



DRY CARGO

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JANUARY 2018 issue

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Grain and soya trade flourishing

Towards the end of last year commodity volumes imported by numerous countries remained buoyant. Prospects for this solid pattern to continue in the months ahead are fairly favourable, and it seems likely that world seaborne dry bulk trade will see another sizeable advance through 2018.

Many forecasts for global economic activity point to a probable continuation of the improving trend seen in the past twelve months. The latest update by the OECD organization stated that "a broad-based and synchronized improvement in (GDP) growth rates across most countries" is progressing. Accelerating goods and services output is accompanied by strengthening international trade.

GRAIN

World trade in wheat, corn and other coarse grains is expected to see a continued modestly increasing trend, at least until mid-2018. Recent International Grains Council estimates, summarized in table 1, suggest a 2% rise to 359mt (million tonnes) in crop year 2017/18 ending June. Lower imports into China, India and elsewhere are likely to be more than offset by higher imports into the European Union, Egypt and Saudi Arabia.

In China grain buying on international markets could decrease again, reflecting good domestic harvests and excessively high corn stocks which the government is trying to reduce. But soyabeans purchases maintain an upwards trend.

US Dept of Agriculture calculations suggest that China could import 97mt of soyabeans in the trade year ending September 2018, a 4% rise, boosting global soya trade.

IRON ORE

A stronger performance by the steel industry is benefiting seaborne movements of the main raw materials. Iron ore trade last year grew at a brisk rate, based on provisional figures, with increased imports into China a prominent feature. Other buyers including the EU, Korea and some relatively small importers contributed additional quantities.

An expectation of more growth in the iron ore sector during 2018 partly reflects optimism about the global steel production upturn proving sustainable. Another aspect specifically relates to Chinese buyers, who purchase more than two-thirds of annual world iron ore sea trade estimated at over 1,450mt in 2017. Additional demand for high grade foreign ore, to substitute for lower grade material from Chinese domestic mines, is seen as a positive element.

COAL

Following what appears to have been a fairly strong upturn in the coal trade trend last year, will 2018 see a further increase? The rebound seen during the past twelve months could indicate that, possibly, pessimistic views after two annual reductions in the global total were too negative. However, forecasts have become more speculative. In three

key coal importing areas especially — China, India and EU — policy decisions, with hard-to-predict timing and impact, are having larger effects on foreign purchases. These countries comprise about 18%, 15% and 12% respectively of global seaborne coal imports, almost half of the total. Changes in government environmental policies are likely to have effects which may or may not prove predictable.

MINOR BULKS

One of the bigger minor dry bulks sector components is fertilizers, comprising both raw materials and semi-finished products. Estimates suggest that overall world seaborne movements of phosphates, sulphur, potash and urea increased sharply last year, possibly reaching around 160mt, and further growth could be seen. Both potash and phosphate movements appear to have resumed a positive trend.

BULK CARRIER FLEET

About 12% of the entire world bulk carrier fleet is represented by the size group with the smallest ships, the Handysize (10–39,999dwt) segment. In most of the recent past years, growth in Handysize capacity has been in the 1–2% range, based on Clarksons Research data, including an estimated 2% in 2017. As shown by table 2, newbuilding deliveries decreased last year, while scrapping was lower. During the next twelve months, a further fall in newbuildings delivered could result in slower fleet growth.

TABLE 1: GLOBAL WHEAT & COARSE GRAINS IMPORTS (MILLION TONNES)

	2012/13	2013/14	2014/15	2015/16	2016/17*	2016/17*
Asia (excluding Japan)	58.6	73.6	89.0	95.0	98.5	96.8
Japan	24.3	23.4	21.9	22.1	22.9	22.6
Middle East	48.4	54.0	56.7	55.8	54.8	57.3
Africa	56.3	65.3	67.1	76.2	75.8	76.9
Others	83.1	94.1	87.4	96.6	100.7	105.6
World total	270.7	310.4	322.1	345.7	352.7	359.2

source: International Grains Council, 23 November 2017 *forecast July/June crop years

TABLE 2: HANDYSIZE 10–39,999DWT BULK CARRIER FLEET (MILLION DEADWEIGHT TONNES)

	2012	2013	2014	2015	2016	2017*
Newbuilding deliveries	10.6	6.3	5.4	6.5	4.6	3.5
Scrapping (sales)	8.3	6.7	4.2	5.2	3.2	1.5
Losses	0.1	0.2	0.0	0.0	0.0	0.0
Plus/minus adjustments	0.3	0.0	0.0	-0.1	0.0	0.0
World fleet at end of year	91.0	90.4	91.6	92.8	94.2	96.2
% change from previous year-end	+1.7	-0.7	+1.3	+1.4	+1.5	+2.1

source: Clarksons (historical data) & Bulk Shipping Analysis 2017 forecast *forecast

by Richard Scott, Bulk Shipping Analysis, Tel: +44 (0)12 7722 5784; Fax: +44 (0)12 7722 5784; e-mail: bulkshipan@aol.com

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Successful year anticipated for global sugar production

Forecasts about global sugar production and prices remain good as long as the weather does not undergo any significant changes in pre and during harvesting season. Moreover, factories — particularly in the world's largest sugar-producing and -exporting country Brazil — committing a greater percentage of sugarcane to ethanol production, moved by rising crude prices, could make an impact on world output and balance of sugar. In this context is to be seen the latest forecast by the US Department of Agriculture that global sugar production for the 2017–18 season (October to September) is likely to be up 13mt (million tonnes) (raw value) to a record 185mt.

But a caveat will be found in the sentence from USDA forecast: “If reached, production would be 20mt higher than the five-year low just two years earlier.” USDA says that based on “favourable weather, improved crop management and lower use of cane for ethanol.” As would be the case, sugar production in Brazil's centre south region, which has more than 90% share of the sweetener started tailing off unusually early this season because of rains hampering harvesting in important growing centres. Equally importantly, a lot more sugarcane is used for making ethanol this season as high crude prices have tilted the balance in its favour. In the concluding weeks of Brazilian sugar production for the season, enticed by growing demand and



Indian industry official Om Dhanuka.

prices for the alternative fuel extracted from sugarcane, factories started commit-

ting more of the crop for ethanol production. Brazilian factories are found to be using only 36.8% of sugarcane for making sugar against 40% considered to be the floor.

An official of the Brazilian industry association UNICA said: “In the final months of the harvesting cycle, it is natural for sugar production to decline. This time, however, the trend was intensified by the relative prices between sugar and ethanol that were more attractive for the latter.” Whatever the shortfall in Brazilian production, fundamentals “continue to point to a large global surplus” because of expected higher output in India, Thailand and the European Union,” says Sucden Financial. Indian industry official Om Dhanuka is not sure if Brazil lately constrained by rains driven production constraints will be in a position, as USDA has projected to step up exports by “1.1mt to a record 29.6mt... despite China's safeguard measure to limit imports from China.”

INDIAN PRODUCTION REVIVAL

Benefiting from a good monsoon after two consecutive years of severe drought in important sugarcane growing states such as Maharashtra and Karnataka, India is poised for a major revival in sugar production to 25.1mt during 2017/18 from a low of 20.3mt last season. Dhanuka hastens to point out that twice in the current

millennium, the country had produced well over 28mt of sugar underscoring the possibility of India generating exportable surplus on a sustainable basis, if government policies are supportive. According to Indian Sugar Mills Association President (ISMA) Ms T Sarita Reddy, India's sugar consumption — after taking into account the routine annual demand growth — will equal production leaving the country with 3.9mt of inventory at 2018 September end, the same as this season's opening stocks.

A lobby made of a few millers having built coast based refineries engaged in turning raw sugar to make it white and then export or sell within the country is pitching for imports citing the expected fine balance



Harvesting sugar cane in Brazil.

between production and consumption could at some point create shortages fuelling prices. But this supposition is hotly contested by ISMA director general Abinash Verma who says "we don't foresee any need for imports at any stage this current season." Last season too, the lobby pressured the government to sanction imports of up to 3mt. But Sarita and her ISMA colleagues were able to convince New Delhi that imports of 500,000 tonnes would be sufficient to take care of shortages in drought ravaged Maharashtra in the west and two southern states, Tamil Nadu and Karnataka in particular.

Dhanuka says "the challenge will be in 2018/19 when helped by good rains in 2017 that left the fields ideal for sowing and brought water levels in reservoirs used for irrigation to normal or above normal the country is set to produce sugar in excess of its own consumption and end season stocks requirements. Exports offer the option to rid the country of the expected surplus." Depending on domestic supply situation in the past, India had been either been an importer or exporter or just self-reliant in sugar. In recent times, India has records of exporting close to 5mt in

2007/8 and importing nearly 4.1mt in 2009/10.

