless steel, the davits have been created to withstand the harsh environments in which they operate.

Marine-grade stainless steel is known for its resistance to corrosion, which is why key elements have been made from the alloy, including the remote-control function, shackles, securing wires and cover plate.

Further protection against corrosion is by way of a three-layer paint system that adheres to Norway's stringent NORSOK standards developed for the petroleum industry.

A grooved drum guides the fall into the correct position and packs it tightly within the drum as the fall is wound up and down during the lifting and lowering of the raft or boat. This ensures that the top layers of the fall wires do not force themselves into the lower layers, avoiding abrasion and possible bights of the wire, thus eliminating any jerking or snatching motions when the liferaft or rescue boat is lowered.

The davits are supplied as a fully tested and assembled unit, which can be installed in or out of drydock. Providing the pedestals have been installed and tested, a Survitec technician can assemble and commission the davit when the ship is in port, reducing the ship's downtime and costs. Survitec can also carry out the annual and five-year inspection and load tests on the davits.

According to Rob Wallace, global technical sales manager for lifeboats: "The upcoming amendments to SOLAS rules relating to davit-launched safety equipment enters into force in January 2020. We see this as an opportunity for owners and operators to harmonise their inspection and certification regimes, to minimise downturn and reduce costs."

GOING FOR GROWTH

Expanding the range and scope of commodities passing through the Great Lakes and St Lawrence Seaway is at the top of the agenda for local ports and political bodies alike

Canadian transport minister Marc Garneau recently announced an investment of $4.8m in Johnstown port to modernise the port's infrastructure and ensure it continues to provide access to international markets for agricultural producers in Eastern Ontario and Western Quebec.

The $10.4m grain export infrastructure renewal and expansion project includes a matching investment by the town of Edwardsburgh Cardinal and will enable the port to reduce inefficiencies and bottlenecks in order to continue to develop growing and emerging markets for Canadian soybean, wheat and corn.

Edwardsburgh Cardinal mayor Pat Sayeau says the investment underlines the important role Johnstown plays in providing access to international export markets for Eastern Ontario and Western Quebec agricultural producers via the St Lawrence Seaway.

"Our agricultural and marine industries are thriving, and the port strives to grow alongside them and to promote growth in our region. Johnstown provides 1,600 farms with access to market and we have seen exports grow by more than 150% since 2011."

Port general manager Robert Dalley adds: "By replacing nine outdated grain-loading spouts that date back as early as the 1930s with four self-supporting, modern spouts and by increasing storage capacity, this investment will deliver vital improvements. This is a good news story for the entire region and will greatly increase Canada's ability to increase exports."

The improvements include: increasing vessel loading efficiency by 60% and storage by 10%, reducing waiting times; streamlining the flow of products in and out of the port, reducing congestion; and enabling the port to continue servicing international trading vessels boosting growth for Canadian agricultural exports.

HAMILTON SUPPORT

Another port that has recently seen an increase in funding is Hamilton, once again with a view to upping grain exports. The government has announced a major investment of $5.5m for a project that will increase capacity at the port.

Hamilton is the primary export gateway for Ontario-grown grain to global markets. Currently, the port is facing capacity constraints at Pier 10 that result in shipping delays.

Expansion of the port will create additional export capacity for agricultural products by building covered storage for bulk goods, addressing congestion by creating additional docking space that will mitigate vessel wait time, and improving the efficiency of the transportation system and food-processing supply chain.

"Our government is investing in Canada's economy by making improvements to our trade and transportation corridors. We are supporting projects to efficiently move goods to market and people to their destinations, stimulate economic growth, create quality middle-class jobs, and ensure that Canada's transportation networks remain competitive and efficient," transport minister Marc Garneau says.

Ontario grain yields are increasing, and the project will provide 225,000t of additional grain export capacity per year. The project will create new potential export opportunities for soybean meal, brewers dried grain and canola meal destined for Asian markets.

THUNDER SURGE

The Port of Thunder Bay in Ontario has reported strong cargo volumes in recent months, with shipments of prairie grain, the port's primary commodity, ahead of figures for the same period last year.

As of the end of June, grain volumes of 2.5m tonnes were 9% higher than the same period last year. This is largely attributable to a 10-fold increase (+200,000t) in canola exports through the port this season. Canola exports from Thunder Bay to Europe and Latin America have surged since China, Canada's largest canola customer, closed its doors to Canadian shipments of the commodity. Canola shipments to China move through the West Coast ports of Vancouver and Prince Rupert.

Other cargoes crossing the docks in Thunder Bay during June included coal and potash mined in Western Canada, liquid calcium chloride for local consumption and an inbound shipment of pulp and paper mill equipment. Overall cargo volumes are 7% higher than last year as of 30 June.

RELIEF FOR RESIDENTS

Trying to balance the needs of local homeowners against those of commercial navigation are central to a decision by the Chamber of Marine Commerce to back the International Lake Ontario-St Lawrence River Board's plans to continue flow rates from the Moses-Saunders dam at 10,400m^4 per second.

"We are sensitive to the flood damage being done to homeowners. Given the plight of riparians, sustaining flow rates at these very high 10,400 CMS rates is the best compromise solution to deliver relief for Lake Ontario residents while maintaining safe, commercial navigation and supply to North American consumers. The St. Lawrence Seaway is a vital trade artery for both raw materials and global exports for North American industries, including grain, manufacturing, steel, construction, mining and energy sectors," says Chamber of Marine Commerce president Bruce Burrows.

