BULK TERMINALS *international*

AUTUMN/WINTER 2017

THE OFFICIAL MAGAZINE OF THE ASSOCIATION OF BULK TERMINAL OPERATORS

TESTING TIMES
ABTO calls for overhaul of liquifaction testing protocols

UP FOR GRABS
How the right grab will impact on every stage of the production and port handling process

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WELCOME

BY SANDRA SPEARES

Bulk carrier safety has continued to be a major issue in recent months as the industry awaits the results of the inquiry into the ore carrier *Stellar Daisy,* which sank off the coast of Uruguay back in March

It is to be hoped that the inquiry into the South Korean-owned large ore carrier *Stellar Daisy* is completed in good time and that the industry can learn from a tragedy so that it is not repeated in the future.

The inquiry is bound to call into question the use of converted VLCCs as ore carriers on specific trades. A recent online poll suggested that the majority of respondents believed that using former tanker tonnage for carrying bulk cargoes should not be allowed and such ships should go to scrap.

Ore trades continue to be attractive as China's appetite for bulk ore cargoes continues unabated and may also be encouraged by regulatory changes in the country. There have been a number of high-profile orders in Far Eastern yards for VLOCs in recent months aiming to cater for demand.

Cargoes that may become dangerous under certain conditions are not new, but there have been concerns that the liquefaction incidents prevalent in the past may be on the rise again.

Whether testing procedures in ports for moisture in cargoes are adequate has been a particular area of concern for ABTO and Mike Bradley, head of Greenwich University's Wolfson Centre for Bulk Solids Handling Technology and an ABTO advisor, says current methods available to a ship's master for identifying the dangers of cargo liquefaction – the so-called "splash" and "can" tests – are very rudimentary (see page 27).

Greenwich has come up with a potential test that is simple and easy to accomplish. It is based on the air voidage within the cargo sample and uses Archimedes Principle to measure the air in the sample. To take the test forward to the next stage, funding will be needed and it is to be hoped that insurers, classification societies and the like might contribute to coming up with what may be a very simple solution to a potentially devastating problem.

> "Cargoes that may become dangerous under certain conditions are not new, but there have been concerns that the liquefaction incidents prevalent in the past may be on the rise again

Carriage of bauxite cargoes has also been on the agenda. A new warning that bauxite may become unstable when carried in bulk on a ship, potentially causing the vessel to capsize, has been issued by the International Maritime Organization (IMO).

Bauxite is one of the world's major sources of aluminium, with around 100 million tonnes transported annually by sea. In 2015, a bulk carrier sank while transporting bauxite, with the loss of 18 seafarers.

Research presented to an IMO Sub-Committee found that certain forms of bauxite with a large proportion of smaller particles could be subject to a newly-identified phenomenon of "dynamic separation" when there is excess moisture in the cargo.

Bulk carrier safety and the reliability of storage facilities at ports, not to mention testing facilities and capabilities, will be just some of the hard-hitting topics to be tackled at ABTO's forthcoming conference.

We hope you enjoy this latest edition of *Bulk Terminals International* and also our inaugural conference later this month.

BULK TERMINALS *international*

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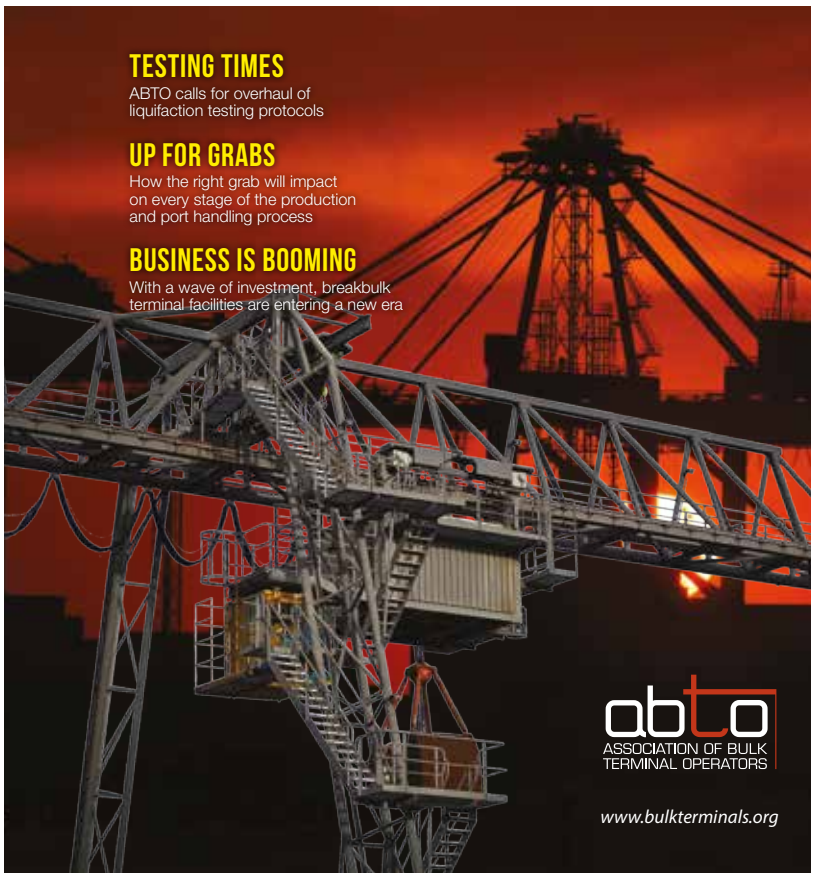

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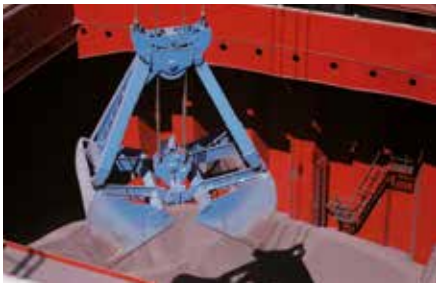

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JOIN THE DEBATE

IAN ADAMS, CHIEF EXECUTIVE, ABTO

Welcome to the latest edition of *Bulk Terminals International*. We hope that you are finding the magazine a useful and interesting read.

The International Maritime Organization (IMO) recently held meetings of the sub-Committee on Carriage of Cargoes and Containers (CCC), 11-15 September 2017 and the Editorial and Technical Group of CCC (E&T 28) 18-22 September 2017.

CCC remains the principal sub-committee of interest to ABTO considering, as it did, amendments to both the International Maritime Solid Bulk Cargoes (IMSBC) Code and the International Maritime Dangerous Goods (IMDG) Code.

The E&T Group alternates between working on the IMSBC Code and the IMDG Code. On this occasion, the focus was on the IMDG Code, ensuring that the editorial corrections of amendment 38-16 were completed before they enter into force on 1 January 2018. It also considered the draft amendment 39-18, which will be finalised next year.

During CCC 4, ABTO was primarily interested in the debate regarding Bauxite and Seed Cake, which have been placed under the responsibility of one working group (WG). Chaired by the irrepressible Dr Ota from Japan, this WG proved to be very effective at completing the tasks given to it by the sub-committee.

This WG spends a considerable amount of time considering schedules for cargoes and in so doing must decide on the hazards presented by the various cargoes. There are three basic groups that all cargoes must be considered for:

» Group A consists of cargoes that may liquefy if shipped at a moisture content in excess of their transportable moisture limit.
» Group B consists of cargoes that possess a chemical hazard which could give rise to a dangerous situation on a ship.
» Group C consists of cargoes which are neither liable to liquefy (Group A) nor to possess chemical hazards (Group B).

Seed cake consists of the residues remaining after oil has been mechanically expelled or extracted by solvent or other chemical processes from oil-bearing seeds, grains, cereals, fruit or vegetables. They may be shipped in the form of pulp, meals, cake, pellets and expellers. The risk that it presents is that the cargo may heat spontaneously. It is thus liable to oxidise, causing subsequent reduction of oxygen in the cargo space. Carbon dioxide may also be produced. This is only a hazard when the material is shipped in bulk and so it is further classified as Material Hazardous in Bulk that is Self-Heating MHB (SH).

Bauxite has been subjected to a great deal of attention ever since the loss of the *Bulk Jupiter* in January 2015. I am sure many of you reading this will recall that the *Bulk Jupiter* had loaded a cargo of Bauxite in Malaysia and was en route to China when she developed stability problems and sank in just 20 minutes from the crew realising that there was a problem.

During loading, it took a total of 13 days to load 46,400 tonnes of Bauxite. The delays were a combination of heavy rainfall (Malaysia East Coast had almost two metres of rainfall in just 22 days) and mechanical problems with the loading cranes. Although the loading was stopped during the rain and the hatches were closed, crucially the cargo on the dockside was uncovered.

At CCC 4 the report of the Global Bauxite Working Group (GBWG) was received. This report was passed to the WG to consider when developing a new schedule for Bauxite. Previously it had been believed that Bauxite could not liquefy because it is insoluble in water. The work of the GBWG defined a new term "Dynamic Separation". This is where the moisture in the cargo separates form the cargo and forms a free surface effect on top of the cargo. So, whilst the cargo has not liquefied in the purest sense of the word the effect is the same causing a vessel to become unstable or "wobbly".

At *Bulk Terminals 2017,* the Safety and Environment Session will look in detail at issues of Liquefaction and Dynamic Separation, how to manage potentially difficult cargoes and how to identify them.

Members can access all relevant IMO papers in the Regulatory Updates section of the members area on the ABTO website.

In an article in this magazine, Professor Mike Bradley talks about an alternative test to the "Can Test" which can be used by ships masters to identify potentially dangerous cargoes. ABTO fully endorses the initiative and is firmly of the mind that anything that can be done to improve the safety of ships and seafarers must be fully explored.

When you are reading this article, it will be about a week to go to *Bulk Terminals 2017*. As well as the issue of liquefaction mentioned above we have sessions on the Markets, Biomass, Security and Operational Efficiency.

The markets are always an interesting subject, particularly in the Dry Bulk world. We are already seeing some improvements in the markets largely due to the large numbers of vessels that have been scrapped. However, we are also seeing an upturn in the number of newbuilds being ordered on the back of the improved market conditions. It will be very interesting to hear what our panel has to say about their view of the future conditions. Is the time now right for increased investment or should everyone still be a little more cautious?

Biomass is still something that we are gaining knowledge and experience in. The presentations at the conference cover various aspects of handling biomass and include two case studies, which are always a great way to learn.

Security and in particular Cyber Security is a subject that seems to be on everyone's lips these days, not least of all since the recent spate of attacks. If it is possible for these attacks to affect a company the size of AP Moller-Maersk then it is an issue that we all need to consider. Another distinguished panel of speakers will be making presentations during *Bulk Terminals 2017*.

Last, but certainly not least, the issues affecting operational efficiency will be explored. This session includes an update on the progress made by BIMCO with its terminal vetting scheme, which was launched in 2014.

WORLD NEWS ROUND-UP

There are predictions of a shake-up in the marine insurance sector, plus a look at fully automated terminals, BIMCO's guidance for seafarers on the safe launching of lifeboats and all the latest on high-tech performance monitoring tools

IUMI WARNING ON INSURANCE

International Union of Marine Insurers President, Dieter Berg, mentioned an environment of disruption at latest IUMI conference.

Disruption, according to Berg, is the raft of technology and business innovation that is destroying existing business models and which extends to every corner of the business world. It is exacerbated by the current macro-environment of a stagnant economy and increasing national protectionism that is continuing to affect premium income, he told IUMI members.

Incoming innovation is already impacting activities such as electronic navigation and smart port logistics and is driving new initiatives including autonomous shipping and intelligent containers.

Berg explains: "We need to inhale innovation. Digitalisation will change the way our clients operate and we, as marine insurers, must follow suit. In the future, insurance will be placed on electronic platforms as our next generation of clients will want 24/7

access to insurance products and instant responses. The insurance value-chain will shrink and the role of the broker will inevitably be impacted as well. Because of this, it is likely that global premium income will continue to reduce and this means that we, as marine insurers, need to change our game and find additional streams of revenue".

According to Donald Harrell, Chairman of IUMI's Facts and Figures Committee: "Global premium income continues to fall and this puts pressure on our sector. Although, fortunately, we are seeing only moderate major losses currently, that situation can reverse at any time.

"Hurricanes Harvey and Irma are examples of this and their true impact is yet to be seen. Exposure to risk will only increase as vessels grow larger and values accumulate in port. A drop in premium income makes it challenging for underwriters to continue to cover their obligations, particularly in relation to major losses."

"Uncertainty exists throughout our market. Although the global economy appears to be improving, significant concerns or situations could lead to a stall and that will directly impact marine insurance. Global trade might be affected by Brexit as well as the current threat of a more competitive US trading policy created by punitive import taxes and lighter regulation on manufacturing.

"These changes to global trade flows and trade agreements will affect our sector as they evolve. Continuing uncertainty is the only certainty for marine underwriters for the remainder of this year and beyond."

AUTOMATION INTEREST

Autonomous ships and port technology have proved to be increasingly topical the issue has been appearing on many conference agendas. One driver is the need to reduce accident both at sea and in ports and automation is seen as a key way of achieving this.

Ahead of the rising automation that takes place within the shipping industry, Finnish port equipment manufacturer Kalmar stresses that "a zero accident port is definitely a mission possible", suggesting that machines detect their surroundings and notice things that human eyes and ears might not, thus helping humans to prevent accidents.

"Automation enables both machines and humans to concentrate on what they are good at. The human mind is superior in terms of planning, innovation and perception," says Kalmar Vice President Frank Kho,

> "Exposure to risk will only increase as vessels grow larger and values accumulate in port"

He believes even in a fully automated terminal of the future, there will be more people around than "just that man and his dog." Although large terminal areas can already function completely unmanned, they still can never be entirely staffless, as human intervention is crucial.

Humans will work side-by-side with intelligent robots and other automated equipment. But machines cannot be programmed for unexpected events. There might have been a bad storm at sea that has caused the cargo to shift or some containers to leak. There is always something that requires specialised handling and lifting equipment and often also special storage facilities.

Kho notes that terminals can become staffless only if the shipping industry can standardise everything and terminals can be turned into production lines.

"That will never happen. This is something that engineers can forget when they develop technological solutions. The real world can't be completely standardised," reminds Kho.

Kho says that safety benefits of automation are undisputed. To embrace the change, staff must be involved early to understand why the change is needed. Early planning, training and continuous open communication with employees, trade unions and other stakeholders is vital. And one must not forget the managers and owners. Automation will require a whole new set of skills and change of mind-set in everyone working at a terminal.

LIFEBOAT SAFETY

BIMCO has developed new guidance for seafarers on the safe launching and recovery of lifeboats using fall preventer devices, to reduce the number of seafarer fatalities and injuries.

Lifeboat accidents resulting in fatalities and serious injuries are all too frequent, despite efforts in recent years to reduce them. Most of the accidents happen in boats using conventional davits and on-load release systems. However, recently other parts of the suspension and lifting systems have been identified as points of failure too, particularly the wire rope falls on larger lifeboats.

The International Maritime Organization (IMO) recommends the use of FPDs because so many recent lifeboat and rescue boat accidents have resulted in fatalities and injuries to seafarers. This constitutes an unacceptable risk and the use of FPDs is intended to be an interim measure to reduce this risk while new, safe IMO approved systems are developed.

However, this process will take some years, and so FPDs are recommended for the intervening time until approval is secured.

The new guidance has been produced in a handy illustrated pamphlet titled: 'Avoid Lifeboat Accidents'. It can be downloaded free of charge from the BIMCO website.

PERFORMANCE MONITORING

Bureau Veritas and Singapore-based Ascenz have signed a memorandum to provide ship performance and monitoring solutions to shipowners worldwide.

The agreement will enable Bureau Veritas to offer Shipulse, Ascenz's solution for real time ship performance and monitoring. Shipulse captures critical shipboard data to provide insights for better decision making, fuel savings and optimized vessel performance. The data captured covers fuel consumption, bunkering activity, engine, hull and propeller performance.

Bureau Veritas will market Shipulse across its network to offer complementary services and analysis tools based on ship modelling capabilities, data analysis across fleets, and the ability to integrate BV software – such as weather routing and trim optimisation – with Shipulse.

Shipbuilder Hyundai Heavy Industries has developed Integrated Smart Ship Solution (ISSS), its proprietary ICT technology capable of realising economical and reliable navigation and management of ships. ISSS is the first of its kind in the global shipbuilding industry.

The solution standardizes ways of navigation varying depending on levels of skills and experiences of navigators, collects and analyses real-time information on navigations, and thus will play a role in enhancing efficiency and safety of ships. The solution is expected to cut annual operating cost by 6%.

As IMO will introduce e-Navigation, a strategy to bring about increased safety of navigation in commercial shipping through better organization of data on ships by 2019, the demand for smart ships is expected to grow further.

Lloyd's Register's Luis Benito, Innovation, Strategy and Research Director, Marine and Offshore says: "HHI's technology seeks to align with delivering the key benefits we believe the maritime industry will most benefit from through the adoption of connected, digital and autonomous technologies as the next generation of shipping embraces digitalisation.

According to Clarkson Research, about 6,500 ships are to be ordered globally for the next five years. Considering the global shipbuilding market share HHI takes up now, ISSS is to be installed on approximately 700 ships for the comparable time period."

Hyundai Heavy Industries announced that it won 62 ships worth $3.8bn for January-May period this year, which is a 500% plus increase for the comparable period last year when it clinched 12 ships worth $1bn.

CANADIAN LEGISLATION

The Canadian Parliament is giving consideration to legislation that would have the effect of establishing a moratorium on the shipment of crude oil in the waters of Northern British Columbia (Bill C-48: An Act respecting the regulation of vessels that transport crude oil or persistent oil to or from ports or marine installations located along British Columbia's north coast).

The International Chamber of Shipping (ICS), representing the world's national shipowners' associations and 80% of the world merchant fleet, has voiced deep concern about this proposed legislation which it says will interfere with international maritime trade.

"Such a draconian step could lead to serious concerns being raised by Canada's international trading partners," said ICS Director of Policy and External Relations, Simon Bennett.

ICS asserts that the proposals have not been developed through an evidence-based process, and believes that it would establish an unwelcome precedent that might be emulated elsewhere, including by individual U.S. States, with the potential to impact greatly on the efficiency of world trade, as well as that of Canada.

ICS says that the environmental record of the shipping industry, especially the tanker sector, is impressive. On average, worldwide, there are currently fewer than two significant oil spills (over 700 tonnes) per year, compared to 25 such incidents per year thirty years ago, despite a doubling of the amount of oil transported by sea.

"We would instead encourage Canada to continue its strong history of environmental protection and support for responsible global trade through the implementation of practical measures consistent with international best practice. This includes respecting the UN International Maritime Organisation's role in developing safe and sustainable shipping regulations and recommendations that might address any concerns that Canada may have," said Mr Bennett.

SURVIVAL SIMULATION

Transas has introduced a new Survival Craft Simulator (SCS) to prepare crew for the multitude of possible scenarios that can occur during lifeboat drills, aiming to address one of the most notorious sources of accidents in shipping without exposing personnel to physical danger.

Effective survival craft training is essential to prepare crew for a disaster at sea but practical lifeboat drills have a troubling track record for causing fatalities. By shifting some elements of training to a simulated environment, the risks are minimised and the crew can focus on the procedures that will increase safety when operating the real lifeboat equipment in an emergency.

IMO expert investigations have focused mainly on the complex quick-release hooks that typically suspend enclosed lifeboats from their davits, which are designed to hold tons of mass securely for years at a time and then come free quickly when the lifeboat is lowered. The Maritime Safety Committee expects new guidelines to enter into force on 1 January 2020, addressing longstanding issues including the need for uniform and documented standards for hook servicing.

However, a failure to follow correct procedures and lack of proper training have also been cited as contributory factors in incidents. The Transas Survival Craft Simulator allows such training to be conducted either at a training centre or on-board in a benign environment, allowing trainees to learn essential procedures, such as the

preparation of survival craft, its launch and boarding, but without the risk.

At the heart of the new simulator is a highly detailed virtual model of a totally enclosed davit-launched, self-righting lifeboat. It is supported by a functional model to simulate the hook-release gear, wire lashings and gripes, and for boat securing on to a davit. Instruction on using the release handle, a safety pin, and hydrostatic interlock level can be delivered either virtually or with a physical device connected to the simulator.

MAGNESIUM PRODUCTION

Enova has granted a funding commitment of NOK 19.5 million to NorMag AS, for use in construction of a pilot facility for energy and climate-efficient production of magnesium and silica at Herøya. The facility will produce the world's first CO_2-free magnesium.