Supply surplus leads to sugar price falls making it difficult for factories to pay farmers in time for sugarcane supplies. In anticipation of surplus a year hence, Verma has made a representation to the New Delhi to intercede with Bangladesh and Sri Lanka to allow India to export sugar without inviting import duty. India's two neighbours between them import over 3mt annually. But Bangladesh has an import levy of \$150 a tonne on sugar and Sri Lanka \$100. On the strength of its free trade agreements and also SAFTA agreements, India will be seeking import duty waiver.

Like India Thailand has made remarkable recovery in sugarcane plantation this season. This is likely to lift the country's sugar production by 12% to approximately 11.2mt. Industry officials say as Thai plantations made a remarkable recovery to achieve sugarcane production of 105mt helped by favourable weather during vegetative growing cycle, factories remain engaged in promoting sugarcane acreage extension to match the industry's crushing capacity extension. Thailand is likely to export 9mt in 2017/18, including 4mt of

raws and 5mt of refined white.

Australian sugar production expected at 4.8mt marking a decline of 6% on the previous season would have been still lower had the tropical cyclone on northern growing areas of Queensland inflicted greater damage on the sugarcane crop. Sugarcane in Australia is now in competition with crops such as avocado and macadamia for land. Despite the expected fall in production, Australian exports are to remain stable at 3.7mt. China, Indonesia, Japan and Malaysia are the major markets for Australian sugar. Following the sectoral reforms, the European Union will see production rising to 19.6mt. Acreage expansion will lift Chinese output by at least 1mt to 11.5mt. Even then China will end up importing larger quantities than 6mt in 2016/17. The country will also be releasing 1.5mt from state reserves against 1.25mt last year.

As for price prospects, Citi Research says the expected global sugar surplus in 2017/18 will cap realizations in the first half of 2018. But later in 2018, prices are likely to rise resulting from the Brazilian move to reduce the amount of sugarcane factories are using to make sugar. *Kunal Bose*

Bettercoal welcomes JERA Trading as its first Member in Asia

Bettercoal has announced that JERA Trading has joined the initiative and is its first Member in Asia.

JERA Trading demonstrates leadership by joining the only global coal supply chain initiative with the aim to promote the continuous improvement of corporate responsibility in the coal supply chain. Until now, Bettercoal Regular Members were major European utilities. JERA Trading is the first Japanese-controlled company to join Bettercoal, allowing the initiative to expand its membership to the Asian market.

Anne-Claire Howard, Executive Director of Bettercoal said: "Bettercoal's aim is to build a more responsible coal supply chain globally. We believe that welcoming a company with such a strong presence in Asia and in coal markets will enable us to further broaden the global reach of Bettercoal and ensure we grow our footprint in markets where coal still plays a significant role in energy production. JERA Trading joining Bettercoal will lead to more coal producers going through our

Assessment Process leading to a more responsible production of coal."

Ronan Lory, Managing Director JERA Trading said: "JERA Trading is committed to being a responsible coal supplier and operator and is delighted to join the Bettercoal initiative to contribute to and gain from exchanges on best practices in this field. We look forward to a mutually beneficial experience."

The initiative is open for membership to major coal users from anywhere in the world, including energy utilities and industrial players such as cement manufacturers and steel makers.

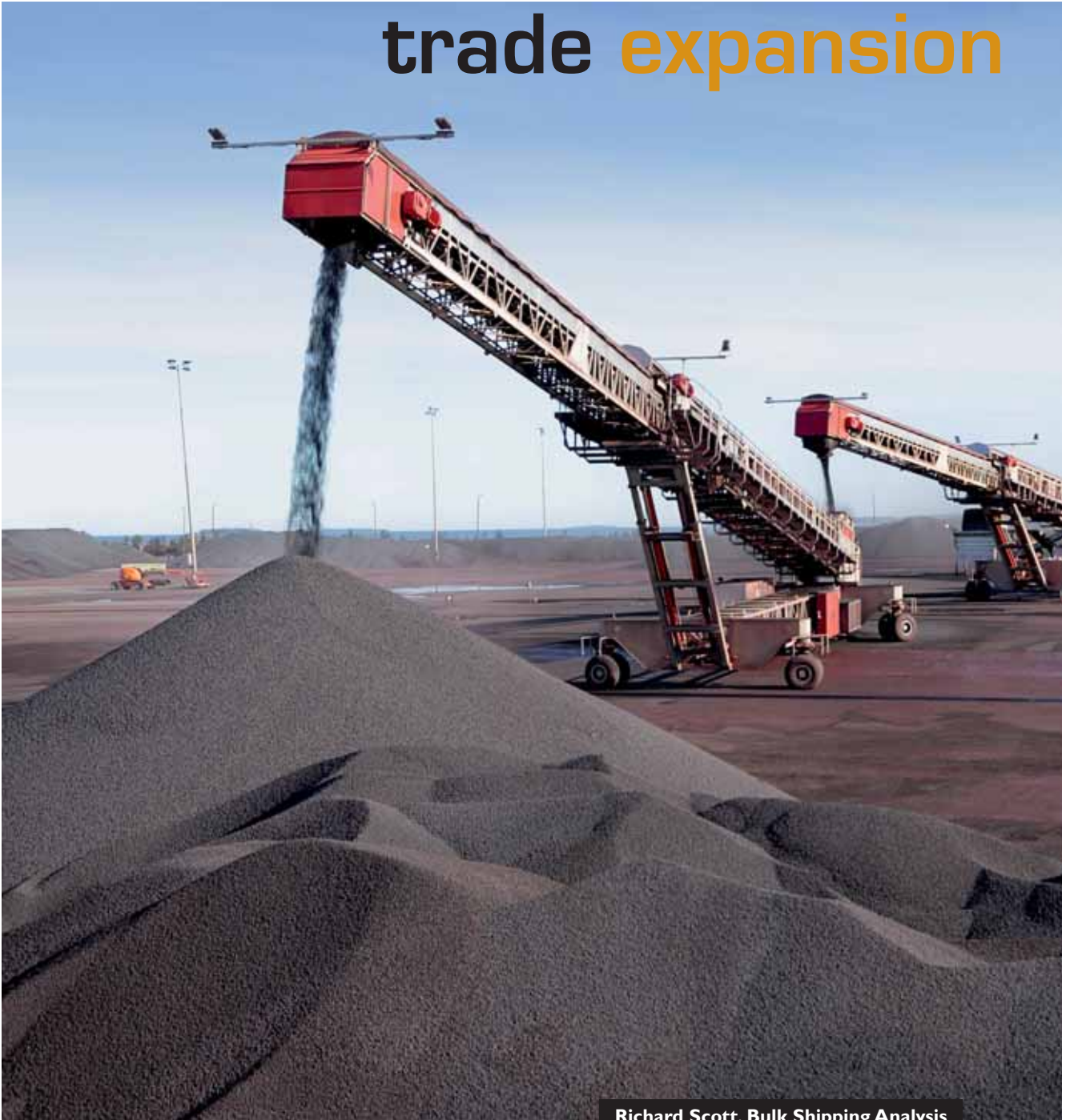
BETTERCOAL

Bettercoal is a global not-for-profit membership-based organization set up to advance continuous improvement of corporate social responsibility, including social, environmental and ethical practices, in the coal supply chain. Its vision is a coal supply chain that protects the environment, respects the rights of the people and contributes to the livelihoods of workers and communities.

JERA TRADING

JERA Trading (JERAT) is a jointly owned company: two thirds by JERA Trading International Pte. Ltd., a wholly owned subsidiary of JERA Co. Inc. which is an equal joint venture between two major Japanese electric power companies, TEPCO Fuel & Power (TEPCO) and Chubu Electric Power Company (Chubu); and one third by EDF Trading. JERAT is responsible for the global coal procurement of Chubu, TEPCO and EDF. It operates an integrated coal and freight supply chain and has benefited from EDF Trading's expertise in energy commodity trading and risk management to minimize the costs and optimize revenues associated with the delivery of coal requirements of its shareholders and third party customers. JERAT is one of the leading utility-backed coal traders globally with a presence in the Atlantic and Pacific basins. JERAT operates in all major coal and freight markets (Europe, Asia, North and South America) and trades both physical and financial products. It is headquartered in Singapore with offices in London and in Maryland.

Reviving dry bulk trade expansion



Richard Scott, Bulk Shipping Analysis

Global seaborne dry bulk trade has been performing more vigorously. In the past twelve months a fairly robust revival unfolded, building on a slight pick up in the previous year from earlier stagnation. There are signs that in 2018 further expansion is likely, although doubts have arisen about whether it will match the recent growth.