Maintaining the 10,400 CMS outflow still results in a significant cost to the economy, with an estimated C$3m-$4m in business revenues lost for every day it is in place due to delays for all ship transits through the Seaway, according to the Chamber.

The Chamber's ship operators are following the new speed restrictions and additional mitigation measures

SAINT LAWRENCE RIVER

developed by the Seaway to ensure the highest safety standards to accommodate these outflows of water and the organisation's operations group has had positive feedback thus far from ships' masters that current water conditions are safe.

Raising water flows beyond 10,400 CMS would have significantly severe economic repercussions. "Raising water outflows further to unsafe levels would halt navigation on the St Lawrence Seaway and disrupt the supply of vital materials and products to industries and towns. This would cause significant harm to other parts of the economy and put jobs at risk," says Burrows.

Knock-on effects include the disruption of grain exports from US states and Minnesota iron ore exports to Canada and overseas, as well as impacting Quebec aluminum imports to Oswego (New York) and Toledo for automotive and appliance manufacturing; raw material imports for steel production in Ohio and wind energy components for projects in Minnesota, according to Chamber information.

In Canada, halting navigation would also severely impact Western Prairie and Ontario grain exports as well as the delivery of supplies to steel manufacturers across Ontario among other detrimental effects.

"Stop and go scenarios would also cause a cascade of traffic congestion in navigation channels, ports and significant safety challenges," says Burrows. "Water flows as much as 11,500 CMS have never been done before and it is uncertain whether ships could even safely anchor at these levels. Similarly, there is a risk that navigation buoys could drift out of position in those very high outflows, becoming unreliable or potentially obstruct the navigation channel.

"There has never been any study into the safety impacts of these kind of water flows on the system."

Burrows adds: "Going forward, a proper study into water levels and their causes should be done and a resiliency plan developed with all stakeholders."

ENVIRONMENTAL SCORING

Green Marine released its environmental performance report recently, which rates port authority participants in seven categories: air emissions, community impacts, dry bulk handling and storage, environmental leadership, spill prevention, underwater noise and waste management. Forty-two North American ports were rated and Duluth Seaway Port Authority highlighted the port's dry bulk handling and storage capability. Duluth ranked number 10 overall in the survey.

"We're proactive about minimising environmental impact," says Jeff Stollenwerk, Duluth Seaway Port Authority director of government and environmental affairs. "The Green Marine programme helps guide and inspire those efforts, while also giving participants a tangible scoreboard for environmental stewardship."

The voluntary Green Marine certification programme began in 2007 and now includes nearly 150 participating shipowners, port authorities, seaway corporations, terminal operators and shipyard managers. Programme participants must adopt practices and technologies that continually reduce their environmental footprint on the land, air and sea.

MOBILE MONTREAL

The Port of Montreal has announced it is to receive an $18.5m grant from Transport Canada's National Fund for Trade Corridors for its project to improve cargo mobility. The $37m project will increase the port's capacity, efficiency, and safety by reducing waiting times and bottlenecks.

Work for the project includes:

- The construction of a railway bridge where trucks exit the port to eliminate traffic conflicts between trains and vehicles
- The development in collaboration with the City of Montreal of an intelligent transportation system for port trucking to gain a better understanding of the origins and destinations of trucks outside the port territory
- The use of various message boards to provide information to truckers in real time
- The development of solutions with Port of Montreal partners to modulate the influx of trucks at entry points based on the optimised services offered by the terminals.

SULPHUR GUIDANCE

The US Coast Guard has issued further guidance to ships visiting US waters, with regard to procedures following the introduction of the global sulphur cap in 2020.

The use of cargoes other than methane as fuel is allowed in international waters under the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk, but US regulations have not established appropriate standards for use while the vessel is in US navigable waters. The use of methane as a fuel has been addressed and was originally intended as a means to control cargo pressure within the cargo tanks.

Currently, several liquefied gas cargoes are in use as marine fuel as a means to comply with the established ECA standards. Because US regulations are currently silent on the use of alternate gases as marine fuel on liquefied gas carriers, the US Coast Guard wishes to encourage owners/operators of gas carriers intending to use cargoes other than methane as fuel in US navigable waters to promptly seek approval of the Commandant.

INVESTMENT INITIATIVE

Australian ports and operators have been consolidating investments in the country to ensure vital supplies of energy, as well as developing new business streams in recent months

Development of the T-Ports grain facility at sites in Lock and Lucky Bay in South Australia has been continuing in preparation for deliveries of grain for the 2019 harvest.

The port's new transshipment vessel is on-track to arrive in Australian waters before harvest and T-Ports chief executive Kieran Carvill says bunker sites are close to being ready for harvest deliveries with only a few minor tasks still outstanding. "We are excited to be able to open the sites in October for grain receivals," he says.

"Construction is complete and now we are awaiting connection to mains power with SA Power Networks with final IT systems to then be installed in coming weeks. "All infrastructure and equipment has been purchased, including DOH stackers, weighbridge technology, and sampling probes."

Carvill explains as part of commissioning the Lock site, more than 4,500 tonnes of off-farm grain was delivered into Lock in April. "This grain was purchased through ADM and will be transported to Lucky Bay when required for export," he says. "It was a great opportunity to see the site in action."