"The ambition of this project is to create the world's most efficient and environmentally friendly magnesium production at Herøya," says Sverre Gotaas, Managing Director of Herøya Industripark AS.

"Our goal is to build the world's only CO_2-free production facility for magnesium, using the infrastructure in the old magnesium factory as a foundation, and pioneering new climate technology as method," says Gotaas.

The production technology is expected to result in up to 95% lower CO_2 emissions and 60% lower energy consumption in magnesium production, as compared with the current dominant production methods, mainly located in China. The corresponding figures for silica production are 20% lower CO_2 emissions and 35% lower energy consumption as compared with existing production methods.

"While magnesium is becoming very important on the road towards a low emission society, we face a major challenge due to the fact that current production takes place with significant emissions. The pilot at Herøya could mark the beginning of a solution to this challenge," Nakstad emphasises.

Before work on the pilot plant starts, a process is now being implemented to secure financing for the next phase of the project, estimated at NOK3.4bn. The total cost of the pilot facility is around NOK 80m.

Sverre Gotaas says that agreements have been signed with both local and international investors. He takes an optimistic view of the opportunity to secure financing for the next phase, so the pilot can start operations with support from Enova, among others.

The project will be carried out under the direction of Herøya Industripark AS, through the company MagSil, while the company NorMag will be responsible for building and running the facility.

PROPER PACKING

Safety improvements throughout the international supply chain can be made through the proper packing, handling and transport of cargo transport units (CTUs), including containers, according to the four bodies making up the industry coalition, and which are responsible for a broad cross-section of the global CTU freight industry.

Speaking at a special session of ICHCA International's 65th anniversary conference in Las Palmas, Spain a spokesperson from each coalition member – Global Shippers' Forum, ICHCA International, TT Club and World Shipping Council – highlighted the varied challenges the industry faces in achieving such improvements.

> "Terminal operators and stevedores play a relatively minor role in packing containers but nevertheless play an important role in identfying dangerously packed units

"Terminal operators and stevedores in many locations play a relatively minor role in packing containers and other CTUs. They nevertheless play an important role in identifying eccentrically loaded, overweight, bulging and otherwise dangerously packed units, and in taking appropriate steps to address any safety concerns," said Captain Richard Brough representing the hosts, ICHCA International.

"In terms of disseminating this message, we are particularly pleased today to be able to address such a significant group from CARC, the Canarias/Africa Chapter of ICHCA, who are meeting with us this week."

SAFETY AWARD

TT CLub innovation in Safety Award announced this year's winner at at ICHCA's Conference in Las Palmas. It was won by Ken Rohlmann who heads Hapag Lloyd's Cargo Patrol Team.

The Award, now in its second year, is aimed at identifying innovative developments that engender greater safety and efficiency in the intermodal supply chain.

Following the inauguration of the award last year, TT Club and ICHCA received some 22 high-quality entries this year, each revealing exciting and proven improvements to supply chain practices.

In introducing the award, international freight insurer TT Club's Risk Management Director Peregrine Storrs-Fox commented: "One of the more serious issues that continues to blight the entire shipping industry is non-compliance in relation to the transport of restricted commodities and dangerous goods.

"It is estimated that this is the root cause of a major shipboard fire, on average every 60 days. All shipping lines have attempted to mitigate the problem but Hapag-Lloyd has long been at the forefront, creating in 2011 what has become the 'Cargo Patrol' search engine."

"Indeed, the value of Cargo Patrol has grown year on year and now identifies in the order of 1,250 potential undeclared or misdeclared bookings each day.

During 2016, the total of 264,000 alerts resulted in 4,200 positive 'hits' – many of these bookings were subsequently cancelled by the line."

"As this often results in the 'problem' cargo moving on to another line, Hapag-Lloyd has taken the decision to pass its software to IBM for further development and in order to make the solution accessible to all shipping lines."

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A GENTLE APPROACH TO BAGGING

COMPANY NEWS

The new BEUMER fillpac R filling machine fills bulk material from the building materials industry and other industrial pulverized goods into bags in an efficient and gentle way and with the required throughput. It can fill very fine to very coarse materials into different bag formats and types, such as valve bottom bags and flat valve bags and is now complemented with a bag placer and a ream magazine.

This means that performance and efficiency can be further increased. Due to its modular design, the BEUMER fillpac R can be easily integrated and adjusted with existing packaging lines.

The BEUMER fillpac R is equipped with a weighing unit that communicates permanently with the filler neck via a specific software. The automatic bag weight adjustment determines the exact filling weight of the bags, thus enabling the exact degrees of filling during the filling process.

The user can design his packaging lines more efficiently as it is no longer necessary to remove under or overweight bags from the line. In addition, the quantity indicated on the bag always corresponds to the real volume.

The BEUMER fillpac R is designed for capacities ranging from 300 to 6,000 bags per hour and can fill various bag types. If equipped with a special bag placer, it can even fill HDPE bags.

The three-position cylinder that regulates the coarse and fine flow is protected from dust, because it is positioned vertically and outside of the dirty area. The cylinder for bag discharging is also located in the dust-free zone above the filling spout. This solution minimises wear and tear on both cylinders and, therefore, ensures longer service life.

Almost all built-in components of the BEUMER fillpac R are freely available commercially. This reduces delivery times for spare parts and lowers capital costs for the user. Also, the system is designed so that it is easily accessible for maintenance.

The generously dimensioned filling impeller reduces fill times, thus increasing throughput. The BEUMER system is also equipped with an ergonomic control terminal.

The improved human-machine interface concept makes work simple and intuitive. Furthermore, BEUMER has designed the system in a way that individual customer requirements or special wishes can be implemented flexibly and cost-effectively.

BEUMERGROUP

INNOVATIVE THINKING

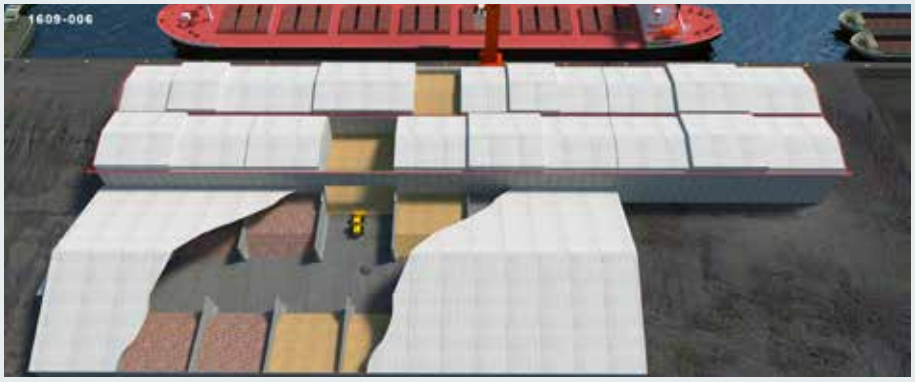
COMPANY NEWS

Gans Cargo Operations is a Rotterdam headquartered shipping and forwarding company, specialized in international supply chain logistics. Our pro-active and innovative thinking allow us to respond adequately to new developments. We listen carefully and understand our customers needs, offering a wide range of tailor made solutions. We can utilize owned and long term leased (bulk) storage facilities at strategic locations worldwide and transport your cargo to any destination.

Gans Cargo Operations appreciates to be the eyes and ears on the spot on behalf of our customers. Our people take the extra mile to help solving problems and to discover solutions interactively. Our dedicated service is available 24/7. Should any problem arise, we will be there to assist our customer on the spot.

We strongly believe in building bridges between all parties involved, in order to ensure that both vessel and cargo is handled in a smooth and reliable manner.

Being operational for 2,5 years now, we can say our Gans Egypt Logistics Services is rapidly growing after acquiring a number of multiple year projects related to cargo monitoring, warehousing of bulk as well as packed minerals and operating our own bagging plant in the industrial area around Borg-el-Arab.



In Egypt we have 50.000m^2 long term rented open pit storage area connected via river to the port of Alexandria. We purchased 4 bulk grabs of 13cbm each, enabling ourselves to rent same against a competitive rate to the geared, but not grab-fitted vessels of our customers for loading/ discharging their dry bulk cargoes in any Egyptian sea port. We are acting as vessel agents for approx. 10 vessels per month in various Egyptian seaports.

Our Sharaf Gans Logistics Services operations covers more than 150 ports in the Middle East, Africa and the Indian subcontinent and is moving in a continuous upward flow, already handling 15-20 vessels per month in the various seaports under our coverage.

Within this joint venture, we are developing a bulk warehouse distribution hub in UAE, which can serve as a strategic stock position to serve the broader region with just in time deliveries either by truck or by waterway.

At our 'home' base in the port of Rotterdam, we are strongly involved in the construction of a new 125.000 m3 covered warehouse suitable to store all kind of dry bulk products. Same is expected operational in Q3-2018 and will certainly boost our business model in covered storage.

Interested? Please visit us at : *www.ganscargo.com* for all services and contact details.

GANS
CARGO OPERATIONS

RISING TO THE CHALLENGE

Beumer Group has a worldwide reach and is looking to develop its complex handling systems further. We talk to Andreas Echelmeyer, Director Conveying & Loading Systems

Filling the complex needs of the mining and raw materials industry, not to mention ports have been a challenge, so what does Dr Echelmeyer think of developments going forward?

"Since August 2015, I have been the head of the new Center of Competence (CoC) for Conveying & Loading Systems (CL Systems). Under the leadership of the CoC, we would like to globally develop and implement complex system solutions for various industries, such as the mining industry, raw materials industry and port handling. Beumer is well-known for providing innovative intralogistics solutions.

"Beumer is now also offering complex system solutions in the raw materials industry, a sector in which business was traditionally limited to sales of single machines. Our goal is to become internationally known as a reliable partner in the area of plant engineering as well. We have inquiries from Germany, and increasingly from Africa, South America and the US too, and a freshly awarded contract in the Far East. We have built an international team for Conveying & Loading Systems that works together on specific projects.

In order to ensure a high standard internationally, we get qualified colleagues from all our local companies on board in all regions.

"'Qualified' means that we understand the customers and their needs, so we develop the perfect solutions together with our team. This means that we need to stay curious and open-minded for this type of teamwork.

What are the latest developments at the Center of Competence for conveying and loading systems?

"We are rooted in material handling, which is specifically about the efficient movement of bulk materials. As I said, we are able to offer complete systems to our customers, including our traditional

DR. ANDREAS ECHELMEYER, DIRECTOR CONVEYING & LOADING SYSTEMS, BEUMER GROUP

BEUMER SUPPLIED A TROUGHED BELT CONVEYOR WITH HORIZONTAL CURVES AND A LENGTH OF 35 KILOMETERS FOR THE THAI CEMENT PRODUCER TPI POLENE PUBLIC COMPANY

BEUMER SUCCESSFULLY ROUTED THE CONVEYOR ALONG A VERY NARROW STRETCH OF LAND IN VIETNAM FOR THE CEMENT PRODUCER CONG THANH

products like long-distance troughed belt conveyors or pipe conveyors. We can also offer state-of-the-art machines like stackers, reclaimers or shiploaders. In addition to that – and I would call this a tremendous development – we are in the process of offering our customers not only the traditional services related to design, construction and commissioning, but also operation of the plant. With our customer support team, in fact, we are able to offer residential service, including the complete management of the plant.

The market where Beumer with its conveying and loading systems team operates is very wide, with different specific requirements. It extends from traditional cement, minerals and mining to fertilizers. Beumer is able to fulfill the requirements of these different markets with a complete solution portfolio. The portfolio covers the entire logistics chain, including troughed belt conveyors, long-distance overland conveyors (OLC), pipe conveyors, loading and handling solutions with high capacity and efficiency, shiploaders, and stacker and reclaimer machines.

The conveying & loading system structure allows a local approach to satisfy different geographical needs. "We have markets in a wide range of industries and regions: we are running projects from South America (power industry) to the Far East (fertilizer handling). This shows Beumer's flexibility and ability to answer the different requirements of its customers."

As far as efficient loading on to ships of environmentally unfriendly materials are concerned, does he have comments on port handling?

"In general, the handling of material that can be considered environmentally unfriendly is one of the most challenging issues for port operators. Historically the two key aspects to keep under control are dust and water contamination due to spillages during transport and loading. Beumer with its portfolio has the capabilities to fully meet these challenges.

"A Belgium-based energy corporation relies on one of our pipe conveyors and shiploaders. Beumer was called on to design a system able to remove and transport combustion ash from the storage area to the terminal and then load it efficiently into ships. The noise and dust requirements are very strict due the surrounding urban environment. With its ability to navigate curves in three dimensions, the system can be optimally adapted to its route of approximately 2,000m.

"Due to the system design and the required system capacity, we designed the pipe conveyor with a diameter of 250 mm and to load vessels with a capacity of 300 tons per hour. On account the difficult terrain with its abruptness, the installation was supported by a helicopter. The complete system is characterised by its adaptability. Since this system went into operation, the user has been able to safely load ash in a urban environment without any issues related to dust and noise."

There are, of course ecological considerations and challenges. "In the future, raw materials will be mined at greater and greater distances from ports. This means that materials handling will become an increasingly important issue. Companies must either make greater investments in the extraction and transport of raw materials, or put up with losses in quality.

"However, it is important to transport bulk materials quickly and efficiently to plants for processing. Trucks can do the job, but on difficult terrain they can quickly come up against their limits because they need good roads. The

costs for building, maintaining and perhaps extending a road system can be significant. Moreover, any such work has a serious impact on the natural environment. In addition, truck traffic always creates considerable pollution, noise and dust. The other approach is to use an overland conveyor. We develop curved overland conveyers that ensure efficient and environmentally friendly transport even through impassable terrain. There is relatively little impact on nature, and no dust is generated at all.

"Nowadays ecological aspects during the execution of a project are a key factor to bear in mind. Beumar is able to supply complete bulk material handling systems that meet these requirements."

So how does he see the current market environment and the effect on investment of low raw materials and commodities prices? "The prices for raw materials like iron ore or copper have been extremely low for some years now. Now the trend is changing: in 2016 the price of copper increased by 22% and iron ore more than doubled in price. We believe the coming years are promising and we expect an increasing level of investment, starting from this year, and steady increases for another two or three years until the market stabilizes. Based on these premises the mining sector will be very promising, followed by other raw material sectors that will be influenced by increases in the prices of commodities. What else has changed? Energy-efficient processes are leading to more sustainability from the environmental and economic points of view. For instance, in the mining industry the "full electric" approach adopted by some major operators is inducing all the other operators to move from using trucks to an electric and fully integrated logistic system. Beumer fits here perfectly."

Regulations in force both nationally and internationally have to be considered. "The matter of local legislation is clearly one of the topics we keep in mind when designing our systems. The conveying and loading system team is organised with the Centre of Competence based in Europe. With its strong local presence Beumer is able to fully understand local legislations and regulations. The point of contact with the customer is always through the local Beumer Group Company, where we speak the language, and know both the market and customer-specific requirements. And local legislation needs to be professionally implemented on a global level.

"Local regulations can even be an opportunity: the possibility of using alternative fuel in the cement industry of some countries is one example. Thanks to our experts in the Centre of Competence we are able to offer reliable solutions in this field. For example, last year Beumer supplied a turnkey project to a Turkish cement corporation for storing, mixing and feeding four different alternative fuels to both ends of two kilns. The scope of supply was engineering, procurement, fabrication, transportation, installation and commissioning of a fully automatic storage hall including a bin, two feeding lines with pipe conveyors and all the feeding accessories. The benefit for the client was extremely fast execution of the project, which allowed it to have a fully operative system within one year of the contract signature.

"Sometimes missing rules and regulations could even be a hindrance, since the legal basis for investments is not assured. One example could be clear-cut permission to use alternative fuels for cement production and a clear indication based on local rules that such fuels will be available in a specific region with a certain quality over a longer period of time. In some countries the specific requirements for technological solutions are also driven by the principles of best available technology. These rules promote the development of high technology. The company does a lot of this at airports, so ports are a good target for further development."

He concludes: "We always address the individual requirements of users. Our constant goal is to use our know-how, systems and machines to make our customers' operations more efficient."

UP FOR GRABS

Having the right grab for the job will impact on every stage of the production and port handling process, as this will be a driver not only of health and safety issues, but also speed of loading and unloading and productivity in general

CHANGING ENVIRONMENT

Handling relatively new kinds of cargo like biomass, for example, presents a number of challenges to operators and a different approach to take into account the differing products. These may require specific handling including storage and climate control to prevent reactions with moisture content for example.

As specialist manufacturer Nemag points out, the dry bulk terminal operator environment is changing quickly. "This calls for innovative solutions to address these new market challenges, including enhanced safety, increased productivity, reduced maintenance costs and reduced labour costs, to name just a few.

"The strong drive for innovation is an important, if not the most important, pillar of Nemag's success. One of the innovation goals set in 2009 was to develop the most optimal grab by means of virtual prototyping. Developing new grab types and making significant design changes has traditionally been a slow, expensive and high-risk process. It is a complicated process and predicting the performance of a new grab design is difficult. This traditionally led to step-by-step development based on empirically acquired results known as the play-it-safe approach."

Nemag wanted to accelerate this engineering process by substituting the slow learning-by-experience method with virtual rapid prototyping. The company therefore launched a ground-breaking research and development project in 2009. The goal was to create a validated software design tool capable of predicting the combined behaviour of grab and bulk material.

In close collaboration with Delft University of Technology and the TATA Steel Plant in IJmuiden (NL), Nemag initiated a PhD research project and developed special simulation software to analyse and visualise the interaction between the grab and bulk material. This resulted in the Virtual Prototyping Software System, which provides valuable insight into the behaviour of grabs in material in a virtual environment and also helps to optimise the lifespan of wear-induced parts in the grab.

All available data, experience and knowledge was combined and this resulted in the development of a revolutionary new and unique grab for iron ore: the nemaX®. This new generation of grabs combines the lowest deadweight and the highest payloads with the shortest closing time. The result is a 10% productivity

increase, lower maintenance costs and considerable time savings during the trimming phase. Nemag will introduce the nemaX® this month.

Nemag, a family business founded 93 years ago, provides a full range of grabs and various types of quick-release links and rope pear sockets. These are used for handling of coal and iron ore, loading and unloading wheat, silage, scrap materials, minerals, biomass or other bulk goods . The aim is always to reduce handling costs per tonne of dry bulk materials transferred for steel plants, power stations, OEMs and commercial terminal operators.

In addition to customised grab solutions, Nemag also successfully introduced a fully standardised series of clamshell grabs for mobile harbour cranes, such as Liebherr and KONE-Gottwald cranes. "The very competitive standardised solutions with short lead times and extremely productive properties are used by the biggest and most successful bulk handling companies in over 60 countries," the company says.

The key to the company's success lies in its innovative capacity and its development of new products for the dry bulk industry. This, in turn, has led to several innovations, such as the invention of the scissor grab type, specialized rubber-lined lip sealing systems for handling powdered cargo, the patented Nemag quick-release link and the Nemag rope pear socket, and the introduction of a new generation of environmentally-friendly clamshell grabs.

For the latter, Nemag was awarded the IBJ Innovation Award in 2014 by the International Bulk Journal. So far, Nemag is the only grab manufacturer to receive an award in this challenging category.

LIEBHERR DEVELOPMENTS

Liebherr's ship crane department has extended its range of CBG cranes with the CBG 360, a robust four-rope grab crane designed for high-speed bulk handling.

Many years of experience from the operation of the CBG series have been put into the development of this brand new crane model.

The CBG 360 has a maximum capacity of 60 tonnes in hook operation and 48 tonnes in grab operation. Boom lengths between 26 and 36m are possible and the outreach of the crane can be extended by up to 12m through an additional platform.

As in all cranes of the CBG series, the most important hydraulic and mechanical parts are positioned in a dustproof machine house making the CBG 360 particularly resistant against diverse weather conditions.

CBG 360's winches are designed for continuous operation to ensure constant and reliable performance with a full load.

Other benefits include: Operational optimisation for rope capacity; compliance with CE regulations; operation on the open sea and sheltered waters; and better access and easy maintenance.

HS 8300 HD HYBRID CRAWLER CRANE

PIOMBINO WORK

Liebherr's hybrid duty cycle crawler crane with 300 t capacity has been in operation in the Italian port of Piombino in recent months. The aim of the project is to remove deposited sediment from the mouth of the port and also to increase the depth of the water. For this purpose the hybrid duty cycle crawler crane is equipped with a hydraulic clamshell grab with a filling capacity of 22m^3.