After the sharp deceleration to no growth in 2015 and only a minimal increase in 2016, there was great anxiety about prospects. Some of the major import growth drivers of the past seemed to be

fading. But the solid recovery seen during 2017 has again demonstrated, or can be interpreted as implying, that there is still potential for an upwards trend to continue.

Following four annual advances in a 5–6% range during the 2011 to 2014 period, the abrupt loss of dry bulk trade momentum to a nil annual increase and then a marginal 1% rise, was a severe shock. Declining coal volumes contributed to this weakness. Last year, coal trade returned to brisk growth and other bulk commodity trades mostly saw healthy enlargement, resulting in an estimated

3–4% increase.

Another strong increase in China's imports was a prominent influence in 2017. Higher purchases of iron ore and coal by Chinese buyers were especially visible, while other commodity imports such as soyabbeans also grew. Elsewhere, in countries around the world, the improvement in global economic activity was positive for many commodity importing industries.

THE WORLD ECONOMY

Although it is a rather general influence, the

progress of global economic activity has effects, sometimes quite noticeable, on numerous dry bulk commodity movements. Changes in business and consumer spending patterns and also government spending can cause sizeable variations in output levels in industries using bulk commodities.

Up to last year, there were several under-performing years in major economies, exacerbated by China's slowing trend. During 2017 a firmly improving broad trend emerged, with accelerating economic growth rates in most of the main countries.

Estimates published recently by the OECD organization, showing growth in gross domestic product (GDP), a widely used overall measure of goods and services output, are summarized in table 1. These economic activity calculations put the OECD area's GDP growth rate in 2017 at 2.4%, a marked improvement from 2% or less in preceding years. The OECD area comprises mostly the USA, Europe, Japan and South Korea. China is estimated to have seen a small acceleration to 6.8% growth.

What is the outlook for these economies in 2018? A fairly similar outcome is expected, resulting in a 2.4% average growth rate for the OECD area as a whole, accompanied by a slight slowing in China to 6.6%.

Economists at the OECD point out that "the world economy has strengthened, with monetary and fiscal stimulus underpinning a broad-based and synchronized improvement in growth rates across most countries". This statement is a remarkable contrast with perceived prospects a year ago. At that time, global economic activity was characterized as remaining stuck in a "low growth trap" with no obvious means of escape unless economic policies could provide more support.

The better-than-expected performance

	(% change from previous year)					
	2013	2014	2015	2016	2017*	2018*
USA	1.5	2.4	2.6	1.5	2.2	2.5
Eurozone	-0.3	1.2	1.5	1.8	2.4	2.1
Japan	1.6	0.0	0.6	1.0	1.5	1.2
OECD area#	1.2	1.9	2.1	1.8	2.4	2.4
China	7.7	7.3	6.9	6.7	6.8	6.6

source: OECD Economic Outlook, 28 November 2017 * forecast
mainly USA, Europe, Japan and Korea

last year, predicted to persist over the next twelve months, was greatly assisted by strengthening in Europe and Japan, as well as the USA. China's economy regained momentum and did not continue slowing, although that trend is expected to resume this year, albeit moderately. But some of the essential supports for world economic activity are still considered vulnerable, especially business investment spending which remains lacklustre.

TRENDS IN THE STEEL INDUSTRY

A large proportion of global dry bulk trade movements is associated with the steel industry. Demand for steel, and production volumes reflect patterns of spending in various countries dependent on how economic activity is progressing. Changes in steel production, in turn, affect consumption and imports of iron ore, coking coal and some other raw materials.

During 2017 steel production trends strengthened in many countries. Based on figures for the first eleven months, compared with the same period a year earlier, the dominant producer China increased crude steel output by 6%. In the European Union there was a 4% increase, and in South Korea a 3% rise. Japan was the laggard, achieving only an unchanged volume.

These results represented a substantial improvement in the trend (except for

Japan), after reductions in the previous year or, for China, only a marginal increase. Steel output in many countries last year was assisted by much lower Chinese steel products exports (coil, strip, plate etc) which allowed more of the destination countries' demand to be produced by domestic steel mills.

Growth in demand for steel could continue through 2018, based on the latest World Steel Association short-range outlook published recently. However, percentage rates of growth for finished steel products demand this year are expected to slacken in the EU and Japan while, in China, a sharper slowing to nil expansion is foreseen. Actual steel production volumes are not always exactly in line with demand calculations.

IRON ORE AND COKING COAL TRADE

About one-third of all global seaborne dry bulk trade is comprised of iron ore and coking coal movements. In 2017 iron ore trade appears to have increased by 4–5%, reaching over 1,450mt (million tonnes), as shown in table 2. Coking coal trade (not shown separately) apparently increased similarly to over 250mt.

Over the twelve months ahead rising trends may continue. Growth prospects are particularly focused on China's iron ore imports, which may reflect an intensified emphasis on higher quality ore from foreign sources, displacing more lower quality material from domestic mines.

After the vast expansion seen in the past decade, imports into China comprise more than 70% of global seaborne iron ore trade. In 2016 the total exceeded 1 billion tonnes for the first time, reaching 1,025mt (including some land movements). Last year's total is estimated to have risen by a further 5–6%. Expanding steel production has been a key influence, together with a rising proportion of foreign ore. In the past twelve months, stockbuilding at ports also boosted imports.

Global seaborne coking coal trade is not dominated by China, which comprises

TABLE 2: WORLD SEABORNE DRY BULK COMMODITY TRADE

	(million tonnes)					
	2013	2014	2015	2016	2017*	2018*
Iron ore	1,182	1,333	1,357	1,411	1,475	1,505
Coal	1,178	1,212	1,138	1,134	1,175	1,185
Grain (including soyabean)	389	430	457	479	495	505
Other dry bulk commodities	1,814	1,835	1,859	1,855	1,890	1,930
Total dry bulk trade	4,563	4,810	4,811	4,879	5,035	5,125
% growth from previous year		5.4	0.0	1.4	3.2	1.8

source: Bulk Shipping Analysis, December 2017 *estimate



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about one-sixth, but is more widely dispersed. Imports into Japan and India are the largest elements. The 2017 world total may have increased by 3–4%, accompanying higher steel production volumes in a number of raw materials importing countries.

Among potential extra coking coal movements this year, attention is focused on India's imports. Steel production is still rising rapidly with expectations of sustained growth. Although India has large coal resources, coking coal available from domestic mines is generally inferior quality, ensuring greater dependence on external supplies.

STEAM COAL TRADE

Trade in the steam (or thermal) coal category comprises almost four-fifths of overall global seaborne coal movements. Power stations are the chief importers in many countries, together with cement producers and other industrial users.

Preceding an upturn last year, a downwards trend in world steam coal trade volumes was seen after the peak reached in 2014. This weakness was widely expected to persist, but imports into a number of countries strengthened in 2017, when the annual world volume apparently rose by at least 2–3% and possibly by as much as 4%, based on provisional calculations, perhaps reaching 910mt or more.

Nevertheless, the prevailing tone surrounding coal consumption is predominantly negative. Intense environmental pressure to cease, or at least heavily reduce, coal burning has already affected import demand around the world. Switching energy sources towards cleaner fuels or renewable energy is well under way in many coal importing countries, especially in Europe and also in China.

This pattern of suppressing coal usage is not universal, however. In some countries, especially in Asia, using coal has compelling economic advantages. Electricity demand in these countries is likely to expand strongly over the years ahead. Extra coal-fired power stations are planned or under construction, leading to rising imports.

TRADE IN GRAIN AND SOYA

Large volumes of grain and soya are moved annually in international trade, as well as other oilseeds and meals. Estimates of trade on a calendar year basis are shown in table 2, which shows that annual totals for the main grains (wheat and coarse grains) plus soyabeans are approaching the symbolic 500mt level.

But trade statistics are usually compiled, and comparisons made, on a 'split year' basis, known variously as a 'crop', 'marketing' or 'trade' year, which reflects the pattern of world harvests. Another feature is the profound impact of weather changes, often unpredicted, on output from domestic crops in importing countries, sometimes resulting in disproportionately large changes in import demand. Harvests in exporting countries are also affected by weather, adding to instability in global trade patterns.

According to calculations by the International Grains Council, global trade in the grain segment comprising wheat plus corn and other coarse grains increased by 2% in the past 2016/17 crop year ending June, reaching 353mt. Additional import volumes were widely spread. Previously there was strong expansion over several years.