The two bunker sites have a combined storage capacity of

approximately 500,000t – 360,000t in 10 bunkers at Lucky Bay and 140,000 in six bunkers at Lock. T-Ports is in discussion with major grain traders in regard to publishing pricing at Lock and Lucky Bay and Carvill suggests growers ask for a T-Ports option in their contracts. "We have provided the trade with all relevant information and we are hopeful they will capitalise on the strong interest from growers in the catchment area by including a dual pricing option for T-Ports deliveries when writing contracts.

"We know growers need to see pricing at site before contracting so we ask them to speak with their grain marketers about this and request a T-Ports option on contracts, subject to approval before harvest."

Construction at the port site is well underway. Concrete contractor Ballestrin has been deployed to build the silo foundation. The major silo tunnel floor and walls have been poured and work is underway to prepare for the pours of the three silo slabs.

Earthworks contractor Buttrose has begun wharf-side filling works in conjunction with placing and compacting the top layer of the road loop around the port. The haul road joining the bunker site to the port site has been completed along with the reconstruction of the acoustic mound. The next state is silo construction by Ahrens.

Carvill explains there will be three 8,000 tonne silos and a road intake building built at Lucky Bay port. "Ahrens has ordered the required equipment and has begun construction of various items at its own locations, which it will then transport to Lucky Bay. Kilic Engineering will be supplying equipment including bucket elevators and conveyor systems for the inload/outload of grain."

The Lucky Bay port site will be able to receive grain at a rate of 1000t/hour, while outturn on to the TSV is expected to be around 1500t/hour. The port will be completed by December and ready for shipping by January/February.

In Shanghai, installation of the material handling systems on the transshipment vessel *Lucky Eyre* is continuing. The equipment for material handling systems includes grain scrapers, bucket elevators, boom for loading the ocean-going vessel, gantries and electrical systems.

"The equipment is being supplied by a range of companies including Australian manufacturers and is currently being installed by ZPMG and CCCC in Shanghai. Carvill said the conditions off Lucky Bay had been considered and factored into the construction of the transshipment vessel, which will be able to operate in wind speeds up to 25-28 knots and wave heights up to 2.5m. The transshipment vessel will load ocean-going vessels five nautical miles off the coast.

CRUSHING EFFECT

McLanahan Australia is one local company providing equipment for the bulk materials business in the region. It has just recently completed the shipment of a medium triple roll crusher for a New Zealand coal company. The customer is currently processing lignite coal at a rate of 470 t/hr. With a maximum feed of 300mm, the customer's goal is to get to a final product size of 40mm.

The crusher is designed to reduce ROM feeds to market size in only one pass. It is predominantly used for harder coals and feeds that contain a medium/hard shale and is not suitable for crushing large quantities of rock and/or hard refuse.

The crusher contains self-aligning, anti-friction roller bearings that support the primary and secondary roll shafts. Weighing approximately 13.7t, and having a fabricated steel base frame and hopper, the machine is fitted with removable roll covers for easy maintenance and inspection of the rolls.

HEAVY LIFTING

Smart technology is the buzz phrase these days and Verton Australia has partnered with marine contractor Van Oord and heavylift specialist Mammoet to develop a new lifting method for installing wind turbines. Brisbane-based Verton has developed the R-Series for all crane operations with a remote-controlled load-management system that eliminates the need for human held taglines. The technology specialist was headhunted after being selected to participate in the maritime innovation platform PortXL in Rotterdam.

Verton's chief executive Trevor Bourne said the partnership with Van Oord and Mammoet, as well as a technical partnership with Danish wind turbine supplier Vestas, was a watershed moment for the company, which is attracting worldwide interest in the R-Series and has contracts in Australia with national crane company Universal Cranes and mining services company MACA Interquip.

"This has been a fantastic year so far for Verton and one of the highlights has been our involvement in the PortXL accelerator programme where, along with other scale-ups and start-ups, we have benefitted from the mentorships from companies such as Van Oord and Mammoet," Bourne says.

The technology that has created the R-Series is revolutionising suspended load-management for the transport, construction and mining industries among other sectors, he claims. "It provides unprecedented safety for crane operations as it eliminates the need for tag line use and associated workloads. Workers will no longer be near or under moving loads, thanks to the R-Series."

Verton's remote rotating device uses gyroscopic modules to rotate a suspended load. A new concept has been developed in which this unit is integrated into a lifting yoke for installing wind turbine blades.

LNG BACKING

The Port of Newcastle has received New South Wales Government backing for a proposed LNG import terminal at the port, which aims to future-proof the region as far as gas supplies are concerned.

The Newcastle GasDock project – with an estimated direct onshore investment of up to A$250m at the Port – has received Critical State Significant


BRISBANE PORT

Infrastructure status. The announcement underlines the need to significantly increase local gas supply, promote competition between suppliers and put downward pressure on the state's gas prices.

Port of Newcastle chief executive Craig Carmody comments: "This is a critical future-proofing project for the region. Projects such as the EPIK Newcastle GasDock project open a number of new trade opportunities, develop capability and support businesses and jobs across the Hunter Region and around New South Wales," he says.

The project – proposed by South Korean group EPIK – involves the use of an LNG Floating Storage and Regasification Unit to safely store the liquefied product and then convert it into a useable gas for industrial, commercial and residential customers in NSW.