With its impressive capacity of 300t, the HS 8300 HD from Liebherr is one of the largest duty cycle crawler cranes worldwide. Work at the port not only involves the removal of the sediment. The depth of the water will also be increased to 14m in order to allow for larger vessels to run into the port. The work in Piombino is being carried out in a six-month project by the Italian dredging specialist Zeta.

On the one hand, the challenge lies in achieving high levels of turnover and, on the other hand, in removing not only sediment but also larger stones, Liebherr says. For this reason Zeta opted for a hydraulic clamshell grab from the Italian manufacturer Rossi with a filling capacity of 22m^3.

Zeta has installed the HS 8300 HD without crawlers on its new dredger Maria Vittoria Z, on which a total of 3,000 t material can be loaded. Thanks to the large volume of the grab and also the short working cycles of only 45 seconds, the Liebherr duty cycle crawler crane handles 2,000 t of material per hour meaning it requires less than two hours to fully load the dredger.

GUVEN GRAB

Guven's Radio Remote Control Grab is proving very popular with the new generation of bulk carriers, the company says, in preference to electro hydraulic grabs as they avoid use of the cable drum system and grab stabiliser on the crane jib, without any additional electric supply and consumption of fuel by generators.

It operates with a battery and a remote control unit, without any motor, pump, electricity supply, cable drum or stabiliser and can be attached on to the hook of any kind of crane and controlled through remote control unit up a distance of 100m. It can be used for handling of every type of bulk cargo, the company says.

Bulk carrier owners have been choosing this type of grab because it is more efficient, uses fewer spare parts, and offers benefits in terms of performance, speed, and basic structure, Guven says.

More than 5,000 units have been manufactured between 2004 and 2016 and almost all of them have been exported. About 1,000 vessels have Guven grabs on board and this type of grab constitutes 75% of the total production capacity of the company. It is produced in sizes ranging from 2m^3 up to 50m^3.

GUVEN'S RADIO REMOTE CONTROL GRAB

NEW MARKET CHALLENGES

COMPANY NEWS

Innovation, customer support and a very intensive after-sales service are of paramount importance to both Nemag and its customers. A global network of specialized representatives supported by Nemag specialists are ready to assist you

INNOVATION

The dry bulk terminal operator environment is changing quickly. This calls for innovative solutions to address these new market challenges, including enhanced safety, increased productivity, reduced maintenance costs and reduced labour costs, to name just a few.

The strong drive for innovation is an important, if not the most important, pillar of Nemag's success. One of the innovation goals set in 2009 was to develop the most optimal grab by means of virtual prototyping. Developing new grab types and making significant design changes has traditionally been a slow, expensive and high-risk process. It is a complicated process and predicting the performance of a new grab design is difficult. This traditionally led to step-by-step development based on empirically acquired results known as the play-it-safe approach.

VIRTUAL RAPID PROTOTYPING

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A REVOLUTIONARY NEW GRAB MECHANISM

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The result is a 10% productivity increase, lower maintenance costs and considerable time savings during the trimming phase. Nemag will introduce the nemaX® in October 2017.

Interested? Please visit *www.nemag.com/nemax*

ABOUT NEMAG

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Whether it is the handling of coal and iron ore, loading and unloading wheat, silage, scrap materials, minerals, biomass or other bulk goods, Nemag has a sufficient and reliable solution.

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nemag®

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.

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DRY SEASON

BY BASIL M KARATZAS

The Founder and President of Karatzas Marine Advisors & Co takes a look at the highs and lows of the dry bulk market

The dry bulk market has made an impressive recovery since early 2016 when it established all time lows. The over-encompassing Baltic Dry Index (BDI) has quadrupled in the past 18 months, which by itself is an impressive performance. There is an overall improvement for all sizes and trades of dry bulk vessels, which is encouraging. However, the greatest beneficiary of the market improvement has been the capesize market for the iron ore trade with destination to China. The Chinese economy, despite its high levels of debt and rumours of severe slow down, has been utilising raw materials and especially iron ore on the back of a stronger economy and re-stocking, helped by a relative weakness of the US dollar.

Still, dry bulk freight rates are barely high enough, even today, to profitably cover the operating and financing costs of modern bulkers. So bad the market had been in 2016 that even a quadrupling of the market barely touches a profitable territory. Given that many banks and shipowners have sustained severe losses in the dry bulk market and that there are still many highly priced "legacy" vessels out there, the present rally resembles more a sigh of relief that the worst is over than cause for popping champagne bottles.

Looking forward, there are many points of concern for the dry bulk market, both for the supply side (tonnage overcapacity, shipbuilding overcapacity, low interest rates, etc) and also the demand side and the need for dry bulk vessel transport. There are demand projections based on economic and GDP growth, which overall look positive for the industry, but there are also a few worrying trends.

Besides the tendency for more dry bulk cargo increasingly getting moved in a containerised fashion, the "big gorilla in the room" is the coal trade. Despite the Trump Administration's affection and recent policies in favour of coal, the writing is on the wall that coal trade is a waning market on a long trajectory. Coal is heavy in emissions and scrubbing technology is just too expensive to make it clean enough. On the other hand, natural gas is cheap, plentiful

and cleaner, which one has to take note of the tremendous investments in alternative energy and the precipitous decline in the solar energy production cost. Trying to extrapolate from present trends, the coal trade will be having a very hard time in a decade.

Depending on the asset class in the dry bulk market, coal is a very substantial commodity; critical for Newcastlemax vessels (almost 100% of the market), very important for the capesize market (30-40% of the market), and important for the panamax and supramax (20-35% of the market) vessels. The logical question then is that if a type of cargo is dying, for the dry bulk market to do well in the future, there has to be an alternate trade or commodity to fill those empty ships.

The magic commodity where much hope has been placed upon is the grain trade, and hopefully, it will be a strong enough trade to compensate for the huge wake to be left in the absence of coal. Grain trade has been showing encouraging growth during the past few years, several macro-trends seem promising for the future from a demand perspective, while the supply side shows promising and favourable to shipping.

Grains are mostly transported in bulk and to a lesser extent in bags, and mostly on panamax and supramax dry bulk vessels. Only a limited portion of the trade is on capesize vessels and that mostly heading to Japan for cargo in large parcels. Thus, looking forward, an active grains market is mostly expected to be beneficial to such medium and smaller sized vessels. There are shipowners who focus their investments and strategy in the panamax and supramax vessels and those vessels with designs with large cubic capacity and features optimal for the grain trade.

Macro-economic trends are favouring the grain trade as Asia, where the diet is dependent on rice for fibre and carbohydrates, has been growing toward grains, wheat and bread. This is a cultural and social shift that take time to be eye-popping, but the fact is that Asia – and the rest of the world, have been consuming more grains; as the economic level and the disposal income of middle-class people in Asia increases, there is higher demand for grains, some to substitute rice in the diet, and given Asia's – and China's young populations, this trend is expected to be favourable over the long term.

Some projections hold that grain consumption in Asia during the next decade is expected to show a strong performance, in the likelihood of 5-10% annual growth over the next decade. Again, given that most grains to Asia and China are transported from the western world, panamax and supramax dry bulk vessels are expected to benefit most from an increased grain trade in the future. To some analysts, the increased demand for grains for these types of vessels will be strong and big enough to fully substitute for the declining coal trade, and thus the bullish call to invest in ships of these asset classes.

A recent favourable – and little expected – development that will benefit the grains trade is that with China: for the first time and under pressure from the deficit-gap conscious Trump Administration, China has agreed to start importing rice from the US. It's still too early for one to make educated projections about this trade, especially since the details of the recent announcement are short of details, but the main point is that a brand-new market for the grain trade has been created, and hopefully this market will absorb a few vessels as well, likely panamax and supramax vessels for the transport of rice in bags.

On the supply side of the grain trade, one has to consider that in the last few years, based on confluence of favourable weather and improvements in yield in the production of crops, there have been "bumper crops" in North and South America, in Europe, Russia and Ukraine, the traditional main producers worldwide. Having plentiful commodities to ship and all-time stockpiles, the supply side is favourable for the trade and shipping.

However, production of grains, as an agricultural product, is highly dependent not only on the absence of catastrophic events, but also on constant favourable weather conditions throughout the growth and harvest season. Despite the all-time high grain stockpiles, there have been shortages of types of grains from time to time and uncertainty about the trade, such as decline in production this year of high quality Hard Red Spring Wheat (HRS) in the US. For a commodity and trade where there is weather element uncertainty, potential increased volatility is a bonus-added feature that cannot be ignored. After all, shipowners love volatility.

While some analysts find it utopic that grains will see a strong enough growth to substitute the whole coal trade in the dry bulk market, one has to note the favourable underlying trends. There will be many – and more fundamental factors – to influence the dry bulk market in the next decade, but the grains trade seems to be a solid, macro-trend favouring the market.

Basil M Karatzas *is the Founder and President of Karatzas Marine Advisors & Co, a ship brokerage and shipping finance advisory firm based in Manhattan, New York. For more information, visit: www.karatzas.com*

MAKING A SPLASH

In a move backed by ABTO, advisory board member Professor Mike Bradley has called for a complete overhaul of cargo sampling and liquefaction testing protocols for raw ores

Professor Mike Bradley, a member of the advisory panel to the Association of Bulk Terminal Operators (ABTO) and head of Greenwich University's Wolfson Centre for Bulk Solids Handling Technology, says the current measures in place to test cargoes for potential liquefaction are inadequate, especially for raw ores and variable materials being loaded in ports where conditions are inclement.

Current methods available to a ship's master for identifying the dangers of cargo liquefaction – the so-called "splash" and "can" tests – are very rudimentary, says Bradley. "The 'can test' consists of nothing more than a 'baked beans tin' filled with a sample of the cargo, which is then vigorously tapped on the table. If a liquid film forms on the sample surface, the cargo is deemed dangerous and must be rejected; if not, it may be either safe or dangerous!"

His research group has investigated cases where masters have used the "can test" to accept and reject portions of cargo, resulting in later liquefaction in heavy weather. The splash test, meanwhile, simply checks to see if the cargo "splashes" when dropped from a grab into the hold – "not easy to see in the dead of night with dark coloured cargo in a badly lit hold!" Bradley says.

"Such rudimentary testing is inadequate. We have seen that dangerous cargoes can pass these tests, with moisture content exceeding the allowable limits, liquefying at a later stage. The efficacy of existing testing and sampling protocols does need to be addressed, especially when assessing terminal stock piles where obtaining a decent sample is difficult.

"The current IMO protocol for setting Transportable Moisture Limits and certifying actual Cargo Moisture Content is robust for some cargo flows, but sadly falls down too often for others, as evidenced by the number of lives still being lost at sea due to cargo liquefaction.

"Ultimately the master has to take responsibility for whether a cargo is loaded or not, and he is under commercial pressure not to reject it – so in cases where he has suspicions he really needs a better, more reliable shipboard test he can use to protect both his employer's business and the lives of his crew."

Although the International Maritime Solid Bulk Cargoes (IMSBC) Code includes provisions for sampling, Bradley says it is "inordinately difficult" to get a representative sample of the cargo from a stockpile and, in many cases, severe rain will have occurred since the sample was taken for moisture certification.

What's more, some master mariners have expressed concern that the current tests do not work with some cargoes. There have also been cases in which moisture content certificates are alleged to have been falsified.

Bradley says that the Wolfson Centre has completed some preliminary research work in the development of a more effective, accurate cargo liquefaction test kit for shipboard use.

"Current tests used in cargo labs require far too much specialist skill and expensive equipment to be used by the crew aboard ship. The proposed test is based on a practical approach that can be done using low-cost equipment that can be replicated easily. It doesn't replace the current system of TML and MC certification, but provides the ship's master with an opportunity to make his own check, in any case where there is some doubt over change in the condition of the cargo, the quality of sampling, the veracity of the certification, or the effect of bad weather on moisture during loading.

"We have been talking to a number of parties, including ABTO members, P&I Clubs and classification societies to take the initiative forward. We have proven the basic concept, which seems to work, so we are now looking to the industry to support the development."

Ian Adams, ABTO Chief Executive, adds: "Anything that can be done to improve the safety of vessels carrying dry bulk cargo that may liquefy has got to be thoroughly investigated. We believe that this issue is one of the biggest challenges facing our industry. We therefore welcome anyone who is interested in progressing this research to contact us so that progress can be made on developing this test."

HANDLE WITH CARE

Bulk handling operations cover a multitude of different commodities with their own specific characteristics and challenges, including alumina, biomass, coal, cement, fertiliser, grain and sulphur

SIWERTELL SHIP

Siwertell ship unloaders and loaders are based on unique screw conveyor technology, in combination with belt conveyors and aeroslides, and provide a totally enclosed dry bulk handling operation.

So what kind of projects does Siwertell get involved with in the dry cargo sector?

According to Managing Director Per Karlsson: "Siwertell is working with all types of bulk materials on the world market. Our product portfolio covers unloaders, loaders belt conveyor system and bulk terminals. The capacity for our unloaders range from 200 tonnes per hour (tph) up to 3,000 tph; for loaders the range is from 400 tph up to 12,000 tph (iron ore). Our clients are from all types of ports and power stations."

The major bulk materials are iron ore and coal. Together, they cover about 70% of the world bulk market. Grains are the third biggest bulk material on the market. For coal/biomass and cement segments, Siwertell has the leading position on the market.

"Later on this year, we will start marketing our new Port Mobile Unloader for grain with the capacity up to 600 tph for 60 000 dwt vessel. For the time being we are mostly involved in projects related to coal/biomass (Asia and Europe/UK), grain and cement."

So how have the company's activities been affected by the long downturn and how it is progressing as the market begins to look up?

"Since most of our business is related to projects involved in the power industry, many of our projects have been decided long time ago and are related to long-term investments (the life time for a power station is exceeding 30 years) and therefore this market segment has not been affected so far. The cement market has been affected by the changes in the infrastructure. This means that cement is nowadays manufactured closer to the market. Additionally the downturn in the building industry has somewhat reduced the demand from earlier levels. The grain market continues to grow due to the increased world population. Due to this also the fertiliser market will grow as a consequence."

The use of mechanised systems in ports is developing. "Especially in the unloading market," says Karlsson. "We can see that the environmental requirements continue to increase, that is enclosed systems have a bigger potential than the grab unloaders. The Siwertell unloader

SIWERTELL IS WORKING WITH ALL TYPES OF BULK MATERIALS ON THE WORLD MARKET

is one of the best on the market since it has a complete enclosed system from the pick-up point in the hold of the vessel to the transfer of the material to the jetty conveyor. With our system, all spillage and dust can be avoided."

Another important point is the demand for increased efficiency of the unloading/loading technology. By using more efficient technology, the time a vessel spends in a port can be reduced, leading to significant savings.

"Due to the design of the Siwertell unloader with a moving vertical arm (+/- 30°), a moving horizontal arm (-20°) and a unique inlet device that is counter rotating to the vertical screw, the Siwertell unloader is one of the most efficient unloaders on the world market. This, together with its totally enclosed unloading system and very long lifetime of wear components, are the major reasons why we are the market leader."

So are there specific market sectors and geographical areas being targeted?

"Siwertell has a very strong market position in Asia related to the power industry. We are now working to improve our position also in the Middle-East as well as on the US market."

As far as the environment is concerned, Karlsson says Siwertell equipment is some of the most environmentally friendly equipment on the market due to its totally enclosed system as well as due to the high efficiency it offers for example, reduced time for the vessels in the port.

"We have an ongoing development initiative to improve our products both related to the environment, efficiency and reduced operational costs."

BOOST FOR BMT

BMT Asia Pacific (BMT), a subsidiary of BMT Group, has been awarded a contract by a Consortium led by HSL Constructor Sdn Bhd, and including Tecgates Engineering (M) Sdn Bhd and Gema Antara Sdn Bhd.

BMT will provide detailed engineering design and risk management consultancy services for a new coal unloading jetty and associated bulk handling system at the Tanjung Bin Energy (TBE) Power Plant in Johor, Malaysia.

Peter Ho, International Business Director from HSL Constructor comments: "BMT has a strong presence in Malaysia and is well respected for its technical capabilities and expertise having worked on several other local projects and as such, was a natural partner for this project. We are confident that the team will help us to deliver a robust design that aligns with the needs of the end customer."

The TBE Power Plant, also known as T4, is a super-critical coal-fired power plant developed by Tanjung Bin Energy Sdn Bhd, a part of Malakoff Corporation Bhd, providing the most efficient coal combustion technology currently on the market. Located adjacent to Malakoff's existing 2,100MW coal-fired Tanjung Bin Power Plant, T4 commenced operations in March 2016.

BMT will work closely with the consortium to deliver detailed engineering design and risk management solutions, and be responsible for the necessary professional endorsements required for approval by the associated local authorities. BMT's team of experts will also provide construction support and upon completion, will liaise with the local authorities to secure the Certificate of Completion and Compliance (CCC), which will, in turn, allow the owner to operate the facility.

"Being a brownfield site, this project will require us to overcome a number of complex interfacing challenges. A strong partnership with the Consortium is critical – leveraging our strong history of working in this area, we will collaborate with the partners to develop a design that fully supports a construction methodology that in no way impacts on current operations at the plant," comments BMT's Director of Maritime Engineering, Sridhar Krishnan.

Sridhar says: "We have contributed to the urban and industrial development of Malaysia for over 30 years, in particular its ports, energy and transport sectors. This project win follows on from our most recent work supporting several projects, including the construction of the two x 1000MW Jimah East Coal-Fired Power Plant (Project 3B)."

PAKISTAN DEVELOPMENTS

Pakistan's first dry bulk terminal opened earlier this year and is expected to handle three million tonnes a year of coal imports, rising to 20 million tonnes over the next five years, according to the port's chief executive.

The $285m Muhammad Bin Qasim Port, which was built with support from the World Bank, will also be used to export cement and clinker, Sharique Siddiqui, Chief Executive for Pakistan International Bulk Terminal, says.

Pakistan's first state-of-the-art mechanised, coal, clinker and cement bulk cargo terminal at Port Qasim has handled the first coal cargo vessel of 41,000 tons to call at the terminal. African Finfoot transported the coal cargo, which belonged to Awan Trading.

PIBTL is a public listed company quoted on Pakistan Stock Exchange and is sponsored by the Marine Group of Companies and also partly financed by the International Finance Corporation , the private sector arm of the World Bank Group. The company has invested around US$285m in the establishment of the county's first and only common user coal, cement and clinker handling terminal at Port Qasim.

PIBTL, under a 30-year BOT agreement with Port Qasim Authority, has built its own jetty and is equipped with two coal ship unloading cranes and one cement/clinker loading crane. PIBT is capable of handling 12 million tons of cargo per annum and has a storage yard spread on 62 acres.

A fully operational PIBTL will bring effectiveness and efficiencies for the port sector as well as for the trade and industry to match Pakistan's port throughputs with the international standards of excellence.

PIBTL will not only be easing off the existing port congestions at KPT and PQA but also be mitigating the environmental and efficiency concerns, the authority says.

TOP COATINGS

Development of marine paints and coatings has been key not only to fulfilling environmental requirements, but also for improving efficiency of operations and, most importantly, the safety of the ship and its crew

PHILIP CHAABANE, CEO OF I-TECH

New products aiming to provide a step forward in this area continue to arrive on the market and new co-operation deals continue to be struck.

For example, the inventor of the antifouling ingredient Selektope, I-Tech AB, has responded to strong market demand in Japan by enhancing its local supply chain arrangements, after signing an agreement with well-known chemicals trading company Nagase & Co.

To date, hundreds of Japanese vessels have been coated with antifoulings containing Selektope, but demand continues to grow strongly, the company says. Under the new agreement, I-Tech will continue to manage sales of Selektope in Japan while Nagase will exclusively handle imports.

"Establishing this business relationship reflects the need to address increasing demand for our product in Japan and we are honored to be working with such a highly reputed company in Nagase," says Philip Chaabane, CEO of I-Tech.

The organic, non-metal compound Selektope is characterised by high efficacy at extremely low concentrations (approx.0.1% w/w), ultra-low leaching and flexibility and can boost the performance of copper-based paint formulations or replace copper completely. Due to the low concentration required, Selektope does not compromise the chemical structure, colour or other co-operative biocides of a marine coating.

EPOXY COATING

Meanwhile, coatings manufacturer Hempel is introducing its new versatile high-build epoxy intermediate coating to help deliver longer service life for industrial assets. Hempaprime Multi 500, which is launching globally, gives faster drying times and shorter minimum overcoat intervals for the oil & gas, infrastructure and power generation sector.