During the current 2017/18 crop year a similar 2% growth rate is expected. At present there are no signs of severe harvest shortfalls in importing countries which could have a big positive impact. Consumption trends generally are providing solid support.

Within the soya sub-sector trade is still evolving robustly. Using a marketing year ending September, global trade in soyabeans and meal grew by 5% in 2016/17 based on US Department of Agriculture calculations, reaching 205mt. Another similar 4% increase is forecast in 2017/18.

China's rising import demand trend, as well as extra volumes elsewhere, has been a major contributor to world soya trade strength. In 2016/17 imports into China, which are almost entirely in the form of beans, totalled 94mt. Although domestic soyabean output has increased in the past two harvests, consumption is expanding faster and so higher foreign purchases result. A further rise this year is predicted.

MINOR BULKS: A MAJOR TRADE COMPONENT

Although many elements are individually relatively small, the minor bulks sector is extensive. It includes trade in numerous commodities, some of which are not minor but very voluminous. Overall quantities in the category are huge, amounting to over one-third of all world seaborne dry bulk commodity trade.

The diverse range of commodities comprises cargoes related to manufacturing and construction activities, which are the largest part of the group. Agricultural or related cargo movements comprise the remainder. In the entire category, tentative estimates suggest that global seaborne trade may have grown by about 2% last

year, raising the overall volume to a total approaching 1,900mt. Further growth may be seen in 2018.

Steel products and forest products are the largest individual commodity movements. Other prominent industrial components are bauxite/alumina, iron and steel scrap, cement, petroleum coke, nickel and other ores. These are accompanied by agricultural bulks such as sugar, oilseed meals and rice, plus various raw and processed fertilizers.

Among importers, China is prominent, with an apparent total of almost 260mt in 2016, of which more than half consisted of bauxite/alumina, and nickel and other ores. Some growth signs emerged last year. The remainder of world trade in minor bulk cargoes is widely dispersed.

POTENTIAL FUTURE GROWTH

Confidence in predicting further expansion of global seaborne dry bulk trade revived last year. Despite some negative elements, the broad picture seemed to indicate that there is still potential for additional import volumes of numerous commodities in many countries around the world, at least in the twelve months immediately ahead. But signs of a return to earlier higher growth rates are currently absent.

Partly this view is linked to expectations for world economic activity. The recovery in economic growth among the advanced countries OECD group seen over the past year has strengthened from a highly tentative improvement, to a more robust trend. While doubts about whether recent momentum can be sustained remain valid, greater albeit moderate optimism seems justifiable.

Moreover, while there is still a risk of a sharp slowdown in China's economy, the past twelve months has demonstrated that there is much underlying support for growth. Forecasters presently foresee only modest slackening over the year ahead. This expectation is especially significant, given the size of China's contribution to world bulk commodity import demand enlargement. Other, more specific influences are also bolstering these imports.

At present, arguably the most visible negative influence likely to affect global seaborne dry bulk trade is the environmental pressures affecting coal trade. These suggest that in the longer term coal trade will cease growing and may begin a downwards trend. However, growth among other commodities may be sufficient to keep the overall dry bulk trade total on an upwards path.

Brazil enjoys all-time record visible trade surplus in 2017

Strong demand, and rising prices of most commodities, coupled with record crops of soya and maize, meant exports of Brazil's dry commodities, together with crude oil, were responsible for an all time record \$60 billion surplus in visible trade in 2017.

The favourable trade situation reduced the financial pressure on a government which has presided over three years of deep recession, with a rise in unemployment, and major cut backs in spending in all areas. The situation for exports may not be quite as positive in 2018. Difficult weather conditions in the key centre west state of Mato Grosso, means that the grains crop may be 'only' 224–228mt (million tonnes), the second largest ever, compared with the record 238mt of soya and maize last year. But rising prices for market pulp and also oil may save the situation. A record 34mt of maize was exported in 2018, but a large surplus remained unsold, causing price to fall, so farmers planting that crop reduced plantings for the 2017/18 'main' summer crop. The 'winter' maize crop, in recent years larger than the 'main' crop, with the maize planted immediately after soya is harvested, is expected to be the same as last year's 67mt.

The Chinese economy may not grow as fast from now on as it has in the past 20 years, as inflationary pressures increase. But this will not affect demand for Brazilian grains, with the number of people living in cities in China, on course to increase by 150 million in the next ten years.

As diets improve, an extra 35mt of soya beans, is expected by Rabobank to be needed in China by 2035 — more than the 108mt imported last year. Almost 40mt of this will be Brazilian. Brazil has more unused land on which to plant extra grains than its rivals, the US and Argentina. The majority is used as animal feedstock. Adequate world grains stocks means prices have fallen, so farmers in Brazil will make less profit this year than they have in the past three years.

Lower prices will focus attention on the crucial problem of logistics. This is a great handicap for Brazilian farmers, who have to devote a third of their earnings to getting grains to ports. It costs \$125 to get a tonne of the soya grown in Mato Grosso to the ports of Santos and Paranagua, and in the absence of adequate rail or waterways, 80% of Brasil's grains still travel 1,500–2,000km by road. The amount of grains leaving from North East ports such as Santarem, Barcarena, Itaqui and Salvador, has already increased from 13% in 2013, to



24% last year. This is because 11 new loading facilities have been built at the riverside ports of Miritutuba and Itaituba on the Tapajos river in recent years, allowing much more to be taken on large barge trains to deep water ports downstream. Optimists expects that, by the mid-2020s, 40mt will use these routes, which are at least \$30 per tonne cheaper than that going by road to Santos & Paranagua. Other improvements will also help. Chinese investors, anxious to guarantee supplies, are to help finance thirty 60,000-tonne-capacity new silos to hold stocks at strategic places. Finance is also being sought by trading companies from Chinese investors, for a new railway to run from the soya growing regions to Miritutuba. All the soya now arrives at Miritutuba along the key BR 163 highway, along which 200,000 trucks travel each year, but which has not yet been fully paved. The army has been called in to do the job. Only 0.5% of Brazil's GDP has been spent on logistics in the past few difficult years of recession.

Shrinking tax revenues have forced the government to slash spending on virtually everything. It is important that investments to logistics are made wisely, and priorities set carefully, which has not always been the case. For example, locks were built a decade ago at a hydro-electric plant on the Tocantins river, at a cost of \$3 billion. These locks were designed to allow barge trains move 20mt of grains a year cheaply on this key route. The fact that a 43km stretch of water containing large rocks, lay below the locks was ignored. At present barge trains can only carry 6,000 tonnes at a time. The dredging is expected to take at least five years to complete, while \$3 million has to be spent each year on maintaining the hardly used locks. Brazil is still littered with

partly built railways, designed to carry grains, as well as sugar, iron ore and steel to ports.

A formula which would determine which operating company should be allowed to use the tracks, which in many cases are now rusting, has not yet been agreed. The main track may have been laid, but no sidings, or passing places have been built. The rail companies argue that the proportion of goods taken by rail in Brazil, which now totals about 540mt a year, has been increased. But critics point out that the huge increase in the amount of iron ore taken 600km from mines in Carajas to ports, is responsible for that.

The amount of other cargoes carried, notably grains, has fallen, as have the average speed at which trains travel, now only 12km an hour, compared with 20km/h before companies were privatized. Prospects for iron ore, of which Brazil — led by the Vale company — exports more than 400mt a year, are unclear, as the continued fluctuation in price, which swung from \$30, to close to \$70 per tonne during 2018, demonstrates.

Several factors help explain this. Although the rate of growth in China has slowed, the amount of steel produced there has hardly varied, which has contributed to a huge surplus depressing world steel prices. Concern with the serious problems of pollution in China, means that mills have come under pressure to switch from poor-quality locally mined ore, to more expensive imported varieties, of which that from Carajas is the best example. Many mines in China have closed down, partly because the current low price of ore means they are not economic.

The contrary is true of Brazilian ore, the cost of producing which is probably the lowest in the world. The low cost of top

quality Carajas ore, compensates for the fact it costs a great deal to transport ore to its main market, China. Nobody is panicking in the ore industry in Brazil, however, while morale in the steel industry, particularly hard hit in the past years of recession, is also improving. Demand from the key car-making industry, where a record 2.7 million units were made in 2016, half a million of them exported, is increasing. The hope is that demand for steel will increase by up to 6% in 2018, when average economic growth of about 3% is expected, has allowed steel companies — notably those making galvanized products, and hot rolled steels — to increase prices.

To help pay off large debts, the Gerdau company, which invested heavily in the United States, neighbouring Latin America, and Europe, has sold several mills in recent months. Although prospects for the motor, and consumer durable industries are bright, the picture is still mixed.