The 170,000m^3 class FSRU will connect to a new jetty planned to be built on port land at Kooragang Island, enabling a connection to the existing East Coast natural gas network.

"We are working on a number of projects to diversify the Port and support importers and exporters to successfully compete in international markets," Carmody says. "Newcastle has a deepwater shipping channel operating at 50% of its capacity, significant port land available and enviable access to national infrastructure such as rail and road.

"As custodians of our region's critical asset, we are striving every day to create a safe, sustainable and environmentally and socially responsible Port for the future."

EPIK managing director Jee Yoon said the company was pleased with the project's momentum. "EPIK's primary objective is to deliver the most competitive infrastructure solution for natural gas imports into NSW," Yoon says. "Newcastle was chosen because of its strategic location close to significant industrial gas and power users, and access into the Sydney Short Term Trading Market, allowing natural gas imported through the Newcastle terminal to reach users throughout NSW and broader southeast Australian market at a competitive price point.

LOGISTICS INITIATIVE

Brisbane port and Australian logistics operator Qube Logistics have agreed to a 33-year extension of QUBE's existing lease on Fisherman Islands, incorporating an expanded area, taking the total lease area to 36.2hectares.

The 33-year extension takes the fixed lease period to 40-years and increases the total lease area by 4.88 hectares to support Qube's long-term growth.

Brisbane port chief executive Roy Cummins, welcomed the agreement and said Qube's commitment to continue operating at the port for another four decades was testament to the operational and logistical benefits of being located on-island.

"Qube is a major operator in the ports and logistics industry, and their ongoing – and growing – presence here at the Port of Brisbane speaks to the important role the port plays in facilitating trade growth not just for our customers, but for Queensland.

"One of the Port of Brisbane's industrial property strengths is our flexibility – we have one of the largest industrial landholdings in south-east Queensland. In addition to bringing new land online at our 224 hectare future port expansion area on Fisherman Islands, we also can offer available and configurable greenfield land spaces for medium-to-large developments, compared to a lack of industrial sites elsewhere in the region," says Cummins.

FUTURE PROOFING

New generation technology is very much at the centre of port developments in the Netherlands, with a number of innovative initiatives coming to fruition

Rotterdam port has launched a new company, PortXchange Products, as a vehicle for offering the Pronto platform and application to ports around the world over the next few years.

The establishment of a separate company will enable partnerships with a variety of global players – Shell and AP Moller-Maersk are just two companies involved in the project. PortXchange will initially offer Pronto to several ports outside the Netherlands.

The launch of PortXchange provides a platform to create new strategic partnerships with ports, shipping companies and terminals, geared towards implementing smart digital solutions like Pronto in ports worldwide. This in turn contributes to the ambition of Port of Rotterdam to become the world's smartest port.

Trust between parties for the free exchange of data is vital to the successful introduction of Pronto in other ports, the port authority says. The establishment of a separate company enables the solution's neutrality and independence, and improves co-operation between all parties.

The driver behind the new development is to improve port call efficiency as well as helping clients reduce emissions. Pronto is a joint platform that can be used by shipping companies, agents, terminals, port authorities and other maritime service providers, in order to plan, execute and monitor all activities during a port call based on the exchange of standardised data. In addition, Pronto enables just-in-time sailing, which helps reduce carbon emissions.

"By making our application available to ports across the world, we can optimise the potential of digital solutions," says Allard Castelein, chief executive of the port authority. "The more ports use smart solutions, the more valuable these become. The establishment of a separate company for Pronto's global roll out is an excellent example of this approach." The port also clearly hopes that the new development will give it a competitive advantage.

Pronto will be offered in several European ports and in the US before the end of the year, with a view to expanding coverage going forward. According to Grahaeme Henderson, vice president of Shell Shipping & Maritime: "We are moving towards a global, end-to-end digitally connected operating environment for shipping, as in the airline industry. For example, at Shell, our onshore digital centre is able to analyse 500 data points a second in real time from each ship we manage.

"In partnering on Pronto, we can see opportunities to extend this work to optimising port operations. The results of our trials so far have already shown the great benefits in increased efficiency, reduced fuel and operating costs, and lower emissions."

Kent Stig Hagbarth, head of operations execution at AP Moller-Maersk adds: "We see a significant need and opportunity to improve the collaboration, communication and single data usage among port participants for optimised sailing and port calls for vessels. The aim of the Pronto platform – to enable just-in-time arrival and optimise the port stay of our vessels – not only enables us to increase schedule reliability to the benefit of our customers but also to achieve our goal of reducing our CO^2 emissions."

BLOCKCHAIN ACTION

The first blockchain applications in the Port of Rotterdam are beginning to take shape. With BlockLab – established by the Port of Rotterdam Authority and the Municipality of Rotterdam – the concentration is on two areas: logistics and energy. Blockchain may not be the solution to all problems, but does

eliminate the lack of trust that stands in the way of solutions, the port suggests.

The two partners jointly launched BlockLab two years ago for the development of concrete applications and solutions based on blockchain technology. The basic idea behind the technology is that users can conduct transactions without involving a third party. Data technology guarantees the necessary checks and balances and ensures that the transaction is processed automatically.

Blockchain is suitable for co-ordinating processes in decentralised networks of companies and institutions, according to the port.

In a network without central leadership, trust is often lacking. It is exactly this trust that is needed for the large-scale data sharing that simplifies and accelerates processes. Blockchain provides that trust, partly because all relevant data is recorded in a secure way on a huge number of computers. Manipulating or deleting data is virtually impossible.