Specifically designed to be fast drying to optimise productivity by shortening the man hours needed for application, Hempaprime Multi 500 enables three coats to be applied in 20% less time than current products, the company says, without compromising on quality, strength, finish or the high-volume solids of the product.

The coating can be used as a direct to metal or on primed surfaces, as primer, intermediate or topcoat application and is also ideal for minor repairs offering customers simplicity with a single coating solution. This high-performance solution assures a long service life for heavy industrial applications, helping to minimise maintenance requirements.

The company says that Hempaprime Multi 500, with its fast drying time, faster hardness development and improved cracking resistance, means it is possible to move the coated steel or even build upon it faster, with a reduced risk of damaging the coating. This decreases the need for reblasting and recoating, saving time and money.

Monica Li Aviram, Segment Group Product Manager, Infrastructure, at Hempel says: "At Hempel, we understand our customers' need for a fast-drying, intermediate coating to increase productivity and shorten the man hours needed for application. The versatility and adaptability of Hempaprime Multi 500 supports projects for the infrastructure, oil and gas, and power generation sector during production, and provides top quality performance to new build assets throughout their service life. By not requiring thinning in optimum conditions, Hempaprime can be easily applied by spray, brush or roller, offering further efficiencies to asset owners.

"In trials, our customers have been impressed with the product's ease of application, reduced over-coating time, smooth appearance of the dry surface, and the levelling of the intermediate surface over a range of dry film thicknesses."

> "The versatility and adaptability of Hempaprime Multi 500 supports projects for the infrastructure, oil and gas, and power generation sector during production, and provides top quality performance to new-build assets throughout their service life

Key features of Hempaprime Multi 500 include:

- Faster drying for increased productivity (up to 20% reduction in production time) – allowing pplication of up to three coats in a single shift
- Easy application with no thinning required – optimised for easy spray, brush and roller application
- High volume solids (up to 85%) and reduced VOCs – kinder for the environment and decreases workers exposure
- Improved crack and wrinkle resistance even at high dry film thickness (DFT)
- Certified, meeting ISO 12944 C5-I High and pre-qualified to NORSOK's M-501, Ed. 6, system 1.

AKZO NOBEL

AkzoNobel, meanwhile, has extended its popular Interstores marine coatings product range.

Shipowners and operators can now enjoy a new level of flexibility and expand the options available for cost-effective onboard maintenance following the launch of a new multi-purpose one pack primer from AkzoNobel's marine coatings business – the supplier of International coatings.

Interstores Alkyd Primer is the latest addition to the Interstores range and is compatible with most AkzoNobel marine coatings topcoat options. Specifically created with the needs of crew in mind, it is specially formulated for brush and roller application and is suitable for all substrates above the waterline.

Commenting on the new product, Oscar Wezenbeek, Managing Director at AkzoNobel's Marine Coatings business, says: "Delivering globally accessible and easy-to-use onboard primers and top coats is essential for productive onboard maintenance, especially in an industry where seafarers face increasing time and cost pressures.

"With the addition of Interstores Alkyd Primer, the Interstores range is now fully equipped to meet the full spectrum of onboard maintenance requirements. Combined with carefully selected global port availability, we can effectively support ship operators to pick up the products in the most cost-effective locations with minimal lead time."

Compatible with all existing coatings systems and formulated for ease of application, the Interstores range has been sold to more than 3,000 vessels since launch.

The range consists of Interstores Alkyd (top coat), Interstores Polyurethane (top coat), Interstores Epoxy Primer, and now Interstores Alkyd Primer, affording users a complete suite of options. A vital part of effective onboard maintenance is ensuring that products are available when and where they are needed.

Interstores is part of AkzoNobel's streamlined "port and product offer", which ensures Interstores is available in the world's major ports, with minimal lead time.

SOLID WORTH

All the latest developments in the cement manufacturing industry

Given the fact that the manufacture of cement is particularly energy intensive, for an economical and sustainable operation, Aalborg Portland therefore relies on alternative fuels and raw materials, in its Denmark lead plant, to ignite the calciner and the main burner.

Aalborg's operations have been supported by Beumer with its AFR systems segment (alternative fuels and raw materials) and develops individual single-source solutions in order to efficiently convey, store and feed the differently composed materials. The core of these systems is represented by pipe conveyors. The enclosed conveying systems ensure an environmentally safe, dust-free and low-energy transport of fuels and raw materials.

Aalborg Portland is a subsidiary of the Italian cement group Cementir. This group of companies is one of the largest and leading manufacturers and exporters of this material world-wide. In addition to the main plant in Aalborg, Denmark, it has further production plants in China, Egypt, Malaysia, Italy, Turkey and the United States of America as well as numerous sales offices.

The production of cement has always been one of the most energy-intensive operations. In order to avoid expensive primary fuels such as carbon, gas and oil, and to produce in more economic and sustainable way, Aalborg Portland has relied on alternative fuels for the incineration process in the calciner for several years.

"In 2014 we decided to optimise and enlarge the existing system," says Ole Strøm Hansen, project manager of Aalborg Portland. Until then the manufacturer transported the fuels to both calciners through long pneumatic conveying lines. However, the producer did not have an initially positive experience, as pneumatic conveying lines are extremely maintenance-intensive and also susceptible to breakdown.

"In addition, we intended to increase the capacity of the existing conveying line to 20 tons per hour per calcinator," explains Hansen. With the new concept, the Residue Derived Fuel (RDF) is transported for the calciner and the Solid Recovered Fuel (SRF) to the main burner. The solution is to transport the alternative fuels from the storehouse to the rotary kiln area as well as the gravimetric feed of both the calciner and the main burner. The decision was made to reduce the length of the pneumatic conveying line and to replace the remaining line by a mechanical transport system, but the manufacturer also wanted to install a completely new conveying line for the main burner feeding, with a capacity of up to ten tons per hour.

"We evaluated different variants of mechanical transport systems," says Hansen. Finally, the Danish company opted for a single-source solution of Beumer Group based on the pipe conveyor technology.

In order to support producers of cement in the alternative fuels and raw materials field Beumer has set up a complete business segment dedicated to AFR systems. With this capability, the system provider is able to supply and install the whole chain from the acceptance and unloading of the delivery vehicle, up to the storing, conveying and feeding process of the solid alternative fuels for the specific user.

"Due to the different grain sizes and the various compositions of these alternative fuels, it was necessary to develop an individual system solution for each line," explains Beumer project manager Tomas Hrala. To enable the transport of the pre-processed fuels from the storehouse to the calciner and to the main burner, Beumer supplied and installed respectively one pipe conveyor as the heart of these systems as well as the accompanying equipments. "This conveying technology is not only eco-friendly and requires low maintenance", says Hrala. "Its enclosed type of construction protects the environment safely from material falling down and emissions. Another advantage is the lack of dust development on the running line." Due to its ability to navigate

curves, considerably less transfer towers are required compared to other belt conveyors, allowing for a substantial cost savings to the customer. BEUMER Group can customise each system to the individual routing.

The delivery of the oven-ready material is carried out in moving-floor trailers. The alternative fuels are unloaded and stored at the receiving station. Both lines receive the material/ items transported by the moving floors modernised by Beumer from the existing storehouse. All transport systems supplied and the accompanying equipments are intertwined to ensure steady fuel feeding. The pipe conveyor of the calciner has a diameter of 350mm, a length of 135m and can transport up to 50 tons per hour to an intermediate hopper with a volume of 35 cubic metres. This hopper is equipped with an activator and two double discharge screw conveyors, and distributes the material in two feeding and pneumatic conveying lines to both calciners. The two new pneumatic conveying lines to the calciner with rotary vane feeders and blowers were completely dimensioned and supplied by Beumer.

"However, during the constructive dimensioning of this system we were faced with a particular challenge," Hrala explains. The buildings in which the calciners are placed include an additional part called penthouse. It supports, among others, the discharge station of the Pipe Conveyor, the intermediate hopper with the two double discharge screw conveyors and also both weigh belt feeders with the pneumatic conveying system. "From a static viewpoint, the penthouse had to be calculated trying to not exceed the available load application in the existing building. At the same time, the subjacent requested throughway for plant vehicles had to be ensured."

The heart of the line for the main burner is a pipe conveyor with a diameter of 200mm and a length of 201m. It achieves a conveying capacity of twelve tons per hour and is equipped with a spillage scraper conveyor for minimising the cleaning, as well as a dedusting filter. The fuel feed of the moving floor in the storehouse to the Pipe Conveyor is carried out by a screw conveyor. The feeding system in the main burner building includes an intermediate hopper with a volume of ten cubic metres, also with activator and double discharge screw conveyor and a weigh belt feeder. In addition, there is a pneumatic conveying line with blower and rotary vane feeder.

EXPORT INCREASE

Low carbon cement manufacturer Ecocem Ireland, has increased its export capacity with the official opening of their second bulk import terminal, capitalising on the potential to supply the London / south east construction market.

This is Ecocem Ireland's second Bulk Import facility in the UK and is located in Sheerness in the Port of Medway. Ecocem Ireland are a subsidiary of Irish company Ecocem Materials, Europe's largest independent manufacturer of high performance, low carbon cement. Ecocem Ireland opened its first bulk import facility in Runcorn in early 2016.

The import terminal required an investment of £2.5m which will see the firm being able to supply the market with 250,000 tonnes of the low carbon cement alternative per annum. This is part of the overall Ecocem Materials Strategy to develop export markets from its existing facilities in Ireland, Holland and France.

Micheál McKittrick, Managing Director of Ecocem Ireland, commented in a company blog: "Our second investment into the UK in a state of the art import facility demonstrates to the market the need for the low carbon cement alternative and the growing demand from the UK construction industry. We have already engaged in long term agreements with major concrete manufacturers in the UK and will continue to build momentum in the coming months."

Ecocem's cement aims to minimise the environmental impact of concrete, whilst maximising its technical performance. This technology is used widely in Ireland and the UK in projects such as the AVIVA Stadium in Dublin and the Shard in London.

As the UK seeks to reduce its carbon footprint, coal fired power stations are either being shut down or switching to biomass fuel. The challenges facing the UK steel industry have resulted in the closing of some factories and a sharp reduction in output from others. These two factors have resulted in shortages in the supply of alternative binders to the concrete industry, increasing costs and lowering performance.

Andrew Martin – Group Land & Property Director of Peel Ports comments: "We are delighted to be working with the Ecocem team to enable and support its entry into the UK market. We have been able to provide a multi-site solution that will accelerate the delivery of product as close as possible to the areas of consumption.

The demand for low carbon materials in Europe has never been stronger, reinforced by the historic international agreements at the recent COP 21. Ecocem's ability to deliver a reduction of over 70% in the carbon footprint of concrete, the world's most popular building material, means the future is bright for the Irish firm.

CUTTING IMPORTS

Irish operation Quinn Cement is aiming to further decrease its imported fossil fuel consumption through replacement with alternative fuels, the company says.

Quinn has adopted the use of alternative fuels from local residual waste materials to co-fuel cement production as part of their drive to make a significant contribution to more sustainable manufacturing processes.

The introduction of Solid Recovered Fuel (SRF) into the manufacturing process has already commenced, with the potential for the company to reduce its use of coal by up to 50% annually. The result is one tonne of CO_2 saved for every tonne of SRF used to replace fossil fuels.

This successful transition to SRF co-fuelling of cement production has led Quinn Cement to seek permission to further extend its Alternative Fuels licence.

WÄRTSILÄ 34DF ENGINE

In addition, Quinn Cement produces eco-efficient CEM II cements. These cements allow for the substitution of clinker in the final cement product with locally sourced raw materials. This is a further reduction of CO_2 emissions associated with the product manufacture.

The company has a policy to move towards zero fossil fuel cement manufacturing where practicable over the next few years. With the capacity to produce 1.4 million tonnes of cement per year, this move, along with the manufacture of eco-efficient cements, will make a significant contribution to sustainability, it says.

PAKISTAN EXPANSION

The technology group Wärtsilä is to supply the generating equipment to provide the electrical power for an extension to a major Pakistani cement manufacturing facility. Cherat Cement has contracted Wärtsilä to supply three Wärtsilä 34DF dual-fuel engines capable of operating on both natural gas and heavy fuel oil (HFO). The total electrical output will be approximately 29 MW. Wärtsilä will also provide advisors to oversee the installation and commissioning of the engines. The order was booked in August 2017.

Cherat Cement, located in the Khyber Pakhtunkhwa Province in the north-west of Pakistan, is a leading cement producer with a manufacturing capacity of some 2.45 million tons per annum. To meet the growing demand for cement in Pakistan, the company is further expanding its production facilities, with a new line of 2.11 million tons, and for this additional power supply is required. The existing plant is also powered by Wärtsilä equipment, consisting of four Wärtsilä 32 engines.

"We need to enlarge our facilities and this we must to do quickly on a tight schedule. Wärtsilä has supported this timetable by agreeing to deliver their generating sets on a very short time table and this, together with the positive experience we have had with the Wärtsilä engines already installed, is why we had no hesitation in choosing Wärtsilä," says Mr Azam Faruque, CEO of Cherat Cement.

The engines are scheduled for delivery in March 2018 and the plant is expected to be fully operational by June 2018. In addition to the need for quick delivery, the customer's prime requirements were to have efficient, multi-fuel engines. The Wärtsilä 34DF engine utilises advanced technology to deliver high efficiency and is capable of operating on either natural gas or conventional liquid fuels. With this recently signed contract, Wärtsilä now has an installed base of 2.1 GW in Pakistan.

LAFARGE UPGRADE

Lafarge France plans to spend €14.5m towards upgrading its Havre-Saint-Vigor cement plant. €8m will be spent on upgrading the plant's mill and modernising its dock. The remainder will be spent on changes to the quarry including a new crane and wharf. The quarry at the site will be used to process construction waste from the Greater Paris area.

ITALIAN VENTURE

HeidelbergCement has announced that its Italian subsidiary Italcementi has entered into an agreement with Cementir Holding to buy Cementir Italia, including the fully controlled subsidiaries Cementir Sacci and Betontir. The acquisition includes all of Cementir Italia's cement and concrete business. The transaction has an enterprise value of €315m. Closing of the transaction, which is subject to final approval by the Italian Antitrust Authority, is expected in early 2018.

"Cementir Italia provides an ideal industrial and geographic fit that significantly improves our nationwide presence in Italy," explains Dr Bernd Scheifele, Chairman of the Managing Board of HeidelbergCement. "For Italcementi, the acquisition is a unique opportunity to grow and consolidate its position in the Italian market. We see strong recovery potential in Southern Europe and especially in Italy over the coming years. With this acquisition we are very well positioned to create value through synergies, efficient processes, and the offer of high-quality and innovative products. The acquisition is part of our strategy of disciplined growth and increasing shareholder returns."

Cementir Italia's business includes five integrated cement plants and two cement grinding centres with a total capacity of 5.5 million tonnes per year, as well as the network of terminals and concrete plants, all operating in Italy. Italcementi will fully integrate the operations into its current network, thereby expanding its position in the Italian market. Minimum annual run-rate cost synergies of €25m are expected to be achieved by 2020. The acquisition will be financed with free cash flow.

The net investments for 2017 and 2018 will remain unchanged. To offset the acquisition, HeidelbergCement intends to dispose of non-core assets within its broader portfolio review.

PRECISION ENGINEERING

Use of software and automated processes are playing an increasing role in bulk cargo transport and port services. We take a look at some of the new products available aimed at increased precision in a business where time is money. Improving safety through the use of drones and other technology is also on the agenda

Precision is the keyword with a new powered conveyor belt tracker from Martin Engineering, which delivers immediate and continuous precision adjustment of hard-to-track reversing conveyors, helping operators reduce spillage and extend the life of belts and other system components.

Able to effectively centre the belt regardless of the travel direction, the robust unit has demonstrated greater durability and longer service life than previous designs, translating to a reduced cost of ownership, the company says. Versatile enough to run on 110V / 220V power or a plant's existing compressed air, the Martin Tracker Reversing can even be specified with the company's unique Roll Gen System, which uses the kinetic energy of the moving belt to produce a supply of electricity sufficient to power sensors, scales, lights and other devices when no power is readily available.

"Most reversing belt trackers use a paddle wheel or roller of some kind to move the actuator," explains Martin Engineering Product Development

Engineer Andrew Timmerman. "Like anything mechanical, the more moving parts there are, the more opportunity for something to wear out. In comparison, this unit reduces the number of parts in a rugged design, using either an air or electric actuator to reverse the working direction." Engineered for reliability and longevity, the unit gives conveyor operators a new option for powering the tracker, allowing them to best suit their individual circumstances.

"We wanted to offer both types of actuator to meet the needs of virtually any location," Timmerman says. "The sensors communicate the pulley direction, sending a signal either to an electrical relay or a pneumatic solenoid to extend or retract the cylinder as needed, depending on which version is specified."

For locations where no electricity or plant air is available, Martin Engineering has designed the Roll Generator to serve as a self-contained mini power station. In those cases, the tracker uses an electric actuator to move the rolls and correct the belt's position. The electric actuator is also used when 110/220V power is available from the plant. The Martin Tracker Reversing is available in Lower Units for installation on the return side of the belt and Upper Units for use on the conveyor's carrying side.

FLYING HIGH

RIMS BV (Robotics In Maintenance Strategies) is the first company to receive an attestation from Bureau Veritas (BV) Marine & Offshore, as an approved service supplier, allowing the use of Remote Inspection Techniques (drones) during surveys of hull structure of ships and mobile offshore units classed with BV.

RIMS is a global provider of high-tech, safe, autonomous and sustainable surveying and maintenance solutions. They supply and provide services which aid with the replacement of old and expensive, slower, high-risk and resource intensive maintenance activities, with new smarter drone and robotic technologies.

It is anticipated that the use of drones to carry out inspections of enclosed spaces will not only reduce the time to carry out scheduled survey work, but will improve visual records, while minimising risk, bringing substantial benefits to owners, insurers and classification societies.

David Knukkel, CEO of RIMS BV commented on the approval: "To receive approval from Bureau Veritas is a real breakthrough for us in the shipping industry. To be acknowledged by one of the largest established and respected class societies shows that we are on the right track to deliver safe and approved drone surveys for the marine industry."

RPAS CONTRACT

Martek Marine (Martek) has been awarded a ground-breaking two-year Remotely Piloted Aircraft Services (RPAS) contract from the European Maritime Safety Agency (EMSA). The services offered will fulfil part of the world's largest ever maritime drone contract.

Part of a five-year EMSA strategy of improving coastguard monitoring and surveillance of maritime activity valued at €67m, the service provision from Martek not only includes the RPAS, commonly known as drones, but also the pilots, long-range antennae, mission control vehicles and ground crew. Video and drone sensor data will be streamed live to a control centre, to allow EU Member States to make prompt decisions on intervention actions.

RPAS will be used to perform beyond visual line of sight (BVLOS) operations and will assist with border control activities, search & rescue operations and monitoring of pollution, as well as the detection of illegal fishing and drug and people trafficking.

A typical surveillance task involves the deployment of a drone from the deck of a ship to a specified area of interest. The drone then collects requested surveillance information before sending it, in addition to payload data, to the users.

The chosen EMSA contract drones are of compact design, making them extremely manoeuvrable in addition to having the ability to start and land vertically from both shore and vessels. Focusing on short range operations, the drones will be equipped with the latest sensors designed for maritime surveillance. To operate effectively in the harsh maritime environment, the technology has been developed to withstand storm force wind and heavy rain, snow and salt spray.

Paul Luen, Martek Group, CEO says: "This contract sets us up for major expansion as the maritime drone experts. More world firsts will be delivered by us in this exciting technology field during 2017, as we launch further disruptive drone services."

Martek's continued contractual success follows the company being awarded a previous €10M contract by EMSA for ship engine emission monitoring using RPAS in November 2016. Martek's sister company COPTRZ provided consultancy on both contracts.

MARTEK TEAM PLAYERS

STAYING IN TOUCH

Keeping up to date with technology is essential to adapt to the market of bulk materials handling equipment. It was through the thinking of improving machinery to make people's lives easier that Guttridge launched equipment with touch screen panels. Customers can now order these panels as an extra feature which they can customise accordingly to their individual business needs.

Where before there were physical buttons used to control machines like the Easyflo (free standing mobile screw elevator) now a touch screen panel can be used to set the machine functions necessary to complete the job.

The advantage of optimising the machines with computers is, if in one or two years' time customers feel that your computer needs an upgrade, Guttridge will provide new updates and features to ensure machinery is running smoothly with minimal downtime.