The construction industry has still not recovered from a period of over investing, while the fact that the proportion of components destined for the oil industry which must be made in Brazil has been reduced, in response to pressure from the industry, is bad for the industry. Petrobras has cut back on spending, and the building of new refineries is at a standstill. There was jubilation at the favourable result of a recent round of bidding for new blocs in the challenging 'pre-salt' area of deep waters, which attracted many new companies from abroad. But a start to drilling, and pipe laying at these blocs will not be made for at least three years,

If prospects are mixed for most of Brazil's commodities, they remain extremely bright for the makers of market pulp. Very strong demand for tissue, for which the short fibre pulp which is the speciality for most mills in Brazil, again resulting from the move of millions to cities in China each year, have caused demand for Brazilian pulp to soar in 2017, when prices were raised on ten occasions, more than doubling in some cases. Depending on destination, a tonne of short-fibred pulp ended the year selling for more than \$750. It costs only \$200 per tonne to make each tonne at one of the most modern mills, which each make up to 1.7mt a year. Two new mills, the second line at Fibria's Tres Lagoas site, and the upgraded mill owned by Chile's CMPC company in Porto Alegre, have started up, taking total output to near 20mt, but prices have not fallen. The favourable prospects have led both Fibria, whose mills now have capacity to make a total of about 8mt of pulp — together with



Eldorado pulp mill in Brazil.

Suzano, the second largest company — to talk of building brand new mills.

Both of the Brazilian giants, as well as Chile's Arauco bid for the large 'Eldorado' mill, owned by the JBS meat company, which has been obliged to dispose of numerous assets round the world, following financial difficulty. But the Latin American companies

were not prepared to match the \$7 billion offered by a subsidiary of the Indonesian-owned Asian Pulp and Paper company, which seems to be having difficulty expanding output in Asian countries. The Indonesian company may eventually build a second line at Eldorado.

The main reason for last year's price rises, was a mismatch between supply and demand. This was because mills in the US, Europe and elsewhere with capacity to make 1.1mt, closed in 2017. Despite the additional contribution from Brazil, a gap grew. 60 new machines to make tissue, are under construc-

tion in China. With little extra capacity expected to come on stream in the next couple of years, supply will probably remain tight. Both Fibria and Suzano are taking no chances, and are to close down some of their oldest mills, including one line at Aracruz, pioneer in Brazil. *Patrick Knight*

DC

Tribunal of Trento Specialized Section for the Enterprise for these reasons

- Prohibits the defendant MDG Handling Solutions s.r.l. (former Gambarotta Handling s.r.l.) from using the name "Gambarotta" in any forms, and in particular as a trademark.
- Orders the publication of the ruling of the present order twice, on two columns and with double characters, on "Repubblica" and "Il Sole 24 Ore", as well as on two magazines specialized in the field, to be made by the claimant Gambarotta Gschwendt s.r.l. and at the defendant's expenses.
- Orders the defendant, represented by its legal representative pro tempore, to pay the legal expenses in favor of the counterpart, expenses determined in € 4.500,00, in addition to 15% for general expenses, VAT and bench fee.

Trento, November 30, 2017

The Judge
Dr. Monica Attanasio

Cargo Care Solutions opens hydraulics workshop in the Netherlands

NEW HYDRAULICS WORKSHOP TO SERVE AS EUROPEAN NERVE CENTRE FOR REPAIRS

Cargo Care Solutions (CCS), the hatch cover and Ro-Ro equipment specialist, has opened a hydraulics workshop in response to the growing demand by ship owners for maintenance and repair of their hydraulic deck equipment.

The company's first workshop, which is near its Rotterdam headquarters, will serve as the hydraulic nerve centre for CCS' European operations, offering specialist services, including repair and service for hatch covers, ro-ro equipment, watertight doors, winches and deck cranes.

Cargo Care Hydraulics also offers its services for port cranes and hydraulic equipment on offshore platforms and workboats. Aside to having facilities for offsite repairs, Cargo Care Hydraulics

also offers its clients onsite repairs and troubleshooting. It can assist clients in the entire process from dismantling the equipment to building it back in and make the hydraulic system operational again.

CCS' CEO Peter Peltenburg says: "We are delighted to open this hydraulics workshop as part of CCS' continued commitment to ensuring that vessels are safe and cargo is secure through its transportation. Our close partnership with ship owners has allowed us to directly invest in sustainability initiatives, guaranteeing a vessel's performance.

"The workshop will offer unique inspection, service and repair facilities for hydraulic equipment such as cylinders, pumps, motors and valves. It is designed to make full and efficient use of

modern technologies, as even minor problems with a hydraulic system can trigger a chain reaction through the entire system. By using this facility our customers can be sure of the level of service they expect from us.

Cargo Care Solutions has a long history in the field of cargo access equipment. As the former after-sales network of Macor Neptun (formerly Deutsche MacGregor) and SEOHAE Marine System, it has more than 30 years of experience in its field.

It is an independent and all-round supplier, able to supply parts and services for all types and brands of maritime cargo access equipment. Main categories of serviced equipment are folding hatch covers, side-rolling hatch covers, pontoon hatch covers, ro-ro equipment and hydraulic doors.

Hempel launches new cargo hold coating

HEMPEL REDUCES CARGO HOLD MAINTENANCE COSTS BY LAUNCHING NEW HEMPADUR ULTRA-STRENGTH FIBRE 47510

In late November last year, major global coatings manufacturer Hempel launched its new cargo hold coating — Hempadur Ultra-Strength Fibre 47510. This innovative coating offers customers an outstanding return on investment by delivering up to 40% reduction in cargo holds maintenance costs*.

This next-generation cargo hold coating is specifically designed to withstand the harsh conditions experienced by cargo holds, hatch covers and hatch coamings of bulk carriers. It offers superior corrosion protection and long major repair intervals for owners and operators, as well as application simplicity for shipyards and applicators.

Hempadur Ultra-Strength Fibre 47510 incorporates a unique combination of superior mechanical resistance, fibre and self-toughening technology for improved cargo hold protection. Hempel's patented fibre technology delivers superior coating flexibility in critical cargo hold areas, whilst

the self-toughening technology is activated by cargo heat, boosting the coating's mechanical, chemical and thermal resistance.

Davide Ippolito, Group Project Manager, Marine, Hempel A/S says: "At Hempel we understand our customers' needs for high performing, ultra-fast curing cargo hold coatings that deliver a fast return to service, minimize maintenance costs, reduce vessel downtime and speed up holds cleaning operations and inspection. As the shipping industry continues to face challenging market conditions, the right investment in the optimum cargo hold coating, such as Hempadur Ultra-Strength Fibre 47510, will deliver an extraordinary reduction up to 40% in cargo hold maintenance costs for shipowners*.

"Hempadur Ultra-Strength Fibre 47510 builds on the technology behind our successful class-leading Hempadur Ultra-Strength 47500 — that has protected over 6.4 million square metres of steel since its launch in 2009 — elevating cargo hold protection to a higher level."

Incorporating Hempel's patented fibre technology, this heavy-duty coating exhibits superior resistance to abrasion, impact, cracking and chemical attack, combined with an easy to clean smooth surface. It is a self-priming, two-component, high build,

pure epoxy coating which can be applied at a surface temperature of as low as $-5^{\circ}\text{C}/22^{\circ}\text{F}$. Its fast curing properties allows a rapid return to service — as short as just three days from coating to loading the first hard cargo — to minimize off-hire costs**.

HEMPADUR ULTRA-STRENGTH FIBRE 47510 AT A GLANCE

- ❖ excellent cargo resistance with a ten-year major repair interval;
- ❖ best-in-class resistance against self-heating cargoes to reduce hold maintenance costs;
- ❖ 76% volume solids and low volatile organic compounds (VOC);
- ❖ excellent resistance against abrading and cargo gouging damages to reduce maintenance during operation;
- ❖ fast return to service after coating application — three days to carry first hard cargo — minimizing vessel downtime**;
- ❖ offers easy hold cleaning between cargoes for high cargo flexibility;
- ❖ high productivity and application simplicity for shipyards and applicators as application is achieved over a wide range of temperatures ($-5^{\circ}\text{C}/22^{\circ}\text{F}$ to $+40^{\circ}\text{C}/104^{\circ}\text{F}$); and
- ❖ complies with FDA regulation in respect of dry foodstuffs.

*Compared to a standard epoxy coating for cargo holds. Bulk carrier size: Panamax. Cost simulation based on 10 years major repair interval. Country of maintenance: China

** At coating curing temperature of $25^{\circ}\text{C}/77^{\circ}\text{F}$

The Red Queen – what Lewis Carroll taught us about vessel efficiency

A common misconception is that being efficient means achieving a task in the shortest possible time, writes *Andreas Glud, Group Segment Manager, Marine, Dry Dock, Hempel A/S*. While in an ideal scenario this may well be true, in the global movement of dry cargo by sea, the concept of efficiency is about much more than just speed.