There are two key networks in the Port of Rotterdam in which such a decentralised element plays an important role. The first is the traditional centrally-controlled electrical grid, supplied by a few dominant power suppliers with coal-powered plants.

This is changing now that the energy transition is slowly beginning to take shape. In and around the port there are now numerous wind turbines and solar panels supplying power to the electrical grid. This is resulting in an increasingly decentralised grid.

Such a decentralised electrical grid faces a number of significant challenges. The supply of sustainable energy sources is, for example, extremely irregular. This demands a smart network that continuously aligns supply with demand.

"Blockchain is the technology that can facilitate such a smart, decentralised gird and help achieve the promise of the energy transition", explains Janjoost Jullens, BlockLab energy leader. "The focus on blockchain is geared towards increasing the share of sustainable energy."

BlockLab is working hard on a number of concrete projects. Together with S&P Global Platts, BlockLab is building a platform that co-ordinates the supply and demand of energy. "You can't simply switch the sun and wind on and off. This makes it difficult to make optimum use of these sustainable energy sources. What happens now is that wind farms are paid to shut down the wind turbines, simply because the grid operators cannot use all that power. In Europe and North America, we are losing billions through these kinds of inefficiencies," explains Jullens.

An intelligent trading platform can offer price incentives that encourage purchasers to modify their behaviour. For instance, by storing energy temporarily until they need it, or using energy at the times when the supply is greater. For instance, a cold storage warehouse that uses wind power at night to reduce the temperature by a few extra degrees so that it can switch off the refrigeration system during the day.

"With blockchain, we can design such a trading platform safely and efficiently. Moreover, we can automate the trade by establishing 'smart contracts'. Such a smart contract is a collection of logical rules that enables decision-making processes to be automated. For instance, the option of using energy automatically from a charged battery if the energy price exceeds a certain value."

CHIP OFF THE BLOCK

Recycling is one area that has been gathering pace in the Amsterdam area, with a waste woodchip facility operated by Mercore based on the Overslag Bedrijf Amsterdam site.

Mercore exports B-grade waste wood chips sourced from sorted construction and demolition waste and collected industrial waste. The quality of these materials previously only made them suitable for energy generation in biomass plants. By processing the waste materials further so they can be used to manufacture new chipboards, Mecore has created an effective recycling solution for large amounts of B-grade timber in the Amsterdam Metropolitan Area.

According to the company's owner and director, Jack Jennissen, Mecore is a pioneer in the processing of B-grade timber for the first delivery under this contract. "Whereas before we were only able to use higher-quality waste wood (A-grade and A-B- grade), thanks to improved techniques and purchasing practices we can now also process B-grade wood into usable raw materials."

This marks a great leap forward from a logistics point of view. "Since the Netherlands has no chipboard/MDF/HDF/OSB-producing industry, we always relied on road transport to the surrounding countries. The fact that it's now loaded on to a ship immediately after it has been processed and the buyer has its own wharf facilities, road transport is kept to an absolute minimum."

Since January this year, Mecore has been using a section of the OBA site for wood-chip exports, having reserved part of the coal-processing site for this purpose. For OBA Bulk Terminal, these additional volumes form part of the further expansion if its operations; one of its stated goals is to increase the open transshipment of processed circular and recycling cargo flows.

With demand for the transshipment of coal as input for power generation expected to decline, a gradual transition to a multi-purpose bulk terminal on OBA's nearly 700,000sq m industrial site in the western port area is one of the company's key strategic objectives. This is also consistent with Port of Amsterdam's policy to adopt more sustainable practices in the port.

DRONE POWER

A new drone is being used for ship inspections in locks in the Netherlands.

The Telemetron, a sailing drone that inspects the depth of marginal ships at the locks of IJmuiden, shows that drones can do more than just fly. The aim of this pilot, a collaboration between Port of Amsterdam, the Dutch Customs Office, Seabed and Maritime Robotics, is to gain experience in new technologies in nautical processes.

The pilot has been set up with a view to gaining more information and experience regarding sailing drone

technology. This development, together with autonomously sailing vessels, will have a great impact on future nautical processes. An experiment in July took the first steps to examining the impact, the potential of the technology for Port of Amsterdam and the steps Port of Amsterdam has to take to prepare for a more structural deployment in the future.

The pilot has been set up in collaboration with Seabed. This system integrator from Amsterdam has brought over the research vessel Telemetron of Maritime Robotics in Norway to the Netherlands for the test. The Dutch Customs Office also took part to scan the hulls of vessels entering the ports.

For the pilot, it was decided to examine the inspection process of marginal ships. Marginal ships are vessels of which the depth is such that they require an exemption for passing through the Noordersluis lock.

The inspection process, which involves a salt measurement at Forteiland and reading out six marks on the hull of the ship, is well-suited for testing drone technology. During the week, the drone was deployed in various sub-scenarios for the depth inspection process simulation.

Commenting at the time, Joost Zuidema, project manager of Port of Amsterdam, said: "Safety is our number one priority, hence our decision to have a boatmaster on board the Telemetron during the test phase. We can test the autonomous sailing in a subsequent phase. Together with the various parties, we want to use this pilot to gain experience and insights into the possibilities, and so be prepared for what the future brings. Foresight is the essence of management."