WISETECH GLOBAL HAS ANNOUNCED THE PURCHASE OF US-BASED CARGOSPHERE

WISETECH PURCHASE

WiseTech Global has announced the purchase of US-based CargoSphere, a leading provider of global ocean freight rate management solutions.

Headquartered in North Carolina, CargoSphere's advanced rate management platform ensures frictionless rate distribution and efficient access to confidential ocean freight rates. CargoSphere provides its rate management solutions to more than 100 customers including Kuehne + Nagel, Dachser, NNR Global Logistics, M+R Spedag, Livingston International and many other leading global freight forwarders and logistics providers.

WiseTech Global CEO, Richard White, says: "At WiseTech, we are focused on improving productivity, quality, speed, visibility and manageability in the logistics industry and we are delighted Cargoguide and CargoSphere are joining the WiseTech family. Combining their powerful air and ocean freight rate management solutions with the strengths of the WiseTech Global group and our leading integrated global execution platform, CargoWise One, will be a step forward for the freight forwarding industry.

"Both solutions will enhance existing rate management capabilities within CargoWise One, increasing efficiency, accuracy and workflow for our customers worldwide, while our innovation strength and development capacity will further accelerate multi-modal rate management developments. This will ultimately create a pathway to the deeper automation necessary to substantially increase productivity for freight forwarders grappling with exponential increases in volumes and margin pressure."

Cargoguide will remain under the leadership of managing director, Jorre Cobelens, who says: "Joining forces with a global leader like WiseTech enhances our ability to revolutionise rate, margin and capacity management for the freight forwarding industry. With the combined strength of our organisations, we will expand further globally and accelerate our delivery and development of high productivity rate management solutions."

CargoSphere will continue to be led by Managing Director, Neil Barni, who says: "We have dedicated over 15 years pursuing our product vision and goal of becoming the leading neutral global ocean rates platform for the shipping industry, and working with WiseTech over the last year we realised that we can both do more and deliver more value to our customers together. We will benefit from the global strength and powerful innovation capability of WiseTech and we remain committed to integrating with ocean carriers and with our customers, and to delivering on our vision for fully automated digital rate distribution."

Cargoguide and CargoSphere will continue to deliver its solutions independently, direct to their respective worldwide customers and now, also to the 7,000 logistics providers across 125 countries who utilise WiseTech's integrated supply chain execution solutions.

WiseTech's global integrated platform, CargoWise One, enables logistics service providers to execute highly complex transactions in areas such as freight forwarding, customs clearance, warehousing, shipping, land transport and cross-border compliance and to manage their operations on one database across multiple users, functions, countries, languages and currencies.

COMPLIANCE MONITORING

Aqua-tools, the specialist in water microbiology, has delivered the first in series of 30 state-of-the-art Rapid ATP Ballast Water Monitoring Systems to SGS Group.

The Geneva-based testing and certification body has agreements in place with several countries to inspect and monitor the treated ballast waters of vessels entering their ports, the latest of which is The Kingdom of Saudi Arabia.

Vessels discharging ballast water in Saudi Aramco ports have been required to present a ballast water report and sample since 16 August 2017.

Dr Vladimiro Bonamin, Vice-President, Global Business Development Manager, SGS Groups, says: "With the entry into force of the Ballast Water Management Convention next month, ballast water monitoring will become an important aspect of the port state control function, as inspectors test treated water for compliance. Aqua-tools, in collaboration withSGS Group (Switzerland) and LuminUltra (Canada), has developed a Rapid ATP technology designed to be the most reliable and effective ballast water monitoring solution on the market."

According to Bonamin, existing bioluminescence methodologies used to monitor Adenosine Tri-phosphates (ATP), a molecular structure, like DNA, that is found in all living organisms, "are ineffective in high salinity waters and while an accepted method for testing surface waters, these rudimentary solutions do not provide a reliable tool with which to test the efficacy of ballast water treatment systems".

Marc Raymond, Managing Director, Aqua-tools, says: "Our test protocol is based on the bioluminescence principle, whereby the proportion of light correlates exactly with the number of Adenosine Tri-phosphates found in ballast water. Other luminometers measure the light, but these use a very rudimentary measurement 'pen' to take a small sample of the water. This is ineffective since the reagent required to extract the ATP from the organism is heavily diluted and does not provide an accurate measurement from which to assess efficacy across the entire spectrum specified in the IMO D2 parameters list.

"We have developed a unique method for extracting the ATP from the cell walls of all marine organisms, including those with hard shells, in a process that takes just five minutes. Our method analyses each fraction: >50µm (most often zooplankton), 10-50µm (most often phytoplankton) and bacteria, which other ballast water monitoring systems struggle to achieve.

"While much focus has been given to the ballast water treatment system, there has been little discussion about enforcement," says Bonamin. "Existing ballast water testing methods could mean that incorrect measurements are taken, resulting in heavy financial penalties for shipowners. We now have the technology available to provide 100% indicative but accurate readings more or less immediately, without having to send samples off to laboratories."

Aqua-tools' ATP 2G technology can be used onboard vessels and by enforcement agencies to rapidly analyse treated waters during the deballasting process, providing results in less than 40 minutes.

AQUATOOLS HAS DELIVERED A RAPID ATP BALLAST WATER MONITORING SYSTEM TO SGS GROUP

BUSINESS IS BOOMING

There have been considerable investments in breakbulk terminal facilities recently, with a number of new facilities across the world coming on stream

M Holland Latinoamérica has celebrated the official opening of its new breakbulk terminal and headquarters just outside Mexico City in Tultitlán, Mexico.

The new 80,000 sq ft facility includes executive offices, warehouse space and a separate breakbulk and processing facility. It can unload two railcars simultaneously indoors and accommodate up to 12 railcars on a secure rail spur within the industrial park. There is also additional track storage in an adjacent railyard, all located within a secure industrial park. Operations have been phased in at the new facility over the past year.

It has been almost two years since M Holland entered into a partnership agreement with Grupo Solquim, a family-owned Mexican plastics and chemicals distributor with roots in Mexico going back 47 years, to create M Holland Latinoamérica. Two additional Latin American acquisitions were integrated into the partnership, strengthening access to the Caribbean and Latin American export markets.

Xavier Lebrija, director general of M Holland Latinoamérica, says the Tultitlán terminal "consolidated two separate facilities in the Mexico City area into one highly efficient and perfectly located operation with ample room for our projected growth. In the process, we tripled our resin pulverizing capacity and doubled our bagging capacity."

The new processing facility includes three pulverizing lines with an annual capacity of about 12 million pounds, and two bagging lines, including a new high-speed form, fill and seal line that can bag up to six railcars daily.

At the opening ceremony, M Holland global sales director Steve Armstrong told the 200 attendees, "This expansion demonstrates our commitment to Mexico and Latin America. The location allows us to service both domestic and international suppliers and a hub to reach both Mexican and export customers."

JORDANIAN INVESTMENT

IMGS has supplied bulk cargo handling equipment to fertiliser projects in Jordan, a key country in supply of fertiliser and notably phosphates.

The project involved transportation and integration of the Rapidpack In-Feed conveying systems, bulk bagging systems and stock monitoring software for phosphate facilities with production capacity exceeding seven million tons annually.

With offices in Dubai and Toronto, IGMS provides innovative and economical cargo handling solutions globally with a focus on bulk cargo and bagging and best practices in terminal management.

The Rapidpack Mobile Bagging Machine System is a cost-effective and efficient mobile bagging system. Engineered based on years of practical experience in working in diverse conditions with bagging machinery, Rapidpack machines are designed to be totally self-contained technically advanced and easy enough to operate with limited training, the company says.

"Our containerised mobile weighing and fixed bagging systems are designed to operate around the clock, worldwide, in the most hostile environmental conditions, Rapidpack equipment is designed to handle all shipped dry bulk materials including fertilisers and grain."

Each unit contains built-in scales, certified in accordance to international standards enabling us to guarantee accurately weighed bags and detailed records of delivered and received cargo quantities.

GOING GREEN

Braskem, the largest petrochemical company in the Americas, and União Plásticos, a company that manufactures and markets flexible plastic packaging, has partnered with the Cooperative of Family Farmers of the Poço Fundo Region (COOPFAM), in Minas Gerais, for the supply of the I'm GreenT Green Plastic. The polyethylene from sugarcane, a 100% renewable raw material, will be used in the production of organic coffees packaging.

FERTILISER PLANT IN AQABA, JORDAN

Each year, the cooperative distributes four metric tons of these grains, and União Plásticos is responsible for the development and production of these packages. Initially, COOPFAM will be using Braskem's renewable resin in the production of traditional packaging, known as almofadas ("cushions"). The cooperative is a reference in organic, solidary and agroecological agriculture, benefiting more than 400 families of small coffee farmers from the municipalities in southern Minas Gerais.

"This will be the first organic coffee packaging to invest in Green Polyethylene in the Brazilian market, which shows our commitment to sustainability. It is another great achievement not only for the cooperative, but also for the final consumer. Our expectation is to take this product to all our packaging," says Edivânia de Fátima Fernandes, responsible for the COOPFAM industry.

A result of the combination of innovation, technology, and sustainability, the Green Plastic captures 3.09 metric tons of CO_2 for each metric ton of resin of renewable origin produced, according to the Life Cycle Assessment (LCA) carried out by the consulting firm ACV Brasil, with technical review by a panel composed of the Institute for Energy and Environmental Research GmbH (IFEU) and Michigan State University.

ESCAPE PREVENTION

US-based Flexicon has been expanding its product range with the new BULK-OUT BFC Bulk Bag Discharger which features an enclosure to contain errant dust escaping through the seams or fabric of bulk bags when working with unlined bags.

White polymer panels enclose the sides, rear and top of the frame, while clear panels on four hinged access doors allow monitoring of the discharging process. A port on the rear panel allows venting of the enclosure to a centralised dust collection system.

Intended for applications in which trace amounts of dust cannot be tolerated or when dusty materials leak through the bag itself, the enclosure works in concert with the discharger's dust-tight bag spout interface and expands the ability of the discharger to contain dust from all areas of the bag.

To maintain dust control at the bag spout, a manual Spout-Lock clamp ring positioned atop a pneumatically actuated TELE-TUBE® telescoping tube enable an operator to make a quick, dust-tight connection between the bag spout and hopper, and to automatically elongate the bag as it empties to promote flow and evacuation.

The telescoping tube raises the clamp ring assembly that seals the clean side of the bag spout to the clean side of the telescoping tube, then lowers until the bag spout is pulled taut.

Once the spout is untied, the telescoping assembly exerts continual downward tension on the spout, elongating the bag as it empties.

The high-integrity, dust-tight seal between the bag spout and clamp ring allows full-open discharge from the bag without dusting.

A Power Cincher pneumatically-actuated flow control valve cinches the bag spout concentrically with no leakage of material, allowing gradual opening of the bag spout as well as retying of partially empty bags. The discharger is equipped with Flow Flexer bag activators that raise and lower opposite bottom edges of the bag at timed intervals, loosening compacted materials and promoting material flow into the bag discharge spout. As the bag lightens, the stroke of the bag activators increases, raising the bag into a steep "V" shape, eliminating dead spots for total evacuation of material with no manual intervention.

Material contact surfaces are of stainless steel finished to sanitary standards, with the exception of flexible tubing that connects the bag spout clamp ring to the surge hopper, and the hopper outlet to a flanged connection feeding a process on the floor below.

The unit is also available with an integral dust collection system, outlets to feed any process, and mechanical or pneumatic conveying systems.

BFC Series dischargers feature a cantilevered I-beam with electric hoist and trolley to raise and position bulk bags without the use of a forklift. Also offered are BFF Series dischargers equipped with top-mounted receiving cups and removable bag-lifting frames for forklift loading of bulk bags, and BFX half-frame dischargers that require a forklift or plant hoist to suspend the bag during discharge.

Construction is of carbon steel with durable industrial finish, with stainless steel material contact surfaces, or in all-stainless steel finished to food, dairy or pharmaceutical standards.

MAKE THE RIGHT CRANE CHOICE

Finding the right overhead crane is now made easier with Konecranes Crane Advisor, an online tool that helps customers narrow down their crane options with customized recommendations. The tool is already being used in North America and is now made available in other geographical areas as well, with new features and content.

"Crane Advisor is a service that makes the information retrieval a lot easier and more efficient for our customers," says Jari Myyryläinen Vice President, Konecranes Industrial Applications. "Crane Advisor offers the customer valuable information which is customised according to the lifting needs."

Only four steps are necessary to get a crane recommendation the company explains. Crane Advisor asks the customer to answer four key questions – industry, capacity, span and duty class. The icon-based-design of the tool makes it extremely user-friendly. After submitting the answers, the user immediately gets a personalised overhead crane recommendation.

With this recommendation, customers can familiarise themselves with the product offering even before continuing discussions with a Konecranes sales representative. This approach saves the customer's time and decision making. In a world where time is money, this is very valuable.

ECO HOPPERS FOR KENYA

Samson Materials Handling has received an order from TradeMark East Africa for 4 Eco Hoppers with ATEX to be employed at the Port of Mombasa in Kenya. This was won following a lengthy and complicated tender process. The engineering design is the result of the successful collaboration of the Aumund group involving Samson Materials Handling in the UK and engineers from SCHADE Lagertechnik in Germany.

Four identical Eco Hoppers will be used for the environmentally respectful import of clinker, coal and gypsum. Management of air quality and fugitive dust is very important as operation will be in a dusty atmosphere with high levels of humidity and temperatures ranging from 22 – 40°C. A variety of dust suppression measures will be employed both at the intake area of the Eco Hopper itself as well as on a dusting system situated between the hopper and truck.

The dust reduction measures include an automatic reverse-jet cleaning system, air compressors, inlet grill with suction capacity, a flex-flap creating a pressure differential and a dust filter unit on three sides of the hopper.

The Eco Hopper inlet grill measures 6m x 6m and is topped by a 2m high shroud which creates an aperture of 8.2 x 8.2m for grab discharge thus mitigating the effects of high winds. The Eco Hopper is mounted on a chassis which brings the total height of the configuration to 15.7m allowing a truck clearance height of over 4m.

The 4 Eco Hoppers for the Port of Mombasa are mobile powered travel with crabbing functionality to enable specific positioning of the hoppers alongside the vessel. The throughput of each Eco Hopper is designed to operate at a peak rate of 700tph.

EUROPORTS LARGEST LOAD

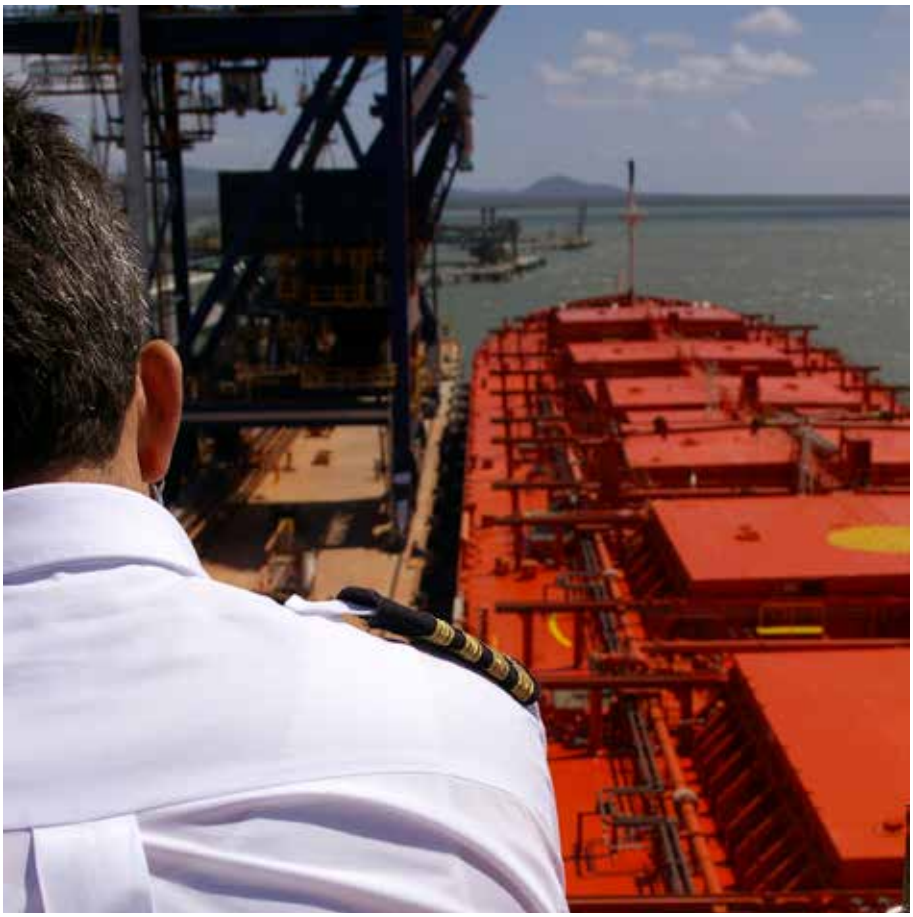
Euroports has just completed a major job for a number of its key customers in Antwerp, loading to capacity the Salta, for GMB Maritime Liner Services, at its Terminal 1207 in Antwerp.

At the terminal, which has a storage capacity of one million tonnes, Euroports handles a large range of cargo types, from paper products to steel and other metals, wind turbines, and fruit. The challenge this time was to load all the cargo onto the MV Salta in time for its scheduled departure date, 25 September.

"This vessel has the largest draft of any that Euroports has ever loaded at this terminal," says Joeri Tielemans, the company's Commercial Director for Belgium and France. "That's thanks to the new 18-metre-deep lock here in Antwerp, which we're really delighted with, because it gives our customers so much more flexibility."

ORE ABILITY

Times might have been tough for the industry over the past few years, but there is certainly appetite in the market for very large ore carriers to meet the demand of the Brazil–China trades



If many question marks hang over the viability of VLOC conversions from oil tankers following the *Stellar Daisy* tragedy, demand for new tonnage shows no signs of abating.

Hyundai Heavy Industries (HHI), the world's largest shipbuilder, announced in September that it had signed an $800m contract to build 10 325,000 dwt VLOCs with Polaris Shipping, the domestic dry bulk owner and operator which operated the Stellar Daisy.

The contract is the largest single order in the past five years, since HHI received an order of 10 large-sized containerships from a Greek shipping company in 2012.

The ships, measuring 340m in length, 62m in width and 29.8m in height, will be designed as eco-friendly, applying LNG Ready design to meet environmental regulations and reduce fuel consumption, and equipped with a ballast water treatment system and a scrubber. The vessels are scheduled to be delivered by 2021.

An HHI official says: "Even under unfavourable market conditions, we

have proved our competitiveness with a big order contract in five years. We are beefing up our marketing efforts to meet clients' needs on the back of our eco-friendly technologies."

HHI Group has received a total of 20 orders to build vessels from Polaris Shipping, and delivered seven vessels including four 250,000 ton VLOCs ordered in 2013 so far.

The total number of ships HHI Group won so far this year is 99 ships worth $5.8bn, which is a 500% plus increase for the comparable period last year when it clinched 20 ships worth $2bn.

DRYDOCK REOPENS

The world's third biggest drydock is back in the running for repair business in Marseille.

Renovation work costing €32m to reopen the giant Drydock 10 at Marseille as a megaship repair base was completed in early April with refurbishment of the pumping station. The port authority has now handed possession to designated operator Chantier Naval de Marseille (CNdM).

At 465m long and 85m wide, the dry dock is the world's third biggest and was opened in 1975 to specialise in VLCC repairs. It was mothballed in 2000 when the market shifted east, but has been restored to serve the largest ships afloat with minimal deviation – notably cruise vessels more than 360m long that regularly call at Marseille, the leading cruise port of France.

In addition, the facility will be targeted at gas carriers, bulkers, containerships and the offshore sector.

With funding support from national and regional authorities, the project also included the construction of a new dock gate, equipment overhauls and renewal of the electricity supply network.

Last year, Costa Cruises underlined Marseille's key repair location by taking a one-third stake in CNdM, which already operates dry docks 8 & 9 at the port after being formed for the purpose in 2010 by Genoa-based repair and conversion specialist San Georgio del Porto.

UNDERWATER WORK

There has been a flurry of activity for Hydrex dive teams, with a number of hull repair and shell plate projects in Europe and the United States in recent months.

All repair projects were carried out while the vessels remained afloat and on hire using the Antwerp-based company's award-winning mobile dry dock technique, mobdock. However, the repair to the flat bottom plates of vessels in the Port of Santander and Palm Beach required a more bespoke solution.