In his well-known tale, *Through the Looking-Glass, and What Alice Found There*, English writer Lewis Carroll describes the Red Queen's ability to move across a chessboard with great speed and agility, but only because she has the correct conditions to do so. Alice, the main character, starts the game as a pawn and must cross the board encountering different challenges which allow her to



transform and ultimately gain the same conditions that the Red Queen enjoys.

Overcoming challenges to gain more favourable conditions is something that shipowners and operators also face. Whilst charterers often expect the vessels they hire to sail the seas with 'Red Queen' capabilities, more often there are challenges that hinder these ships and cause them to be inefficient in a number of ways, such as bio-fouling.

Bio-fouling is when organisms such as algae and barnacles attach themselves to a vessel's hull. This creates drag meaning more fuel is needed to move the vessel, increasing fuel costs and CO₂ emissions. This is an inefficient use of energy and power and less friendly to the environment.

Recognizing this challenge, Hempel, the worldwide paints and coatings manufacturer, set about developing an advanced fouling defence coating which

would keep a ship's hull clean and smooth, reducing friction and streamlining a vessel's movement through water. The result was the award-winning Hempaguard.

In one coat, Hempaguard combines low surface friction silicone with efficient fouling prevention biocides through Hempel's unique patented Actiguard technology. Since its inception in 2013, Hempaguard has now over 900 full vessel applications, delivering a 6% fuel saving compared with best-in-class antifoulings.

In addition to overcoming the challenges of achieving efficiency posed by bio-fouling, Hempel is at the forefront of efficiency initiatives on an industry level and was integral in the development of the International Organization for Standardization (ISO) 19030. This standard defines the methods for determining changes in hull and propeller performance in addition to calculating basic indicators to provide industry standard measures for propeller efficiency.

Building on this foundation Hempel now offers hull-monitoring services to deliver in-depth analysis of data. This enables ship owners and operators to measure and assess hull and propeller performance data, benchmarking the

performance of a vessel, even against its new-build condition, offering more dynamic solutions to maximize fleet efficiency.

Whilst antifouling coating solutions such as Hempaguard, or industry standards such as ISO 19030 independently do not offer Red Queen shipping conditions, they are both vital factors in the operational and technical mix to maximizing vessel efficiency. The right combination, and by appreciating the importance of each factor, brings ship owners one step closer to optimum operational efficiency.



GAC named Ship Agency of the Year 2017

In late October last year, the GAC Group won the Ship Agency of the Year title at The Maritime Standard Awards 2017. It is the second consecutive year the company has received this prestigious accolade.

GAC's award recognizes it as the agency that has made the greatest contribution to the shipping industry in the Middle East and the Indian Sub-continent, measured across a range of variables including customer service, efficiency, network outreach, new products and services launched, and new business secured.

Fredrik Nyström, Group Vice President – Middle East, says: "We found ourselves on the winners' podium at The Maritime Standard Awards, hot on the heels of winning the Seatrade Ship Agent Award earlier this month. Both recognize the hard work of our staff at all levels, who are committed to



Johan Thuresson, General Manager, Shipping Services, GAC Dubai, receives the Ship Agency of the Year award at The Maritime Standard Awards 2017.

delivering the highest standards of shipping services to our customers."

ABOUT GAC GROUP

GAC is a global provider of integrated shipping, logistics and marine services. Emphasizing world-class performance, a long-term approach, innovation, ethics

and a strong human touch, GAC delivers a flexible and value-adding portfolio to help customers achieve their strategic goals.

Established since 1956, the privately owned group employs over 9,000 people in more than 300 offices worldwide.

Iron ore drives bulker rally but spot market could be set for New Year fall

A NEW YEAR BULGE IN DELIVERIES COULD TAKE THE SHINE OFF RECENT IMPROVEMENTS AS THE MARKET DIGESTS THE IMPACT OF CHINA'S STRATEGY TO CUT POLLUTION

The dry bulk market shrugged off Chinese government-enforced cuts in steel production to post more positive freight rates in October, with average monthly spot and 1 Yr T/C (1-Year Treasury Constant) rates higher than any month since 2014 for all bulker benchmarks.

Iron ore imports to China remain the strongest driving factor despite the downside risks. The most recent steel data available show a slowdown from the very high production levels of Q3, but there is still robust demand for tonnage for ore imports. Iron ore and coking coal prices in China have both risen by about 17% so far in November, another sign that there is still strong demand for tonnage.

According to data derived from AIS movements, Brazilian exports in Capesize vessels were up 6.5% year-on-year and those from Australia 3.1% year-on-year in October. The contradiction of weaker steel output and stronger ore imports is partly explained by lower domestic ore output: September was the worst month for ore production since May and a 13% drop since

the peak in June.

"This has been a key tenet supporting MSI's [Maritime Strategies International's] forecast of stronger freight rates towards the end of this year and is an indication of Chinese steel manufacturers' increasing preference for higher quality iron ore found in Australia and Brazil," says MSI Dry Bulk Analyst Will Tooth. "MSI expects that the Chinese government's focus on pollution will see even greater shifts away from the use of domestic ore with a lower iron content, due to the greater emissions produced."

However MSI forecasts a drop in spot earnings by January next year for all size categories with largest drop expected to come from Capesize earnings. It expects Capesize earnings of around \$12,700/day in January, a 36% decline from October's average.

Further compounding a weaker market in January, MSI forecasts an annualized fleet growth of 2.5% over the next three months. This relatively strong growth mainly comes from the large increase in deliveries that it expects in January.

"However the better news for the market is that deliveries are expected to slow thereafter, particularly for the 10–65,000dwt segment for which the

orderbook currently represents just 5% of the fleet," adds Tooth. "Slower deliveries and a seasonal uptick in demand will support rates in Q2 next year and we forecast an increase in April by on average 23% from January's lows."

Recent freight rate developments broadly match historical trends, with Capesize October earnings 147% of the annual average for the past five years and January spot earnings 87% of the annual average historically.

ABOUT MARITIME STRATEGIES INTERNATIONAL

Since its inception in 1986, Maritime Strategies International (MSI) has established itself as one of the shipping industry's foremost independent research and consultancy firms. Its success is built on a strong focus on maritime economics and econometric modelling.

The company provides a comprehensive range of advisory services, including forward valuations market forecasts, reports and commercial consultancy services for all shipping sectors. MSI asset price forecasts are used by ship finance providers holding 40% of all shipping bank debt and it provides analytical and methodological support to give the context and credence to its results.

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Port-Safety and ECKS MARINE sign agreement for new innovative rescue ladder

The reputable international maritime consultant and supplier's representative, ECKS MARINE, based in Hamburg will be German marketing and sales agency for LifeLadder, a new rescue ladder designed to increase safety in harbours.

"The LifeLadder fits 100% into our vision of making the world a better and safer place by bringing sustainable, cost- and risk-cutting solutions to the market. LifeLadder is one of the most revolutionary ideas the marine and maritime industry has seen since many years," says Torsten Ecks, Managing Director at ECKS MARINE in Hamburg, Germany, and continues:

"I am confident that in a few years' time the LifeLadder will be the preferred choice in most German ports whenever a conventional ladder has to be replaced as well as for new projects".

LifeLadder — an innovative rescue ladder built in reinforced plastic — is invented and designed by the Danish company Port-Safety. Managing Director at Port-Safety, Kim U. Haaning, is thrilled to have signed an agency agreement with ECKS MARINE, as LifeLadder now is heading for production and the market in Germany:

"We looked for an experienced partner with a solid network and a passion for safety, and we found what we were looking for in ECKS MARINE. We are very proud of our partnership with Torsten and his team," says Kim U. Haaning.

Facts about LifeLadder

A LADDER SAVING LIVES...

LifeLadder is a new and innovative maritime safety device. It is designed for industrial as well as urban quays, locks, waterways and marinas. Visibility both day and night delivers improved maritime safety. The choice of maintenance-free materials addresses issues of costs and time spent on upkeep.

Quite often, traditional rescue ladders mounted on piers, bridges and quays are hard to spot as they do not distinguish themselves from the dark surfaces in the harbour. Especially at night, they are difficult to see. Despite frequent maintenance, traditional ladders manufactured in steel are subject to accelerated corrosion.

Data collected in Denmark document that 25% of drowning accidents occur in harbours. The need to improve safety is increasing as more industrial harbours are urbanized.