FORKLIFT FORCE

Kalmar is to supply C.RO Ports with eight Kalmar heavy-duty forklifts for use in three of their European terminals. The order, which also includes a Kalmar Complete Care service contract covering all the machines, is scheduled to be completed during the fourth quarter of this year.

C.RO operates ro-ro terminals in the UK, the Netherlands and Belgium, all of which are dedicated to the handling, storage and on-carriage of trailers, containers, vehicles and general cargo. Three of the Kalmar forklifts are destined for C.RO's terminal in Belgium, two for its terminals in the Netherlands and three for its UK terminals.

Kalmar heavy-duty forklifts are powerful and reliable machines designed to cope with the heaviest and most challenging lifting operations. They are trusted by customers around the world for their reliability, flexibility and precision in a wide variety of terminal and heavy-industry applications. The machines will be connected to the Kalmar Insight performance management tool, which helps to improve operations by turning data into actionable, impactful insights.

Paul Van Malderen, COO of C.RO Ports, says: "We have been using Kalmar machines for many years and have always appreciated their quality and reliability. The tier-4 compliant engine technology in the new forklifts will help us to reduce emissions in the terminals and meet our sustainability targets, while the reverse warning system and speed limiters will ensure we maintain our excellent safety standards."

SOLAR POWER

As part of its ongoing commitment to sustainability, Damen Shipyards Group is having solar panels installed at a number of its Dutch yards. Collectively, the installations will provide approximately 11,000 MWh clean electricity per year.

Project manager Gerard Kornet of Damen explains: "At Damen, we always take a long-term view. It's part of our culture as a family company – we want to ensure the sustainability of the business for the next generation. This means that what we do has to be both profitable and in tune with the environment in which we operate. We have a very strong focus on this and are continually considering initiatives that can contribute to a sustainable maritime industry."

The project will see 42,000 solar panels installed on the rooftops of production facilities at eight Damen shipyards in the Netherlands. Collectively, the panels will cover some 75,000m^2 and generate 13% of the energy required by Damen's annual operations in the country.

Yards in the project include Damen Shipyards Gorinchem West, Damen Dredging Equipment Nijkerk and Damen Shipyards Hardinxveld. By the end of the year, Damen Maaskant Shipyards Stellendam and Amels will also follow, with Damen Verolme, Damen Shiprepair Rotterdam and Damen Shipyards Gorinchem East both undergoing installation before the end of 2020.

Kornet explains: "We are further developing the programme with the intention of assessing the viability of rolling out more solar panels – as well as wind energy – to our other shipyards, not only in the Netherlands, but also internationally. Wherever we are working in the world, we are committed to making sure our operations are as clean as can be."

SEEKING SOLUTIONS

News from the Middle East has been dominated in recent weeks by the likely effects of the seizure of the oil tanker *Stena Impero*

Following the seizure of the oil tanker *Stena Impero* on 19 July, there was a united response from the International Chamber of Shipping (ICS), the European Community Shipowners' Associations (ECSA) and the Asian Shipowners' Association (ASA), which joined together to urge immediate action by the international community to stop the escalation of tensions and fully respect international law.

"Freedom of Navigation is vital for global trade and is a fundamental principle of international maritime law," said Guy Platten, ICS secretary general. "Seafarers and ships must be allowed to operate in safety, and it is simply not acceptable for them to be used as bargaining counters in any way."

ECSA secretary general Martin Dorsman, meanwhile, stressed the importance of EU member states working with Iranian authorities to try and de-escalate the situation in the Strait of Hormuz to safeguard traffic through the waterway.

"The Strait of Hormuz is the only route in and out of the Gulf and one of the critical shipping lanes for Asian countries that also connects Europe and Asia. We therefore urge all countries to completely secure the safe passage by respecting the freedom of navigation and the right of innocent passage as enshrined in the UNCLOS, and to push for a complete de-escalation of tensions in the region," added Ang Chin Eng, ASA secretary general.

While there has been a show of solidarity from shipping organisations on finding a solution to the standoff, the vulnerability of international shipping to trade disruptions has been emphasised once again, when the industry is already feeling the effects of trade sanction action by the US and China. The relative positions of different trade groupings – notably the US position regarding Iran – and EU country support for sanctions against Syria have left many observers wondering about the likely outcome.

GETTING CONNECTED

Despite recent tensions, there have been a number of positive moves for Middle Eastern ports in recent months, notably in terms of connectivity. In line with current moves to make ports more connected generally, Sohar Port and Freezone in Oman has launched Sohar Navigate – an online route planner that provides information on available connections to hinterland destinations. The platform is the first of its kind in the region and will comprise of sea schedules connecting to 550 ports worldwide.

Commenting on the launch of the proprietary tool, Mark Geilenkirchen, chief executive of Sohar Port, says the Navigate platform was initially launched by the Port of Rotterdam. "It is considered the most comprehensive route planner of its kind. Capitalising on this technology, we have modified Sohar Navigate to suit our regional and global stakeholders and provide them with outreach, as well as a user-friendly means to locate the most efficient and optimal routes for their activities. Users of Sohar Navigate are able to plan routes from specific areas, via Sohar, in an easy and convenient way."

The platform takes into consideration the specified point of departure and the desired final destination, to offer the user several different routes. Based on modality and expected transportation time, users can then choose whichever option works best for them. The platform also offers extensive analysis tools and dashboards with relevant user data.