A 115m LPGC had just left dry dock in the Port of Santander, Spain, when damage to the flat bottom was discovered, but since returning to dry dock was not an option due to unavailability and cost, Hydrex was contacted to carry out the repair. The vessel's shape, however, necessitated the design of a bespoke mobdock (mobile dry dock) so technicians could carry out the repair underwater in dry dock-like conditions while the ship was berthed alongside the repair yard.

Once diver/technicians discovered the extent of the damage, which required a 400x300m insert, they began to tailor-make a mobdock on site to fit the rounded shape of the hull.

The mobdock was constructed at the yard for installation by the Hydrex team. The shipyard team was then able to effect repair in the best possible conditions, keeping the vessel on-hire and on schedule without having to wait for a drydock space to become available.

A tailored mobdock also had to be constructed in Palm Beach, USA, to facilitate the repair of a section of hull affected by corrosion. The damaged area was the aft starboard side shell plating by way of the bilge so it was imperative that the mobdock could sit perfectly over the rounded shape of the hull.

After the modified mobdock was installed, the frame covering the damage was removed. This allowed the diver/technician team from the Hydrex facility in Tampa, Florida, to cut away the damage and the surrounding area. A new insert plate was then positioned and welded following our class-approved procedure.

"This is the real beauty of the mobdock concept," says Dave Bleyenberg, Hydrex Production Executive. "We can modify or build custom-made solutions on site to suit any shaped hull or appendage in very little time. This way most repair projects can be carried out underwater, in dry condition.

"Of course, there are occasions where damage does not allow a permanent repair, but we can install temporary doubler plate over the damaged areas, allowing vessels to keep sailing until their next scheduled dry dock. This was

HYDREX WAS CONTRACTED TO CARRY OUT THE REPAIRS

the solution offered to the operator of an offshore supply vessel recently, when a small hole was discovered in the hull on the starboard side of the flat bottom. A minor patch repair like this can easily be carried out in less than a day without any interference to a ship's schedule."

Hull repair to a 198m general cargo ship berthed close to the Hydrex facility in Antwerp was, however, a lot less straightforward.

A detailed inspection of the vessel revealed corrosion damage in the flat bottom but shell plating around the damage was in poor condition and too thin to accommodate the welding of an insert plate. Instead, four large doubler plates were inserted on the inside of the hull to cover the damage and other areas at risk.

"The 1255 x 400mm plates were cut to size at Hydrex HQ's fast response centre and then fitted and secured by our diver/technicians. To prevent any further leaks, additional welding work was carried out to the rest of the area before detailed thickness measurements were taken to make sure the vessel could sail safely until the next drydock visit," says Bleyenberg.

HULL COATING CO-OPERATION

Shipyard Blohm+Voss has launched a state-of-the-art technology for the coating of hulls developed by Hubert Palfinger Technologies (HPT). The new, cost-saving process, the Hull Treatment Carrier (HTC), sets new standards in quality and efficiency and makes a sustainable contribution to environmental and occupational safety. HTC is now available to Blohm+Voss customers for all repair and refit projects.

Removal with high-pressure water up to 3,000 bar, automated application up to 1,200m per hour per HTC, up to 30% less coating needed – Blohm+Voss, in co-operation with Palfinger, is setting the stage for new standards in the refit and repair sector by introducing to the market a new HTC system for surface treatment and colour application.

"Our co-operation with Palfinger is an important building block in order to consistently optimise our core areas of business after becoming part of the Luerssen Group towards the end of last year. We want to offer our customers innovative and cost-efficient solutions," explains Dieter Dehlke, CEO of Blohm+Voss.

Compared to common manual application techniques, with the HTC, due to the automatic surface preparation and coating, an exact and uniform colour composition can be achieved. This results in reduced consumption of the colour coating as well as a smoother application of the antifouling (AHR) providing a less rough surface, which ultimately leads to fuel savings when the ship is in operation.

In addition to the quality advantages with regard to the ship coating,

SPECIALIST HULL PAINTING

further advantages are the de-creased impact on the environment, such as a significant reduction in VOC emissions, and increased occupational safety. The same applies to the subsequent ship operation, for example, carbon dioxide, sulphur oxide and nitrogen oxide emissions are lower.

The collaboration between the shipyard and the manufacturer for automated access and maintenance systems already began in May 2016 with the first successful test runs, which included a 4,045 TEU container ship from the Hapag-Lloyd shipping company. "Whilst the container vessel Quebec Express was docked at Blohm+Voss, the coating was fully removed, partially using the HTC system, and further maintenance work was conducted. This has led to a 7% reduction of the speed-loss of the vessel", says Lutz Dyck, Fleet Director of the Hamburg shipping company.

During the current market launch phase, which runs until 31 December 2017, Blohm+Voss and Palfinger will be offering special conditions for customers interested in the HTC system.

BALLAST WATER BUSINESS

Goltens has been awarded a contract for the engineering and retrofit installation of OceanSaver ballast water treatment (BWT) systems on-board two of BP Shipping's gas carriers. The vessels to be retrofitted are the two 138,000 cbm LNG vessels British Innovator and British Merchant.

Goltens will undertake the engineering and prefabrication work in 2017 and then complete the installation services in 2018. "We look forward to working closely with BP and applying our well-proven process to the retrofit of these two gas carriers in the most efficient manner," says Roy Strand, Chief Operating Officer of Goltens Worldwide.

Goltens has centres of excellence in Oslo, Miami, Dubai, Singapore, Shanghai, Busan and Groningen in the Netherlands, where the Green Technologies division is headquartered. Goltens provides clients with comprehensive support for their BWT retrofit projects, including 3D laser scanning and design engineering,

system evaluation and comparisons, total engineering packages; including bill of materials, 3D shipyard installation drawings and instructions and Marine Class Submittals, as well as full turnkey installations.

Goltens is the market leader for ballast water retrofit projects having been involved in more than 240 projects covering a broad range of vessel types and all of the major system manufacturers.

OLDENDORFF COMEBACK

August saw the resurrection of two newbuilding contracts, which Oldendorff had concluded originally in June 2012 with Weihai-based Samjin Shipbuilding, which was at the time controlled by Korean shareholders. The initial order was for four 36,000 dwt Handysize newbuildings of the Korean designed FESDEC-36k eco type.

The yard had to go through a financial restructuring due to the problems of its Korean parent, Oldendorff comments. "We cancelled all four ships in 2014 and 2015 after excessive delays and received back our down payments. Roughly 50% of the building blocks were completed at that time and well-protected."

Samjin was acquired last year by the diversified Shanghai Zhouji Group and in August Oldendorff signed new contracts for two of its original hull numbers (#1058 and #1059) for delivery in the autumn of 2018 and January 2019. It also concluded timecharter contracts with a major trading house for four to five years' time charter on both vessels.

The new vessels feature four 35 tons Mitsubishi cranes, a Wärtsilä / WinGD main engine, MAN-B&W auxiliary engines and Mewis fuel saving ducts. The cargo holds have a generous cubic capacity of 47,500 cbm, a tanktop strength of 25 tons per sqm and a high flexibility for heavy bulk parcels and steel cargoes.

In the past five years since 2012, Oldendorff has invested more than US$2.25bn in 89 vessels. The buying programme was divided equally among all four segments: 22 Capes (incl Newcastlemaxes and Baby Capes), 22 Panamaxes (incl Post-panamaxes and Kamsarmaxes), 22 Ultramaxes and Supramaxes and 22 Handies, plus one transshipment platform.

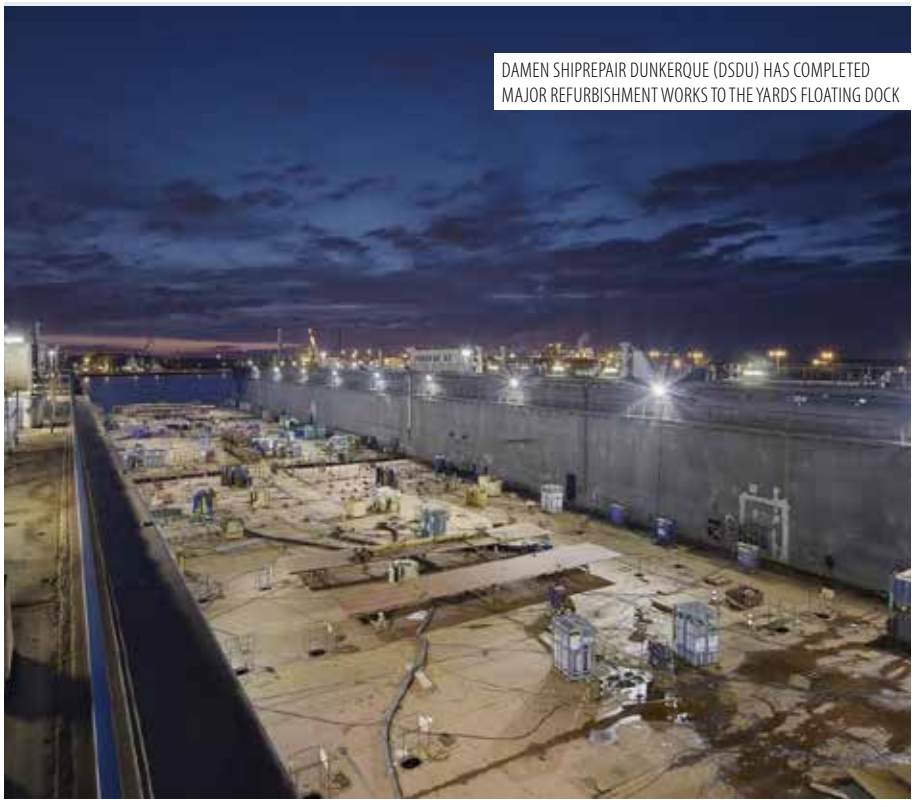
DUNKIRK DEVELOPMENT

Damen Shiprepair Dunkerque (DSDu) has completed major refurbishment works to the yard's floating dry dock. The dock, capable of taking vessels up to 180 metres in length and lifting 14,000 tonnes, is owned by the Port of Dunkerque (Grand Port Maritime de Dunkerque – GPMD) and is operated by DSDu. It is a major piece of ship repair infrastructure and an important part of the yard's capability to repair and maintain a wide range of vessels.

The dock has recently celebrated its 30th anniversary. It was built in 1986 in Germany and purchased by GPMD in 2001. After 30 years in service, in which the tank top had undergone only minor repairs, it was time to renew this major part of the overall structure. The contract was awarded to DSDu after a public tendering process and required the replacement of 700 tonnes of steelwork plus 16,000 metres of new welding and the application of 12 tonnes of paint.

The project also demanded a fast turnaround, with just three months available to remove the old steel, fabricate and fit the new tank top and then apply the special paint system. To prepare for that, a dedicated team of 10 engineers spend the previous four months undertaking studies and getting everything ready for work to begin as soon as the dock ceased operations. 170 people worked night and day to cut out and remove the old floor, prefabricate the new steel sections and then install the new structure before finally applying the anti-corrosion treatment to guarantee optimum protection of the new structure. In addition, a new access pontoon for the dock called Dynamo was added.

Originally a Damen Stan Pontoon 5213, it was adapted by the yard for its new purpose. Work on the dock began at the start of September 2016 and was completed in mid-December, just in time to receive the first ferry – P&O's European Seaway – marking the start of DSDu's annual winter refit season.



DAMEN SHIPREPAIR DUNKERQUE (DSDU) HAS COMPLETED MAJOR REFURBISHMENT WORKS TO THE YARDS FLOATING DOCK

> While the channel is open and commerce is flowing with some restrictions, the Houston Ship Channel needs significant dredging to address these storm damages

TESTING TIMES

Gulf ports have been recovering following the devastating effects of the hurricane season. Hurricane Harvey has significantly impacted the entire Texas coast, home to petroleum refining centres in Corpus Christi, Houston, Port Arthur, Beaumont, and Lake Charles Louisiana. The storm forced many to either completely shut down or significantly scale back operations

HURRICANE HARVEY WREAKED HAVOC ALONG THE US COAST

How much damage has actually been done to port infrastructure during the hurricane season will clearly need to be assessed. Insurers have already said they are gearing up to meet major claims.

At the end of September, Houston Port Commission Chairman Janiece Longoria stressed the need to restore and improve the Houston Ship Channel due to its importance to the future .

In comments to the Port Commission during its regular monthly meeting, she highlighted impacts of Hurricane Harvey saying: "We are in desperate need of additional relief to properly dredge the channel so that it can accommodate normal commerce at its authorized depth and width."

Presenting satellite images of the mouth of the Houston Ship Channel taken days before and after the devastating rains inundated the Gulf Coast. "The floodwater coming through our system deposited tons and tons of silt into the Houston Ship Channel and throughout Galveston Bay," she said. "While the channel is open and commerce is flowing with some restrictions, the Houston Ship Channel needs significant dredging to address these storm damages."

Additional images presented during the meeting showed dramatic shoaling at the entrances of the port's three major terminals. "There has been 10ft of sediment collected as a result of massive amounts of floodwater that has carried this silt into the channel," Chairman Longoria noted. "Again, this seriously restricts commerce to and from our facilities."

A study conducted by the Texas Transportation Institute determined that a loss of one foot of depth in the channel costs the US economy as much as $281m dollars per year. Chairman Longoria added that the impact of Hurricane Harvey highlights the importance of the channel as a critical component of the national economy. "We must also look at improvements to this waterway that make it more resilient and reduce the impacts of future weather events," she stressed. "We believe that rather than just returning the channel to its pre-storm depth and width, we must enhance its efficiency and we must build in resiliency, to make it better for ever- growing demand." The chairman stated also that part of the channel's recovery is to "harden this asset to make it better for the future," which may include a channel that is deepened and widened.

Prior to the hurricane activities, US Gulf ports had been showing strong figures for the first half of the year . "Port Houston has already handled nearly 20 million tons of cargo this year, reflecting an increase of 13% from the same period last year," said executive director Roger Guenther at a meeting to discuss first half results. More than 1.7 million tons of steel crossed Port Houston wharves, reflecting a year-to-date increase of nearly 50%.

MIDDLE EAST CONNECTION

The Port of New Orleans increased its connection to major ports in the Middle East, Indian subcontinent and Mediterranean Sea and welcomed the return of roll-on, roll-off service with the inaugural call of the Bahri Yanbu, a new state-of-the-art multipurpose vessel, in mid-August at the Nashville Avenue Terminal Complex operated by Ports America.

"The return of roll-on/roll-off service to the Port of New Orleans – for the first time since 2005 – helps us meet the diverse needs of the marketplace and increases our global competitiveness," says Brandy Christian, Port of New Orleans CEO. "The Bahri ships are flexible, state-of-the-art vessels that can simultaneously accommodate project, Roll-on/Roll-off, breakbulk and container cargo. We expect shippers will be pleased with its flexibility and efficiency."

Bahri, formerly known as the National Shipping Company of Saudi Arabia (NSCSA), announced its decision to call at the Port of New Orleans after securing new business contracts, which allows it to provide an unmatched customer experience and deliver market-leading, technology-driven and value-added onshore and offshore services to its New Orleans and Gulf region customers.

Steve Blowers of Bahri Logistics, says: "Bahri is committed to realising its vision of connecting economies, sharing prosperity and driving excellence in global logistics services.

"We are constantly seeking to expand our global reach to provide greater speed and convenience to our customers, and adding a new port call at New Orleans will allow us to more efficiently cater to the needs of customers in North America, where our order volumes are steadily increasing."

GULFPORT DEVELOPMENTS

All has not necessarily being going well at the Port of Gulfport, where a contractor is reported to be suing the Mississippi Development Authority, construction-project managers and engineering firms over a $50m contract.

Southern Industrial Contractors of Rayville, Louisiana, maintains MDA and port construction and engineering firms were negligent in the design and administration of a project to build a transit shed on the refurbished and expanded West Pier. As a result, the lawsuit says, SIC was unable to perform its work as bid and wound up losing the job.

The Mississippi State Port Authority's board awarded SIC a $47m contract to build a transit shed for tenants Dole and Chiquita on the restored and expanded West Pier, beneficiary of $580m in post-Katrina funding from the federal government.

Meanwhile, SeaOne Gulfport, an affiliate of Houston-based SeaOne Holdings, has signed a lease option agreement with the Port of Gulfport and the Mississippi Development Authority on property defined as Terminal 4 at the Port with plans to build a compressed gas liquids production plant.

The port's strategic location allows direct access to target export markets, proximity and connectivity to existing natural gas infrastructure while offering available land for growth, thereby positioning the Port of Gulfport SeaOne's preferred location.

FLORIDA SEAPORTS HAVE DEMONSTRATED THREE STRAIGHT YEARS OF GROWTH IN TOTAL CARGO TONNAGE

While the US benefits from low-cost natural gas, many Caribbean and Central American countries struggle to meet their energy needs. Countries in this region rely on high cost liquid fuels which limits economic growth and negatively impacts the socio-economic fabric of the region.

Approximately 92% of the current power generation in these markets relies upon oil based fuels, while households generally use natural gas liquids for cooking and heating. The planned rich gas and natural gas liquids (NGLs) being exported will provide rich gas for power plants and also provide propane and Liquid Petroleum Gases (LPGs) for household and other uses. SeaOne will use its patented and proprietary CGLtechnology to export and deliver gas, propane, butane, and ethane to international markets in the Caribbean and Central America.

SeaOne's CGL production and export facility will use a refrigeration process to chill the gas to form a solvated product called Compressed Gas Liquid (CGL). The CGL product will be transferred to Articulated Tug and Barge marine transportation vessels that will deliver the CGL cargo to market.

PORT OF CORPUS CHRISTI

The Port of Corpus Christi has approved a long-term lease agreement with Maverick Terminals Corpus LLC, a subsidiary of Howard Energy Partners. The 30-year lease agreement was approved unanimously by port commissioners for approximately 41 acres of land on the north side of the Corpus Christi Ship Channel in the Inner Harbour.

With the expansive growth in both Eagle Ford and Permian Basin productions and the growing global energy demand in general and in particular in Mexico, Corpus Christi is fast emerging as the energy port of the Americas, the authority says.

As the largest refining centre in close proximity to Mexico, Corpus Christi continues to see large investments in supporting the transportation of US energy to Mexican consumers.

Howard Energy Partners plans to design, construct, and operate a rail terminal, and a petroleum and petroleum products storage facility on the leased property. It intends for the facility to connect with its proposed Dos Aguilas pipeline to Monterrey, Mexico. As part of the lease agreement terms the Port of Corpus Christi Authority will design and construct a new oil dock, Oil Dock 20.

The Oil Dock 20 facility will initially serve Mexico's transportation fuel demands by rail with an estimated target of at least two to three unit trains per week. Once the Dos Aguilas pipeline is permitted, constructed, and in-service, significantly more volume is anticipated. Further, the Oil Dock 20 is targeting crude exports to international markets and will have Suez-max capability.

"Port Corpus Christi has secured its position as the number one crude oil export port in the United States. This major investment from Howard Energy Partners represents a shining example of why the Port of Corpus Christi is the energy port of the Americas," says Charles Zahn, Chairman of the Port Corpus Christi Commission.

"This lease marks a strategic and significant expansion of our terminal network, not only for refined products but for crude oil. We are excited about the opportunities for further development, and look forward to continuing to expand our relationship with the Port of Corpus Christi," says Brad Bynum, Howard Energy Partners Co-Founder and President.

FLORIDA GROWTH

The Florida Ports Council released its mission statement earlier in the year which provided updated figures on international trade, cargo data and cruise activity at Florida's seaports.

"Florida seaports have demonstrated three straight years of growth in total cargo tonnage, including an increase of 4.2% in 2015/2016. This is in addition to a strong cruise sector, where Florida continues to be home to the top three cruise ports in the world," says Doug Wheeler, President and CEO of the Florida Ports Council.

"Clearly, port infrastructure investments by Governor Scott and the Legislature are paying off as Florida further establishes itself as a key player in the global marketplace."

The annual Five-Year Seaport Mission Plan is a statutorily required report produced by the Florida Ports Council on behalf of the Florida Seaport and Transportation and Economic Development Council.

"Due to the state's priority on seaport development, Florida ports trade with more than 200 countries and continue to expand reach and accessibility every year," says Wayne Stubbs, council chairman and Port Panama City director.

"Port investments through FSTED have a return on investment of nearly $7 in state and local tax revenue for every $1 of state funding, creating a diverse and growing economy for Floridians and future generations."

According to the report South America, Central America and the Caribbean trade amounted to 77 percent of waterborne exports in 2016. This figure is up from 74.4% in 2015 and 71.1% in 2014. Over the past decade, Florida's trade with the region has grown but, in the past two years there has been a market correction.