LifeLadder addresses the requirement for improved safety with a maintenance-free solution, which is visible both day and night. LifeLadder is constructed in reinforced plastic, moulded in a bright yellow and UV-resistant colour. The modules are clamped together with a synthetic rope. A patent has been filed for this construction.

On the future perspectives for LifeLadder in Germany, Torstens Ecks says: "LifeLadder lifts up the safety standard of a port or terminal dramatically. Due to its bright yellow colour it can easily be seen by people in the water, and it has the option to be illuminated at night. In addition the LifeLadder requires zero maintenance, i.e. no de-rusting, no painting or welding. In fact the advantages of LifeLadder start even earlier, both in production and during

transport LifeLadder saves the environment due to its low carbon footprint. It is so light that you won't need a crane or a multi-man crew to install it, yet it is very robust.

"Even if damaged, the modular design provides the advantage, that the damaged part can easily be replaced. Compared to conventional steel ladders —being galvanized or not — LifeLadder even has a longer lifespan" says Torsten Ecks.



LifeLadder — a rescue ladder illuminated by solar-powered LEDs.

AkzoNobel's Intercept 8500 LPP antifouling solution saves money and the environment



AKZO NOBEL SURPASSES 100 INTERCEPT 8500 LPP APPLICATIONS, SAVING US\$25.5M OF FUEL AND 274,000 METRIC TONNES OF CO₂

Owners and operators are saving fuel costs and reducing carbon emissions with AkzoNobel's patented biocidal antifouling coating Intercept® 8500 LPP, part of the International® product range. The coating, which has seen rapid adoption among customers with over 100 applications since its launch in March 2016, has been estimated to have saved vessels \$25.5 million in fuel costs and 274,000 metric tons (MT) of CO₂.*

Intercept 8500 LPP is AkzoNobel's highest-performing biocidal antifouling, revolutionizing the market thanks to the linear polishing performance afforded by its unique combination of Lubyon® and silyl methacrylate technologies.

"The milestone application of Intercept 8500 LPP to 100 vessels demonstrates the rapid uptake of this product," said Carl Barnes, AkzoNobel's Marine Coatings Antifouling Segment Manager. "With the IMO refocusing efforts on its antifouling guidelines and increasingly stringent rules around invasive species emerging from areas such as California and New Zealand, it's vital that the industry can access a full

*Calculated over a five year cycle using Intercept 8500 LPP compared with a high volume, high performance self-polishing copolymer (SPC) coating.

range of fouling control options to suit each vessel's operating profile and trading route.

"At the same time, our industry remains under pressure to increase operational, cost and environmental efficiencies. Ship owners and operators understand the value of choosing a coating with the capability to deliver long-term consistent fouling control throughout the dry docking cycle, which supports overall business profitability and compliance with increasingly stringent environmental regulations," Barnes said.

One recent adopter of Intercept 8500 LPP is Sea Light Shipping & Offshore Co Inc (SLS), a leading Dubai-based owner and operator of cargo ships, bulk carriers, multi-purpose and offshore vessels.

Sujith Menon, Technical Manager at Sea Light Shipping & Offshore Co Inc, said: "From what we have seen so far, the performance of Intercept 8500 LPP on the vessel KMB 4 has been excellent, considering the extreme fouling challenge encountered in the Gulf and low activity of this vessel — factors that can heavily impact fuel consumption and profitability. It's clear that Intercept 8500 LPP is an effective means of protecting vessels that operate in the most difficult fouling conditions."

The exact performance of the Intercept range is dependent on the unique characteristics and trading

patterns of individual vessels. The range has been incorporated into AkzoNobel's industry-first Big Data consultancy technology, Intertrac Vision, which ship owners can access via specially trained Intertrac Vision consultants to gain an accurate picture of the performance of Intercept coatings on their vessels over the full dry docking cycle, prior to application.

ABOUT AKZO NOBEL

AkzoNobel creates everyday essentials to make people's lives more liveable and inspiring. As a major global paints and coatings company and a major producer of speciality chemicals, it supplies essential ingredients, essential protection and essential colour to industries and consumers worldwide.

Backed by a pioneering heritage, the company's innovative products and sustainable technologies are designed to meet the growing demands of a fast-changing planet, while making life easier. Headquartered in Amsterdam, the Netherlands, it has approximately 46,000 people in around 80 countries, while its portfolio includes well-known brands such as Dulux, Sikkens, International, Interpon and Eka.

Consistently ranked as a leader in sustainability, AkzoNobel is dedicated to energizing cities and communities all while creating a protected, colourful world where life is improved by what it does.

Optimarin shakes up BWT sector with unique promise for shipowners

Optimarin is announcing another first for the ballast water treatment (BWT) segment. The Norwegian-headquartered BWT specialist, which has focused exclusively on the development of environmentally friendly systems since its foundation in 1994, has become the first manufacturer to offer a five-year parts and servicing guarantee. It's a move that, according to CEO Tore Andersen, has the potential to redefine what shipowners expect from suppliers in this ultra-competitive sector.

Optimarin has a unique track record in BWT. It was the first firm to install a commercial system, back in 2000 on-board the cruise ship *Princess Regal*, and the first to attain full USCG approval. It now boasts more than 330 installed units worldwide, of which over 150 are retrofits, with more than 520 confirmed orders. It's this history of operational success that has prompted the innovative move.

"We thought it was time to demonstrate our long-term faith in our system and absolute commitment to this segment," Andersen explains.

"No other manufacturer offers a guarantee of this nature, but we can. So, if a shipowner signs a framework agreement with Optimarin for installation on multiple vessels, we will provide them with a five-year contract that covers all parts and servicing, worldwide. This is our promise of reliable, safe and effective operations, and, with our total regulatory compliance, complete peace of mind."

Optimarin's powerful UV-based system is simple to maintain, with no moving parts, and easy to install on almost any vessel, thanks to its modular nature. In fact, just last month freight ferry operator Seatruck revealed its own crews had installed five



*Optimarin CEO
Tore Andersen.*

systems themselves while its vessels were undertaking operations, with no need to dry-dock.

"That's the essence of Optimarin," Andersen comments, "we're here to make life as simple as possible for shipowners. And that's exactly what this guarantee offers."

He continues: "It also comes down to delivering the best value. We know our system is significantly cheaper to design for vessels than competing technology. Similarly, due to its simplicity, there are minimal maintenance requirements, and it is considerably cheaper to install — full stop. We have fast-track deliveries available for many sizes, meaning reduced waiting time, and we can't be beaten in terms of global compliance.

"As an all round proposition —taking into consideration reliability, simplicity, installation, track record, price and service — we believe we offer something no one else comes close to. The guarantee is, quite

simply, 'the icing on the cake!'"

Optimarin has the backing of a stable group of investors, which, together with its considerable orderbook, allows it to implement such long-term plans. Its system (OBS – Optimarin Ballast System) is widely acknowledged as setting the standard for the industry. As proof of this, global ship management services and training provider Anglo Eastern has installed two OBS at its training facilities, one in Manila and one in Mumbai, to train crew members ahead of the IMO's Ballast Water Management (BWM) Convention coming into wide-spread force in 2019.

Optimarin customers include names of the order of The Royal Netherlands Navy, Saga Shipholding, Technip, GulfMark, MOL, Solstad Farstad, and Hapag Lloyd, amongst others. Its technology is fully approved by both IMO and USCG, with certification through DNV GL, Lloyd's, RINA, Bureau Veritas, MLIT Japan, and American Bureau of Shipping.

Brexit: UK Club to set up subsidiary in the Netherlands

The UK P&I Club, a major provider of P&I insurance and other services to the international shipping community, has announced its intention to establish a new European subsidiary in the Netherlands.

Hugo Wynn-Williams, CEO of Thomas Miller P&I said: "Although the precise future trading relationship between the UK and the EU remains uncertain, we are putting arrangements in place that will allow the UK Club to

continue to provide cover for our members regardless where their ships are registered. The Club remains committed to doing business within Europe.

"The Netherlands is, in our view the optimal jurisdiction for the Club's European Union subsidiary due to its convenient location with excellent transport links, its proximity to major markets, stable business environment, use of English for business, and a

regulatory system which provides the best fit for our operational model.

"The new subsidiary will also be in a position to front for other Thomas Miller managed clubs affected by Brexit. As a result, this will enable costs to be shared, providing the most efficient solution to continuing operations in Europe.

"The process of establishing a subsidiary is already under way, and expected to be completed during 2018," Wynn-Williams said.



Safeguarding against heat damage to soybeans in China



Soybeans in apparently sound condition.