Anacin Kum, chief executive of Hutchison Ports Sohar, adds: "Sohar Navigate has been developed especially for companies seeking smarter ways to plan their container transports. The launch of the beta version of this tool is a good first step and we are excited about its role in the global logistics market. With the addition of more operational data, Sohar Navigate will become an increasingly valuable resource to improve efficiency within the supply chain. It will also provide visible and convenient options for local importer and exporter groups, who generally rely on logistic providers."

DUBAI INITIATIVES

In line with its efforts to build a secure, renewable and sustainable maritime sector, Dubai Maritime City Authority (DCMA) has successfully completed its maritime traffic inspection programme, which took place in emirate waters during the first six months of 2019. The aim of the initiative is to bolster maritime regulatory processes and operational procedures with a view to giving impetus to Dubai's on-going initiatives to build itself as a maritime hub.

The DMCA's Maritime Inspections Department has conducted extensive inspections between January to June of this year, undergoing a series of maritime

safety campaigns aimed at enhancing the integration of maritime safety, safe navigation and efficiency operating along the waters of Dubai.

Abdullah Bin Touk, director of marine inspection, DMCA, says: "These inspections are part of our efforts to respond effectively to the growth of the maritime movement, which is a result of the growing confidence in the local marine environment in light of the pioneering efforts of DMCA to improve all aspects of the maritime sector through fruitful partnerships with the public and private sectors.

"It is our responsibility to take all measures to ensure the efficiency of maritime operations, considering all aspects related to environmental safety and security, in line with our aspirations to achieve the objectives of the Dubai Maritime Sector Strategy."

Marine inspections have involved the adoption of state-of-the-art smart devices to complete and the ability to issue reports and licenses directly on board of the marine vessels of all kinds.

"We look forward to raising awareness about ensuring safe navigation and the successful operation of all maritime methods, using the latest technological innovations and in joint co-ordination with our strategic partners throughout the year, in line with our efforts to improve maritime, logistics and marine services and operations to promote Dubai's position as a leading maritime centre globally," concludes Bin Touk.

In pursuit of the successful completion of maritime inspections, DMCA has launched a new Smart Portal (*https://eservices.dmca.ae*) to provide integrated and adoptive services and smart turnaround, including the scheduling of inspections, tracking the status of required services and notifications about updates and announcements where customers can receive email and SMS notifications as well as a verification checklist.

The DMCA has also announced that it has started facilitating ship traffic for new waterfront projects in Dubai. The move is in line with the continuing efforts to promote and develop the emirate's maritime industry based on global standards and in line with the set goals and objectives of Dubai's maritime sector strategy.

According to the DMCA's senior officials, the authority has reportedly completed the process needed to officially provide naval assistance, including the power to grant approval for ships to set sail, drop anchor and move from port to port using maritime lights and the Automated Identification System (AIS) – new shipping technologies that represent a stronger push in the move towards ensuring safety, safe navigation and operational efficiency for maritime means within the territorial waters of Dubai.

Mohammed Khalifa Al Huraiz, director of waterway control, DMCA, comments: "This demonstrates our commitment to establish and achieve a feeling of secure navigation through the use of the latest technologies, including advanced IT systems to avoid collisions and help getting the necessary information about location, direction, speed, world timing and the registration number in the International Maritime Organization"

"We look forward to regulating the ship traffic in all ports – a move that falls in line with our ongoing efforts to improve the performance, safety, efficiency and competitiveness of the local marine community components.

We are confident in being able to further regulate the movement of ships at all ports, which are one of the most important components of the local maritime sector, to serve the objectives of the Maritime Sector Strategy, which is aimed at developing, regulating and strengthening the maritime operations to reach a safe, renewable and sustainable maritime sector."

DMCA also held a meeting of the Maritime Advisory Committee. The meeting, attended by maritime stakeholders from both the public and private sectors, included key discussions on how to provide full support in the ongoing efforts to maintain the highest global maritime safety standards in Dubai's territorial waters while also placing strong focus on the move to enhance readiness and responsiveness of newer maritime facilities.

STEERING AHEAD

The Aqaba Development Company (ADC) has completed the installation of the first oil-tanker steering gear of international standards at the Aqaba Oil Terminal in Jordan, located within the new southern port.

Terminal director, Mohammad Louama, says the new and upgraded system utilises laser technology to monitor speed and calculate distance, thus facilitating the process of docking tankers at night.

The previously used docking mechanism relied on the estimations and expertise of the maritime piloting crew, thus making it difficult to dock tankers at night.

The new system will provide maritime pilots with accurate readings, in addition to mitigating risks and facilitating docking procedures at any time during the day. The upgrade is part of a project that seeks to develop the Aqaba Oil Terminal, Louama says.

The equipment upgrade will contribute to an increase of the terminal's operational capacity. The oil terminal, which is currently being upgraded by ADC, is a key part of the of the Aqaba ports' structure.

The oil terminal is the only place from which Jordan derives various raw oil and petroleum products that are not provided by the Jordan Petroleum Refinery Co, in terms of production capacity.

It is also the only source of liquid chemicals that are needed within a number of fields, including medical equipment and industrial enterprises.

ADC is planning a number of projects to habilitate and develop the oil terminal, which include building 11 pumps, five for crude oil, three for petroleum products and three for LPG.