In 2016, the import component fell 7.9% to $16.5bn, and from a much larger base, exports fell 11.5% to 24.3 billion tons. Asia, with $22.4bn in cargo, represents about 28.3% of Florida's waterborne trade, and continues to be one of Florida's most important trading regions.

With a 2.6% increase overall, Europe was the only trade region to show growth in trade values with Florida in 2016. Europe has built up a growing share of the state's total trade: $11.6bn or about 14.6%.

North American waterborne trade showed double-digit growth in 2015, at 12%, but dropped 11.2% in 2016 to $3.7bn. Exports to Canada fell 18.3% and imports fell 61.5%, reflecting the large decrease in oil and fuel prices. Mexican imports rose by 7.1% in 2016, buttressed by the automotive industry, and exports fell slightly.

CHINA CLEANS UP

News that China is planning to cancel one third of iron ore mining rights as a means of cutting pollution will come as good news for companies such as Vale, which is transporting large quantities of the commodity from South America

Given the demand for new orders for very large ore carriers, the bulk segment sees a good future for iron ore shipment towards China

An official from Metallurgical Mines Association of China told a recent industry conference that about 1,000 mining rights licences would be cancelled pending miners upgrading their facilities and approach to environmental issues.

The conference heard that iron ore mines in China were on the decline, as the industry decided to import the product and, if necessary, upgrade low grade imported ore, rather than producing it locally.

Clearly, given the demand for new orders for very large ore carriers, the bulk segment sees a good future for iron ore shipment towards China. A number of orders have been signed recent for new tonnage to be built to service the market, including players like South Korea's Polaris Shipping.

Hyundai Heavy Industries (HHI), the world's largest shipbuilder, announced that it has signed a $800m contract to build 10 325,000 dwt VLOCs with Polaris Shipping. will be used to support Polaris charters with commodities giant Vale.

ICBC Leasing and China Merchants Energy Shipping also recently signed a cooperation agreement on VLOC project, tightening their overall collaboration in the shipping industry with a framework agreement at the same time.

According to the agreement signed in Beijing in May, the energy transportation unit of China Merchants Group joins ICBC Leasing's four plus 10 VLOC project via an offshore investment vehicle. ICBC Leasing signed a COA with Vale in April this year. Co-operation with China Merchants is set to reduce operational risks benefitting from both companies' professional expertise in maritime management.

With this project, ICBC Leasing and China Merchants agreed to establish a comprehensive business partnership in shipping and related industries to further strengthen China maritime finance offerings.

Meanwhile, agricultural commodities giant Cargill has hooked up with Japanese trading house Mitsui & Co to take advantage of very low Chinese newbuilding prices with an order for up to six capesizes.

The pair – through joint venture Great Wave Navigation – have tapped Jiangsu New Yangzijiang, according to Clarkson Research, to build three 180,00 dwt capes.

The contract comes with three options. Price per unit is reportedly $41.6m with delivery of the firm ships scheduled for 2019.

Cargill and Mitsui last ordered ships together four years ago with a contract with Shanghai Waigaoqiao Shipbuilding for three capesize vessels subsequently re-sold to Scorpio Bulk.

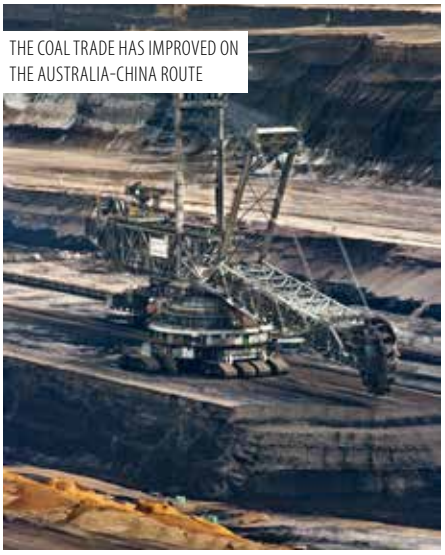
CHINA IS PLANNING TO CANCEL ONE THIRD OF IRON ORE MINING

COAL TRADING IMPROVEMENT

The recent surge in the Panamax rates looks sustainable in the medium term as its demand is propelled by improved coal trade on the Australia-China route and the increasing soybean and corn trades from the Americas (US and Brazil) to Asia, according to Drewry Shipping Consultants. "One of the major reasons behind the recent surge in Panamax rates has been low deliveries and high demolitions since 2016, compared to Supramaxes substantially reducing the supply growth of Panamaxes over the past two and a half years.

"Since 2016, Panamax deliveries have been 38% lower than that of Supramax in terms of dwt, while demolitions have been 32% higher, helping the Panamax supply growth to slow down. During 2013-16, the Panamax fleet expanded by 2.8%, while the Supramax fleet expanded by 5.6% annually, helping the Panamax rates recover faster than the Supramax rates. The average Baltic Panamax TCA remained below the Supramax segment for most of the period since the first quarter of 2011."

"The average parcel size, based on sample fixtures for commodities other than iron ore (on NonCapesize/VLOCs), has grown over the years from 59,600 tonnes in 2015 to 66,500 metric tons in 2017. It looks sustainable in the medium term, mainly because of two reasons. First, China has been trying to reduce its pollution levels by replacing low-quality coal with high-quality Australian coal, increasing the coal trade in the Pacific. Second, the demand for soybean and corn in Asia is expected to continue increasing."


THE COAL TRADE HAS IMPROVED ON THE AUSTRALIA-CHINA ROUTE


SHANGHAI

CARGO EFFICIENCY ON THE UP

Cargo clearance efficiency in Shanghai has been raised by about 30%, as the major port city continues to streamline clearance procedures to smooth foreign trade, according to government reports.

The average clearance time for imports and exports within the jurisdiction of Shanghai Customs was 21.67 hours and 1.35 hours respectively for the first eight months of 2017, 26% and 32% shorter than the same period last year, respectively.

Shanghai has cancelled 11 items requiring examination and approval this year and all clearance applications can now be processed online. Over 95% of the cargo declaration is made via the "single-window system," a trade facilitation policy that enables faster and easier cargo clearance.

From January to August, import and export value at Shanghai ports registered a 16.1 percent growth year on year to 3.9 trillion yuan (about $0.59 trillion). Exports rose 11.4 percent to 2.3 trillion yuan, while imports grew 23.4 percent to 1.6 trillion.

Foreign trade through ports in Shanghai accounts for about one quarter of the national total.

ONE BELT ONE ROAD

The One Belt One Road (OBOR) project was announced in 2013 with the aim of improving transport connections between Chinese ports and industrial centres on the one hand and trade centres in Asia, the Middle East and Europe on the other. The project comprises a rail aspect, which roughly follows the same route as the ancient Silk Road and a maritime aspect that also covers South-East Asia and countries around the Indian Ocean.

China launched the Green Shield 2017 project in July, which aimed to crack down on mining actively in nature reserves in the country.

Chinese interests have also been making substantial investments in port facilities in the Pearl River Delta area and also as part of Russian plans to develop a deepwater port near Archangel.

China's Belt and Road initiative has been driving investment in regional ports and in ports in the wider Southeast Asian area. In recent years, China has looked to rationalise its investment in port facilities so as to ensure that they include a more holistic approach to developing port facilities over and above the basic infrastructure.

CAOFEIDIAN COLLABORATION

Antwerp Port Authority has recently signed a collaboration agreement with the port of Caofeidian. The collaboration forms part of the "One Belt One Road" project in which China seeks to connect its main ports and industrial cities more closely with crucial trade centres elsewhere in the world, including Europe. The Memorandum of Understanding was signed in the presence of the prime ministers of Belgium and China at a ceremony held in Val Duchesse castle where seven other agreements between the two countries were also concluded at the same time.

Caofeidian is a young, but very dynamic port situated in the North of Bohai bay in China. Last year, it handled 260 million tonnes of freight including 36 million tonnes of steel. Antwerp is the largest steel port in Europe with an extensive range of value-added activities in this specific segment. The volume

of steel carried between Caofeidian and Antwerp is between 500,000 and 700,000 tonnes per year.

In order to further boost trade between them, under the terms of the MoU the two parties will investigate the possibility of establishing a rail connection between Caofeidian and Antwerp. Shipping transport will also be improved thanks to the introduction of a regular liner service. The agreement also provides for port professionals from Caofeidian to follow a training package later this year developed specially by APEC-Antwerp/ Flanders Port Training Centre, the maritime training institute of the port of Antwerp. Finally, the two parties have undertaken to carry out mutual promotion and exchange of information.

MCGREGOR ORDER

MacGregor, part of Cargotec, has received an order from Yangzijiang shipyard in China to equip five 62,000 dwt open hatch bulk carriers (OHBC) with hatch covers and cranes. Equipment deliveries will start in 2018 and continue until 2019. The order was booked into Cargotec's third quarter 2017 order intake.

"We want to help our customers succeed," says Leif Byström, Senior Vice President, Cargo Handling, MacGregor. "Our commitment to this success is MacGregor's long track record in engineering safe and efficient solutions for cargo handling and stowage." The order comprises the design of key hatch cover components and the delivery of 20 cranes, four per vessel. Each crane will be fitted with an active rotation control (ARC) system, which stabilises and automatically rotates a load in the air.

"This enables faster load handling, reduces cargo damage and delivers considerable energy savings," says Byström.

PORT CHARGE CUT

China's Ministry of Transport also announced in August that it planned to cut port charges. The cuts are expected to save about CNY200m each year for shipping companies.

The charging system was also altered, with adjustments in fees for tug services and pilotage. Wu Chungeng, spokesperson for the Ministry of Transport (MOT), says changes to port charges since 2014 have brought down corporate costs by CYN1bn each year, with payable items down to 18 from 45, and better information disclosure. The new rule was effective for five years from 15 September, 2017.

QINGDAO VENTURE

Qingdao Port International and PetroChina Fuel Oil plan to spend US$45m (CNY300m) to set up a joint venture to add 600,000 cubic metres of crude oil storage to Qingdao's Dongjiakou Port Area.

Qingdao Port International has signed a letter of intent to establish a joint venture with PetroChina Fuel Oil . The JV will store, load, unload and transfer crude oil, fuel oil and wax oil products.

Qingdao Port is the largest oil transport, transfer and storage base in coastal China and ranks first in the country for amount of crude oil loaded and unloaded. A top-notch port with a capacity of 300,000 tons of crude oil and oil storage tanks with a capacity of nearly three million cubic metres have been built at Dongjiakou Port Area, which can handle 25 million tons of crude a year.

ABU DHABI INVESTMENT

Five Chinese companies have agreed to spend a total of $300m in a deal with Abu Dhabi Ports, deemed a "milestone" by CEO Mohamed Juma Al Shamisi.

The companies have signed a lease on 2.2 square kilometres of the Free Trade Zone of Khalifa Port, which the United Arab Emirates (UAE) firm Abu Dhabi Ports oversees.

"The Chinese companies established within the free zone will sub-lease to five factories to start with," says Al Shamisi.

According to Reuters, the Chinese firms involved in the deal are Hanergy Thin Film Power Group, Jiangsu Fantai Mining Development (Group) Co Ltd, Xuzhou Jianghe Wood Co, Jiangsu Jinzi Environmental Technology Co and Guangzheng Group.

A RISE IN FORTUNES

The German ports sector is holding up. Despite tough market conditions, cargo statistics remain buoyant

PORT OF HAMBURG

Seaborne cargo throughput in Hamburg in 2017 during the first six months of the year, including the general and bulk cargo segments, all but matched the previous year's at 70 million tons, only 0.2% lower than 2016. Up by 1% at 23.5 million tons, bulk cargo throughput in the port continued to grow.

"In the first half of 2017 the Port of Hamburg generally succeeded in asserting itself in a difficult environment, producing a stable result compared to other German ports in the North Range," says Axel Mattern, Joint CEO of Port of Hamburg Marketing.

With bulk cargo handling in Hamburg, totalling 23.5 million tons and up by 1.0% in the first half, trends for imports and exports differed. On the import side, a first-half total of 16.8 million tons meant a 1.3% downturn. Among exports, bulk cargo throughput was very strong at 6.7 million tons, up by 7.4%. The fall in imports was caused by a 10.3% drop in throughput of suctions goods to 1.9 million tons, and one of

9.5% to 4.9 million tons in throughput of liquid cargoes. Among the reasons were above-average throughput volumes in the comparable period the previous year, which in the first half of 2017 again settled down at a normal level.

Up by 5.6% at 10.0 million tons, in the first half the grab cargo segment remained the Port of Hamburg's strongest bulk cargo handling area. Imports of coal & coke at 3.9 million tons (up 7.4%) and of ore at 5.2 million tons (up 4%) were above the previous year's. Steeper demand from power stations and the steel industry caused the higher throughput.

At 6.7 million tons (up 7.4%), bulk cargo exports were positive. Trends differed in the various segments. A harvest-related fall in grain exports, down 8.9% at 1.9 million tons, pushed these below the previous year's total. Export throughput was higher for liquid cargoes, up 27.5% at 2.2 million tons, and for the grab cargo segment, 8.5%ahead at 2.0 million tons.

First-half non-containerised general cargo throughput, of plant elements and wheeled cargoes for example, remained below the previous year's, being down 11.7 percent at 720,000 tons. On the import side, down by 0.8% at 271,000 tons, growing throughput in the form of paper and metals imports failed to offset slight downturns for timber, citrus fruit and vehicles. Despatches of conventional general cargoes were down 17.2% at 449,000 tons, the mainly cause being lower exports of vehicles and steel.

Germany's third largest industrial region profits from an efficient port with excellent worldwide links. With a land area of 7,200 hectares, arithmetically one-tenth of the entire area of the city, with its function as a logistics cargo hub for seaborne foreign trade the Port of Hamburg is also Hamburg's largest industrial zone.

"Currently, industry uses 926 hectares in the Port of Hamburg. That is around 22 percent of the land area of the port," says Ingo Egloff, joint CEO of Port of Hamburg Marketing.

"The proximity to water sufficiently deep for ocean-going vessels is advantageous for such industrial concerns as steelworks, refineries and power stations, owing to the short distances involved in cargo handling and processing large quantities of raw materials."

FRUIT HANDLING

HHLA's fruit and refrigeration centre is one of the most important for fruit handling in Germany. The company has suitable technical handling technology and ground-handling vehicles to deal efficiently with the specialised reefer vessels and container ships.

However, the project cargo and heavy goods that frequently arrive on inland vessels can also be handled at the O'Swaldkai multi-purpose terminal in Hamburg.

The extremely high-performance Terex Gottwald bicable-type G HMK 4406 mobile harbour crane primarily handles reefer ships carrying bananas. It can hoist the sensitive fruit both on pallets from the cargo hold as well as discharge reefer containers arriving as deck cargo. With a maximum load capacity of 100 tonnes and a working radius of up to 46m, the mobile crane is also suitable for handling heavy goods and project cargo for almost all other ships.

Two other smaller, fourth generation HMK 90 E cranes allow palleted goods to be quickly discharged from the reefer ships. Like these cranes, the new one can also be moved swiftly to the quayside. All of the cranes have a high working speed, which provides for good productivity and ensures that there is no disruption to the cold chain, especially when handling fruit pallets.

As well as large handling equipment on the quayside, HHLA's fruit and refrigeration centre has the latest equipment for handling containers, palleted goods and general cargo. In addition to two reach stackers, a total of 60 forklift trucks with various load capacities are available for this.

TEREX HARBOUR CRANE

PORT OF HAMBURG GENERALLY SUCCEEDED IN ASSERTING ITSELF IN A DIFFICULT ENVIRONMENT

KIEL GROWTH

The port of Kiel is very much on target for growth and has posted its best half-year results to date. In the first six months of 2017 the port's varied facilities handled 3.7 million tons of goods, topping the total in the same period of the previous year by 20%.

Dr Dirk Claus, Managing Director of the Port of Kiel, says: "The taking into service of the SCA Logistics Centre in Kiel's Ostuferhafen has already shown it is having a lasting impact on growth and providing the planned impetus which justifies our investment."

Some 400,000 tons of high-value timber products were handled and stored for new customers Svenska Cellulosa Aktiebolaget (SCA) and Iggesund Paperboard in the first half of the year. "This very good result is all the more significant because Kiel was also able to post increases in its other handling sectors – ferry traffic and bulk goods", says Claus. Even without taking the SCA traffic into consideration, Kiel's handling performance still rose by a remarkable 7.6%.

In the first half year of 2017 bulk goods handling rose by 18.7% to well over 550,000 tons. Alongside fuels such as coal and oils, significant increases were also posted in the handling of building materials, grain and scrap metals. In the ferry sector, the Stena Line in particular upped turnover – by 12.8% – and is ranked number two on the list of Kiel's most important freight customers after DFDS.

Surprisingly, trade with Russia, which has been severely disrupted in the past few years by trade restrictions, also showed a slight revival. "We are now creating additional warehousing capacities in the Ostuferhafen, in order to stabilise the positive development in trade with Russia", says Claus. Currently taking shape in the immediate vicinity of the berth used by ships on the St Petersburg route, is the 5,000m^2 Shed 12, planned as a warehouse for sawn timber. In container business, which is of only minor significance in Kiel, 13,400 TEUs were handled – an increase of 19.3 %.

Intermodal rail/ship handling continued to expand in the first six months of the year with the inauguration of a weekly direct train shuttle between Kiel and Trieste and the introduction of an additional departure to Verona. For the first time, the rail facilities at the Schwedenkai Terminal and in the Ostuferhafen loaded more than 16,000 consignments on to rail wagons – up10%. Claus says: "We are already working to further increase performance at the Schwedenkai Terminal by adding another rail track. That will mean that we are able to handle the biggest part of the growth in sea port hinterland transport on the railways."

CUXHAVEN DEVELOPMENTS

Cuxhaven is located at the point where the Elbe River flows into the North Sea. In addition to handling goods in transit, Cuxport also offers LoLo services for containers, break bulk and project loads and additional warehousing and logistics solutions for all types of traffic.

The digital networking of ports is progressing at high speed and Logistics 4.0 is already a term that is familiar to many people. Port services company Cuxport is relying on digitalisation and has been starting to develop a state-of-the-art digital management system for its multi-purpose terminals in Cuxhaven from July onwards.

dbh Logistics IT AG, a leading company for software and consultancy work in the fields of customs and foreign trade, transport management, the port industry, compliance, SAP and cloud services, has been selected as the partner for introducing the system. The current basic modules of "Advantage portos", a software series related to

the port industry and the provider's connections further inland, are being adapted to the special requirements of the multi-purpose terminals in close cooperation with the Cuxport users.

The new terminal management system includes the organisation and supervision of all the handling and warehouse processes and enables an electronical exchange of data with customers like shipping companies, freight forwarders and shippers – as well as with public authorities like the customs services and Niedersachsen Ports, the seaport's operator.

The goal is to make the processes at the terminal much slimmer and more efficient. The system is also designed to simplify current administration as a result of the mobile process controls and the high degree of connectivity with partners.

"Equally, the aim is to map the huge and growing spectrum of services at a multi-purpose port at a system level, as the market demands – and with a view to the ongoing process of digitalisation during the next few years," says Mario Juranz, project manager at Cuxport. "We're taking the next step with a web-based order and material management system and extensive gate automation – and our partners will benefit from this."

"Our business and freight volumes are growing constantly and this will increase all the more as a result of the completion of our new berth 4 in the middle of 2018.

"Alongside this, we're investing in the future viability and efficiency of our processes and terminal logistics with the state-of-the-art management system," says Peter Zint, Cuxport Managing Director. "As a result, we're freeing up resources and creating the capacity for new business."

The system is in the process of being adapted and put into service, with completion of the process planned for August 2018.

"We're very happy to support Cuxport in the all-round digitalisation of its logistics chains. We're already making available an excellent basis for handling the special requirements at Cuxport through our 'portos Lagerei' and 'portos Terminal' software modules," says Karin Steffen-Witt, Port Solutions PManager at dbh.

Cuxport has also handled a project consignment for the German agent of the Japanese shipper NYK Bulk & Projects through berth 3 at the Europa quay for the first time this summer. The crane parts weighing several tonnes were loaded on board the 175m-long freighter MS Imari for shipment from Cuxhaven to Ho Chi Minh City in Vietnam.

The Cuxport terminal provided an ideal consolidation and shipping port for this project load coming from various production sites because of its good geographical location and its suitability for handling heavy loads. A coastal vessel delivered the jibs that were up to 36m long and made by Liebherr in Rostock via the Baltic Sea.