As part of the development efforts, the company will work on increasing the operational and handling capacities of the port from seven to 14 million tonnes annually, by installing robotic arms to facilitate the process.

TERMINAL TALES

CYBER SAGA

If the maritime industry thought it was lucky in terms of cyber attacks – setting aside famous incidents like the one at Maersk a year back – the Norwegian National Security Authority is warning them that maritime is providing a particularly attractive target.

There have been a number of targeted attacks on the maritime sector since June this year, according to the authority and oil and gas has also been in the spotlight from this respect. E-mail and other social media sites such as WhatsApp, LinkedIn and Facebook have been particularly popular as potential means to attack companies. In view of the increasing emphasis on remote systems in ports, this is certainly something to keep in mind.

FOLLOW THE FLAG

Recent events in the Strait of Hormuz and the fact that some flags become unpopular for political reasons beyond their control makes one wonder what the best approach is for ship owners. Flagging out is obviously a key part of the industry, albeit that people outside the industry sometimes don't understand. This was particularly apparent when it began to filter down to the man and woman in the street that the Stena ship at the centre of negotiations with Iran was in fact Swedish owned, as opposed to British, or more precisely Scottish, depending on whether one was looking at the flag or the location of the ship's manager. Once a multi-national crew was added, there was complete confusion as to which approach should be adopted. Clearly a good example of ensuring the shipping stays out of politics.

WHAT A CORKER

Whatever you may think of Brexit, perhaps it will be good news for those in the customs business, as the Irish Port of Cork has announced it will be expanding its customs facilities in preparation for a non-deal Brexit on 31 October. According to port CEO Brendan Keating, there have been plenty of simulations of what is likely to happen if the UK leaves the EU without a deal.

"Larger customs facilities will ensure that we can continue to ensure prompt vessel turnarounds and efficient supply chains without extended interruption from any additional administrative formalities."

Well, that's OK then.

DIESEL DELIGHT

There was good news for Associated British Ports, when the port of Immingham welcomed the first vessel in a new contract with customers Top Blue and The Fuel Trading Company.

The new deal is expected to bring an extra 30,000 tonnes per year through the port of Immingham – the largest port by tonnage in the UK. The cargo being delivered is prilled urea, which is a key part of the mixture for the AdBlue market.

AdBlue is a fluid that is put into vehicle exhaust systems, helping to reduce emissions produced by diesel engines. With car manufacturers having to follow strict emissions targets, AdBlue is vital to make sure diesel cars are kinder to the environment.

As diesel cars are now on the hit list, this should be welcome news.

PIRATE PLOY

While on the subject of flagging, there was some suggestion recently that if things really started to heat up in the Strait of Hormuz, flagging vessels in China might be the way to go as no-one wants to stop flows of goods to and from the country. The only problem here is what to do if flying a Chinese flag and visiting the US, which would, presumably be a problem.

This reminds one of the old pirate ploy of flying a friendly flag and then running up a skull and crossbones nearer the time of contact – not, of course, that we are suggesting anything along these lines!

WHAT'S ON

The not-to-be-missed events for all those in the industry

SEPTEMBER 2019
GLOBAL GRAIN SOUTH AMERICA
SAO PAULO
www.globalgrainevents.com/south-america/details.html

24-26 SEPTEMBER 2019
STORAGE AND DISCHARGE OF POWDERS AND BULK MATERIALS
CHATHAM
www2.gre.ac.uk/about/faculty/engsci/research/groups/wolfsoncentre/coupro/sc

2-3 OCTOBER 2019
SOLIDS
ROTTERDAM
www.easyfairs.com/solids-pumps-valves-2019/solids-rotterdam-2019/

8-9 OCTOBER 2019
BULK TERMINALS 2019
AMSTERDAM
www.bulkterminals.org/events.html

15-18 OCTOBER 2019
GREENPORT
OSLO
www.greenport.com/congress

15-16 OCTOBER 2019
AFRICA PORTS EVOLUTION
DURBAN
www.transportevolution.com/

22-24 OCTOBER 2019
OVERVIEW OF PARTICULATE HANDLING TECHNOLOGY
CHATHAM
www2.gre.ac.uk/about/faculty/engsci/research/groups/wolfsoncentre/coupro/sc

29-30 OCTOBER 2019
TOC AMERICAS
CARTAGENA
www.tocevents-americas.com/en/Home.html

03-04 NOVEMBER 2019
LMA, LIQUIFACTION OF BULK CARGOES
LONDON
maritime.knect365.com/liquefaction-bulk-cargoes/

05-08 NOVEMBER 2019
EUROPORT
ROTTERDAM
www.europort.nl/

11-14 NOVEMBER 2019
ICHCA INTERNATIONAL CONFERENCE
MALTA
https://ichca.com/ichca-international-conference-2019

12-13 NOVEMBER 2019
PNEUMATIC CONVEYING SYSTEM DESIGN
CHATHAM
www2.gre.ac.uk/about/faculty/engsci/research/groups/wolfsoncentre/coupro/sc

14 NOVEMBER 2019
ROTARY VALVES: DESIGN, SELECTION AND OPERATIONAL ISSUES
CHATHAM
www2.gre.ac.uk/about/faculty/engsci/research/groups/wolfsoncentre/coupro/sc

26-28 NOVEMBER 2019
INDIAN COAL MARKETS CONFERENCE
KOLKATTA
www.indiancoalmarkets.com/