The tower parts were transported to Cuxport from a production site in Sunderland in the UK by heavy-duty truck via the British ferry port at Immingham on a vessel operated by the DFDS ferry company. After their arrival at their destination in Vietnam, the components will be used to assemble two new port cranes.

"As a multi-purpose port, we're keeping our eyes open and are not just restricting operations to a few types of goods; we can even handle oversized and very heavy freight efficiently at the Cuxport terminal," says Oliver Fuhljahn, head of automobile logistics at Cuxport, who was responsible for the project.

"We naturally make available this flexibility and expertise for overseas consignments."

EASTERN PROMISE

Abu Dhabi Ports officially opened its new Fujairah Terminal operation recently and the national oil company ADNOC is reported to be considering an IPO for its shipping interests

FUJAIRAH PORT

Operations by Fujairah Terminals on the east coast of the United Arab Emirates are now officially underway, follow an opening ceremony for the Abu Dhabi port.

Earlier this year, Abu Dhabi Ports signed a 35-year concession agreement with the Port of Fujairah, under which Fujairah Terminals, a new operational arm wholly owned by Abu Dhabi Ports, was established with over AE$1bn ear-marked for investment in in equipment, and infra and super structure.

Captain Mohamed Juma Al Shamisi, CEO of Abu Dhabi Ports says: "As we mark the official commencement of commercial operations, we express our pride, clear commitment and intention to bring the full breadth of our experience to the table; whether it is container, RORO, bulk, cargo or cruise, supporting expansion into the Indian sub-continent and East African markets, which is set to accelerate the economic and social development of the emirate, eventually becoming a strategic and vital artery for international trade."

"The strong partnership has set in

stone strategic and robust plans, in line with our leadership's vision to create a sustainable and diversified economy for future generations to benefit from, that promise a bright future for Fujairah, its community and businesses."

AbdulKareem Al Masabi, Executive Vice President of Ports at Abu Dhabi Ports says: "We are here because our ambition is to replicate the same growth we have experienced and driven at Khalifa and Zayed Ports to Fujairah Terminals. The Port is already one of the most important economic and commercial ports operating in the UAE and we are confident we are soon to witness a significant growth in the Port of Fujairah, in addition to a boost to vital industry sectors such as steel."

Captain Mousa Murad, General Manager of Port of Fujairah, says: "The port will also be equipped with new and advanced equipment as well as the latest IT systems in line with the highest standards of precision, safety and speed."

It has also been announced that Perma Pipe Middle East, a manufacturer of pre-insulated piping and leak detection systems for district heating and cooling, signed an MOU with Fujairah Terminals with the aim of receiving all the necessary logistics support from the terminal facility to streamline their business.

Fathi Elgendy, Senior Vice President Middle East and Africa at Perma Pipe Middle East commented on the MoU, saying: "Our decision to invest in our relationship with Fujairah Terminals is motivated based on multiple business factors that will gain us a competitive advantage.

"By choosing to utilise the port in Fujairah for our logistics we will be benefitting from increased time efficiency, cost reduction and a convenient location only 2 kilometres from our offices. Moreover, we are eager to reciprocate the support Fujairah has shown us over the years for our operations in the region and play our part in this new era of economic activity and development."

Through Fujairah Terminals, Abu Dhabi Ports is granted the exclusivity to enhance existing infrastructure in addition to managing all container, general cargo, RoRo and cruise ships in the port. The agreement also includes deepening of berths to enable the Port, which already serves clients and companies in the entire Gulf Region, Indian Ocean and Indian Subcontinent, to cater to larger vessels.

Abu Dhabi Ports will be investing in the infrastructure of Fujairah Ports, further enhancing its capabilities. Development includes deepening of berths to -16.5m to allow bigger vessels to come to the Port of Fujairah, building an approximate 300,000 sqm yard of storage space, as well as an additional 1km quay to accommodate the expected growth in the number of ships arriving to the port, increasing shipping operations in the process.

Abu Dhabi Ports will also work on equipping Fujairah Ports with new and advanced equipment such as STS post panamax quay cranes, RTGs as well as new IT systems, bringing efficiency to operations and better equipping it to meet the needs of global shipping companies and service operators in line with the highest international standards.

Maqta Gateway, a wholly owned subsidiary of Abu Dhabi Ports will be engaged to develop a Port Community System that links port communities with various departments, facilities and operations.

The development of berths and yards is scheduled to commence in 2018. The port will remain operational during this time to service existing and new clients. Additional capacity and new quay cranes will begin operations in 2020, including the post panamax quay cranes.

Meanwhile, Abu Dhabi National Oil Company is reported to be considering a plan to sell shares in its shipping unit as part of a broader strategy to attract investment into the country according to Bloomburg.

The report says the company, which is in the process of merging its maritime transport and services interests will decide on an IPO when this process is complete.

DP WORLD ACQUISITION

DP World has announced that it is acquiring Maritime World, the 100% owner of Dubai Maritime City (DMC), for US$180m and to buy 100% of Drydocks World (Drydocks), a capital injection of US$225m.

DMC includes an industrial business zone in a prime location of central Dubai and adjacent to DP World's Mina Rashid. The industrial park extends to 2.3 million sqm on a man-made peninsula and provides Economic Zones World FZE additional land as an alternative to the highly-occupied Jebel Ali Free Zone.

Drydocks World is a market leader in the ship repair business with the largest ship repair yard in the Middle East. The business delivers stable ship and rig repair revenues and has specialist capabilities in niche ship newbuilds and conversions. Drydocks' acquisition will integrate well into P&O Maritime (POM), which is DP World's 100% owned maritime services subsidiary.

Sultan Ahmed Bin Sulayem, Group Chairman and CEO, DP World, says: "We are delighted to make these acquisitions which further strengthen the Group's maritime services and port related businesses.

"As a global trade enabler, we have been targeting a broader strategy to grow complementary sectors in the global supply chain such as industrial parks, free zones and logistics adding further value for all our stakeholders.

"Dubai Maritime City provides us with stable leasing income from DMC's existing industrial zone and spare capacity to develop industrial and commercial activities for the maritime sector in a prime location of Dubai.

"We aim to develop the best-in-class Maritime City serving the needs of the maritime industry and leveraging on our expertise and experience from our ownership of the Jebel Ali Free Zone. We are consequently well positioned to deliver significant value in the medium term.


DMCA DISCUSSIONS

"Drydocks World bolsters our investment in the maritime sector through our subsidiary P&O Maritime. We are acquiring a market leader in the Middle East with the potential to deliver near term synergies and new revenue opportunities over the longer term, particularly in ship conversion and in areas where POM has existing expertise. We remain excited about the growth prospects of this business. "Overall, these transactions will enhance our position as a leading maritime services provider, and we look forward to leveraging on our proven track record to accelerate growth and deliver stakeholder value."

PROFESSIONAL TRAINING

The Dubai Maritime City Authority recently evaluated the achievements of the Dubai Maritime Training Center (DMTC) in establishing new standards for professional maritime training, which is being conducted through integrated training programs designed in collaboration with international experts in order to adapt to rapid changes regionally and internationally.

Captain Khamis Weld Ghumail, Director of Maritime Traffic Management, DMCA says: "The Dubai Maritime Training Center has established a solid foundation for the development of a highly-skilled human resources to advance a secure, sustainable and diverse maritime community, in line with the vision and guidance of our leaders who trust that human strength is essential to building a fully-developed nation. The DMTC is instrumental in establishing the pillars of innovation, knowledge and excellence, a record achievement that pushes Dubai into top five of the world's most competitive and attractive maritime clusters in 2017."

The DMTC has pushed the importance of investing in the development of manpower skills in the maritime sector. The centre has a comprehensive curriculum comprising 13 intensive workshops and has successfully implemented eight training workshops for crews in floating restaurants, jet ski owners and cruise ships on practical knowledge and efficiency embodying the highest levels of maritime safety.

Sameera Asad, Manager, Human Resources Department, DMCA, explains: "The rapid development that Dubai has been witnessing has compelled us to intensify our efforts to secure the future of the sector by developing highly qualified human resources which will enhance the competitiveness and increase the investments in the local maritime sector. Through the trainings and workshops, the centre has proved its valuable contribution in assuring Dubai's leadership in the international maritime map, meeting the needs of maritime stakeholders locally, regionally and globally. Our most important achievement is raising the level of maritime safety on par with global standards, to enhance the performance, efficiency and competitiveness of the maritime sector and position Dubai as a world-class maritime centre."

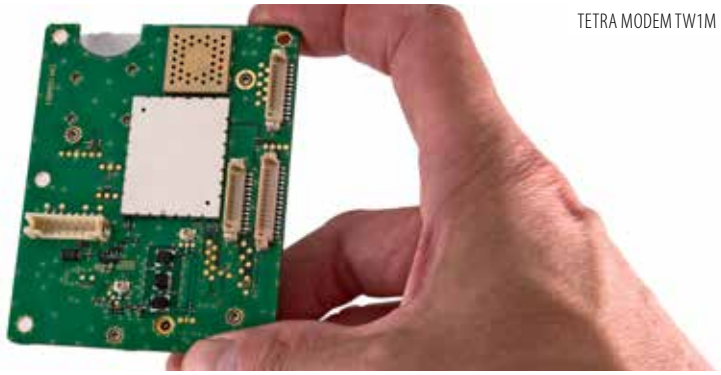
AIRBUS SUPPLIES TECHNOLOGY

Airbus is providing its latest Tetra modem TW1m to the telecom company Atlas in the UAE. It will be used to integrate confidential data, such as GPS positioning and text messages into the Atlas vessel identification system which is run by a government agency.

"We convinced our partner Atlas with the Tetra modem's permanent availability and outstanding security features. Our components meet all the essential specifications set by the UAE government institutions", says Selim Bouri, Head of Middle East for Secure Land Communications at Airbus. He points out that the markets in the Middle East are increasingly ground-breaking for the entire professional mobile radio industry worldwide. The region is at the forefront of the professional mobile radio development and Airbus applies its leading hybrid technology, combining Tetra and LTE.

The Airbus TW1m transmits voice and data safely thanks to end-to-end encryption and can be incorporated in supervisory systems, custom telemetry and position tracking. The TW1m is an extremely secure solution, especially when other communication systems are not in operation.

As the TW1m is part of the new electronic verification system, it contributes to the tracking and identification of registered and un-registered ships off the UAE coast. The next generation electronic verification setup consists of radars, long range cameras, e-passport trackers, location and correlation servers as well as command and control systems. Atlas has been operating the first generation of this technology for 10 years and is soon to establish its new scheme.


TETRA MODEM TW1M

ITALIAN JOB

Italian manufacturers and suppliers have been involved in a number of high-profile contracts in recent months

DATA ACQUISITION SOFTWARE

Bastia Umbra-based firm Concetti has recently launched new data acquisition software to support its bagging technology

The new software offers management the possibility to supervise and review runs of historical data, by checking the production trends and performance of the bagging machine. This powerful solution is helping to reduce plant shutdown times and increase competitiveness by reducing costs.

The system has been developed internally by Concetti engineers and records, monitors and analyses the data provided by Concetti equipment, divided by number of bags, production shifts, operators, time intervals, alarm history and so on.

Moreover, the software can acquire data from several Concetti machines, providing a complete view of the production system over time and uses analysis tools to make the process more efficient.

It is a pc panel with a touchscreen interface that combines user-friendliness and the ability to track and display data collected by management in real-time.

The Data Acquisition Software utilises the industry's most up-to-date technologies and can be fully customised and installed on any type of machine manufactured by Concetti, providing analysis to improve resource management and plant productivity, reduce costs and increase competitiveness.

All machines made by Concetti can also be integrated, interconnected and monitored remotely.

GENOA FACILITIES

Prysmian Group has recently completed the supply of medium voltage cables to be used for the expansion of the Dry Dock Area in the Port of Genoa. Prysmian supplied about 35km of 12/20kV MV cables, of which a first tranche consisted of aluminium and a second one consisted of an optical fibre submarine cable with galvanised steel wire armour.

The cables were produced in the Pignataro and Merlino plants and were customised to meet customer specifications. The aluminium cables were used to supply eight transformer cabinets, while the submarine cable was used to provide the 60Hz supply to the cabinet of the ship repair area from the 45FV cabinet.

The submarine installation allowed removing a cabinet from the conversion area at the Ship Repair Dock. The supply contract was signed with the contractor SICI, an Italian company operating in the infrastructure and service sector through the distributor and Prysmian's partner Majorano

Maurizio Ciantra, Trade and Installers Sales Manager Prysmian Italy, comments: "For Prysmian Italia, this project marked a great result in terms of collaboration between our engineering offices and our production plants. In fact, we worked with the customer to define the final specifications and requirements of the Prysmian cables.

"After the cable customisation, which required a special consultancy process, our company successfully signed the contract, confirming its role as market leader."

The Port of Genoa is the largest Italian port: it extends over 700hm^2 of land space and 500hm^2 of water surface, features 22km of docks and a berth draft between eight and 15m. It employs more than 10,000 direct employees, about thirty thousand considering satellite industries.

In addition, the company Società Ente Bacini was created to manage dry docks and is able to accommodate ships up to 270m long and weighing 100,000 tons. The facilities built up by the contractor S.I.C.I. represent a major upgrade of port equipment in the ship repair sector in the port.

CRANE ORDER FOR GENOA

Spinelli has ordered another Konecranes Gottwald Mobile Harbor Crane for its terminal in Genoa.

The Model 7 crane was ordered in August 2017 and will be delivered on site this month. The main role of the machine will be container handling. It is the fifth Konecranes Gottwald Mobile Harbor Crane ordered by Spinelli since 2013. Roberto Spinelli, Managing Director of the company, says: "From the beginning, our Konecranes Gottwald cranes have provided us with a particularly high level of performance and reliability.

"They have also helped us to extend our service portfolio. They allow us to serve an ever-growing number of large vessels and handle general cargo in parallel. The new crane will sustainably boost our handling capacity and strengthen our leading market position. The crane is an excellent investment."

Gino Gherri, Regional Sales Manager, Konecranes Port Solutions comments: "Spinelli has become one of our most important customers in Italy. Konecranes Gottwald Mobile Harbor Cranes are their crane technology of choice. This has much to do with the fact that each of the cranes is equipped with specific features to meet Spinelli's individual needs.

"Moreover, the new crane's very short delivery time of only two months is a key advantage for Spinelli. It also fulfills the criteria of the Italian innovation law 'Industria 4.0', making it an even more attractive investment."

The new crane is a Model 7 Konecranes Gottwald Mobile Harbor Crane. It is a two-rope variant offering a maximum lifting capacity of 150t and an outreach of up to 54m.

BEDESCHI CONTRACT

Algerian client Briqueterie de la Tafna, based in Tlemcen, has awarded Bedeschi the engineering and installation of two automatic systems for the loading of strapped packs without pallets on to lorries and eventual automatic stocking. CAMI technical staff conceived and manufactured a system that carries out an automatic loading cycle, grabbing four packs at once directly from the packing line and unloading them on the truck.

Bedeschi is also involved in a project to build the new Turkmenbashi international seaport, which will aim to be the biggest seaport in the Caspian Sea in the next four years.

Bedeschi is the turn-key supplier of Turkmenbashi, with the supply of a complete bulk handling system, with two parallel lines, including one for grain.

CEMENT TERMINALS

Another Italian firm that has been expanding worldwide is leading cement silos manufacturer Scutti.

The company has developed a high quality range of equipment including screw conveyors, dust filters and powder valves to supply a turnkey cement storage solution.

Scutti is one of the few companies specialising in manufacturing and installing cost-efficient cement terminals for ship unload and track load.

The company's system incorporating bolted silos enables a large quantity of cement to be stored, ensuring a low processing cost due to a simple process engineering. Equipment can be easily containerised and shipped worldwide using standard containers.

BIOMASS SOLUTION

Italian firm Turboden, a group company of Mitsubishi Heavy Industries, recently received a contract to provide an ORC system to Maine Woods Pellet, a leading pellet manufacturer based in Athens, Maine.

Turboden has supplied a biomass ORC unit to produce 8 MWe, the largest biomass solution produced by Turboden at the moment. The customer utilises wood waste from forestry operations (logging and sawmill residues) to generate electricity to be employed in its production process.

This co-generation plant uses a novel combination of both exhaust and condenser heat to pre-dry the feedstock for the existing pellet plant, making this the first biomass project to fully qualify for Massachusetts Standard Class 1 regulations for Renewable Energy Credits .

Turboden is a global leader in the design, manufacture and maintenance of Organic Rankine Cycle (ORC) systems suitable for distributed generation, which generate electric and thermal power exploiting multiple sources, such as renewables (biomass, geothermal energy, solar energy), traditional fuels and waste heat from industrial processes, waste incinerators, engines or gas turbines.

SAIPEM DEAL FOR UGANDA

Uganda has picked a consortium including General Electric (GE) and Italy's Saipem to build and operate the African country's first oil refinery. The 60,000-bpd facility will process crude from fields operated by Tullow Oil, CNOOC, and Total.

Uganda negotiated the US$4bn project with Russian RT Global Resources and South Korean SK Engineering & Construction, but after these fell through, Kampala cast its net wider.

The combined experience of Saipem and GE, now that GE has acquired Baker Hughes, tipped the scales in favour of the consortium, which also includes venture capital company Yaatra Ventures and Intracontinent Asset Holdings.

Eni Angola has awarded Saipem work orders in relation to the West Hub Development project as an addition to those previously assigned during 2016 and 2017.

The work, which will be performed by the E&C Offshore division, encompasses the construction and subsequent installation in deep waters of umbilicals, risers and flowlines (Deep Water SURF) required for the development of Block 15/06, located 350km north west of Luanda and 130km west of Soyo.

Furthermore, in the framework of its Maintenance, Modifications and Operations (MMO) activities, once again in the Offshore E&C sector, Saipem has acquired from Eni Ghana Exploration & Production a contract for the engineering, procurement and construction of the infrastructures needed to boost the capacity of the gas stations situated in the vicinity of the ports of Takoradi and Tema in Ghana.

Finally, among the new acquisitions, a contract has been assigned by Nord Stream 2 AG for the construction of the last section of the pipeline crossing the Baltic Sea and the shore approach in Greiswald, Germany. The combined value of the above-mentioned new contracts is approximately US$370m.

EVENTS

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

24-26 OCTOBER 2017
OVERVIEW OF PARTICULATE HANDLING SHORT COURSE
GREENWICH, UK
www.gre.ac.uk/engsci/research/groups/wolfsoncentre/home

25-27 OCTOBER 2017
WORLD COAL LEADERS NETWORK
SITGES, SPAIN
www.coaltrans.com/world-coal-conference/details.html

31 OCTOBER 2017 – 01 NOVEMBER 2017
BULK TERMINALS 2017: ACHIEVING EFFICIENCY AND COMPLIANCE
LONDON, UK
www.bulkterminals.org
See page 7 for more information

01-02 NOVEMBER 2017
ASIAN SUGAR
BALI, INDONESIA
www.aiscsugar.com

07-10 NOVEMBER 2017
EUROPORT
ROTTERDAM, NETHERLANDS
www.europort.nl

14-16 NOVEMBER 2017
GLOBAL GRAIN GENEVA
GENEVA, SWITZERLAND
www.globalgrainevents.com/geneva/details.html

18-19 NOVEMBER 2017
COALTRANS EMERGING ASIAN MARKETS
HO CHI MINH, VIETNAM
www.coaltrans.com/emerging-asian-coal-markets/details.html

30 NOVEMBER 2017
FEPORT THIRD ANNUAL STAKEHOLDERS' CONFERENCE
BRUSSELS, BELGIUM
www.feport.eu

01 FEBRUARY 2018
COALTRANS
INDIA
www.coaltrans.com

01-02 FEBRUARY 2018
COALTRANS USA
MIAMI, US
www.coaltrans.com/usa/details.html

07-09 FEBRUARY 2018
MVTTC, NEW ORLEANS
NEW ORLEANS, US
www.mvttc.com

13-15 MARCH 2018
INTERMODAL SOUTH AMERICA
SAO PAULO, BRAZIL
http://10times.com/intermodal-south-america

01-03 MAY 2018
MULTIMODAL 2018
BIRMINGHAM, UK
www.multimodal.org.uk

04-08 JUNE 2018
POSIDONIA
ATHENS, GREECE
www.eventseye.com/fairs/f-posidonia-14329-1.html

04-07 SEPTEMBER 2018
SMM, HAMBURG
HAMBURG, GERMANY
www.smm-hamburg.com

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