Preventing losses due to self-heating damage to soybeans in China

I. WHAT IS HEAT DAMAGE IN A SOYBEAN CARGO?

Soybeans are the world's most important oilseed as a source of vegetable oil and animal feed (soybean meal). Soybeans are usually loaded on bulk carriers in apparently sound condition but, during the voyage, this bulk cargo can undergo self-heating and spoil. This is especially true of cargoes of South American origin, whilst US soybeans are typically more stable.

Sound soybeans are of a cream and pale colouration but self-heating and the resulting elevated temperatures can deteriorate their condition, causing the beans to darken and become visibly

mouldy. Furthermore, self-heating can impact the quality of soybeans by increasing the level of free fatty acids (FFA) in the crude oil and by decreasing protein digestibility in soybean meal.

Sound soybeans naturally contain low levels of FFA up to about 0.5–1% maximum. FFA are linked to the rancidity of the oil, affecting flavour, aroma and other oil characteristics, hence the crude soya oil must be refined prior to human consumption.

Self-heating and the resulting heat-damage of a soybeans cargo translate into higher FFA concentrations in the crude oil

and consequently higher refining costs. The refined oil from a heat-damaged cargo of soybeans also incurs in yield losses due to the additional chemicals used in the refining process, thus constituting a further source of financial loss. An extensively refined oil may also lose desirable components, such as natural antioxidants and as a consequence lose some value.

The darkening from elevated temperatures can also affect the colour of the soya oil and soybean meal. Especially in China, the price of soybean meal can be dictated by its colour, with paler colourations being preferred by buyers. In China, although not



Caked and discoloured soybeans in a cargo hold during discharge.

necessarily of inferior quality to paler soybean meal, darker colourations are perceived to be of lower quality and can result in financial losses. It is difficult to predict such losses because the prices of darker soybean meal in the Chinese market are driven by volatile market forces and also by the subjective judgement of the buyers.

II. CAUSES

Each soybean is covered in dormant mould spores that can begin to grow and subsequently cause spoilage under certain environmental conditions.

The propensity of a soybean cargo to spoil and the ensuing extent of deterioration are determined by the inherent properties of the cargo at loading, such as moisture content, temperature, duration of previous storage and any previous incidence of mould growth that might have occurred since harvest.

At sufficiently elevated moisture content and temperature, a cargo of soybeans can become microbiologically unstable because it is prone to mould growth. As mould grows, it forms long filaments that intertwine among the beans, resulting in the visible formation of cohesive and caked cargo. Mould growth generates heat and since soybeans are poor conductor of heat, it cannot be rapidly dissipated from the cargo. As a result, the local temperature of self-heating cargo or portion thereof increases and ultimately the soybeans deteriorate.

For example, at a temperature of about 25°C, soybeans with a moisture content

below 13% are generally regarded as safe for carriage but the risk of deterioration increases at moisture contents above this limit. However, because of the heterogeneity of soybean cargoes, moisture content values reported on cargo quality certificates at load ports are an average of the entire shipment, which means that portions of a cargo are loaded above the stated contractual value. Furthermore, the contractual limits for moisture content of South American soybeans (e.g. 14% maximum for Brazil and 13.5% maximum for Argentina) are often above the recommended value for indefinite safe storage. In other words, many cargoes may be loaded within sale contract specifications but these are still microbiologically unstable, with therefore a significant risk of self-heating and deterioration during a sea voyage.

In addition to elevated moisture content and cargo temperatures, other parameters can affect the propensity of a soybean cargo to self-heat, such as age, storage history, presence of foreign matter and pre-shipment conditions. Therefore, the rate of cargo spoilage can be accelerated by the said additional parameters, even when a cargo is loaded at a relatively low moisture content and cargo temperature. Prolonged storage periods prior to loading can drastically reduce the safe storage life of a cargo, allowing moulds to grow, albeit slowly, during the storage period. This mould growth can escape scrutiny during the loading operation but once on a vessel, mould growth can begin much faster than would otherwise be the case.

III. VENTILATION AND OTHER ALLEGED CAUSES OF SELF-HEATING

Soybeans are hygroscopic, meaning that they can both absorb and give off water. During a sea voyage from a warm and humid port, a vessel can encounter cold climates and waters. In this instance, warm and humid air can rise from the bulk of a grain cargo, reaching the cooler steelwork of the hold. This moist air can then condense on the cooler underside of the hatch covers and coamings, subsequently dripping down on the cargo. Exposed soybeans on the cargo surface will then absorb this liquid water, creating the suitable conditions for mould to grow rapidly. This type of condensation is referred to as ship's sweat and its associated damage presents itself as stripes of mouldy cargo on the surface of the cargo mirroring the vertical structures on the underside of the hatch covers and coamings. Different hatch cover structures can give different patterns of damage.

The damage due to ship's sweat is minimal and affects only the uppermost surface of a cargo, but it is cosmetically alarming. On the other hand, the damage due to self-heating can extend throughout an entire hold, depending on the location of the more microbiologically unstable parcels of a cargo at loading. It is therefore straightforward in many cases to discriminate between the pattern of damage caused by self-heating and ship's sweat.

Natural ventilation conducted adequately on board a bulk carrier can help alleviate or prevent the damage associated

with ship's sweat by replacing moist air in a hold headspace with drier air from outside. It should be noted that no amount of shipboard ventilation can prevent the damage caused by self-heating in a soybean cargo.

The ventilating air does not penetrate the bulk of a cargo and only affects its top surface. In China, a lack of or an inadequate ventilation regime are often alleged by claimants as the major cause of cargo damage at out-turn, although in reality ventilation cannot control or reduce the damage caused by self-heating within a hold.

Another common allegation concerns heating of a cargo from adjacent fuel oil tanks (FOTs). However, this type of damage is localized only to the beans in close proximity to the steelwork of the heated FOT because, as previously explained, soybeans are poor conductors of heat. This type of direct heating damage, therefore tends to be localized to the proximity of the heated tank.

Cargo damage may also result from a leakage in the hatch cover seals. The ingressed water (seawater or rain water) will then descend vertically in the holds, and a portion of this water will be absorbed by the beans, causing mould growth and spoilage. The remaining ingressed water will continue to descend, forming a vertical column of wetted and caked cargo. Therefore, damaged portions of cargo within the bulk of a hold due to self-heating cannot be ascribed to water ingress from a leakage in the hatch covers. If both factors are occurring simultaneously, however, one effect can be attributed to the incorrect causation.

IV. MITIGATION STRATEGIES

In the event of cargo damage at the discharge port, heat damaged soybeans should not be considered total loss, as instead often claimed by receivers, because crushing plants can process such damaged beans, producing edible oil and animal feed, albeit with some extra processing and additional costs.

In China, national health and safety regulations allow a maximum of 1% mouldy beans in a cargo. In theory, above this threshold the Chinese Inspection and Quarantine (CIQ) officers can enforce the law and seize a cargo if they deem it unsafe for human consumption. In the worst-case scenario, an excessively mouldy soybean cargo can be destroyed, thus amounting to a total loss plus additional incineration and handling costs. Instances of cargo destruction are however rare but mouldy portions of a cargo can be segregated and incinerated upon CIQ's instructions.

The rationale for the destruction of cargo, or a portion of it, with more than 1% mouldy beans stems from the fact that moulds can produce compounds that are toxic to humans, i.e. mycotoxins, when growing in particular environmental conditions — temperature and relative humidity — and on a range of grains/oilseeds.

In reality, mould *per se* on soybeans is not typically an issue for crushing plants because firstly moulds are killed by heat at the beginning of the oil extraction process and secondly moulds rarely produce actionable levels of mycotoxins when growing on soybeans. Therefore, the decision to destroy a mouldy soybean cargo does not have a scientific basis and it

is often dictated by receivers' interests or, as also experienced elsewhere in countries other than China, by cautiousness of the relevant authority concerning the actual hazards of moulds in soybean cargoes.

The most common and cost-effective strategy used by crushing plants for processing a heat damaged soybean cargo is to blend it with beans of higher quality. In so doing, the average quality of the damaged cargo is increased up to the plant's specifications for the quality of the target oil and meal.

Generally, extra refining costs during the production of soya oil and meal along with yield losses for the sound beans used during the blending process of a heat damaged cargo comprise the final claim in cargo disputes.

In the event of excessive self-heating with temperatures sometimes up to about 100°C, the quality is so degraded that a cargo cannot be used for the production of meal and oil for food consumption. Alternative end uses for a severely heat damaged cargo can however be sought, such as the so-called acid oil, biofuel or fertilizer; in order to avoid total destruction and thus total loss of a cargo or of a segregated portion of it.

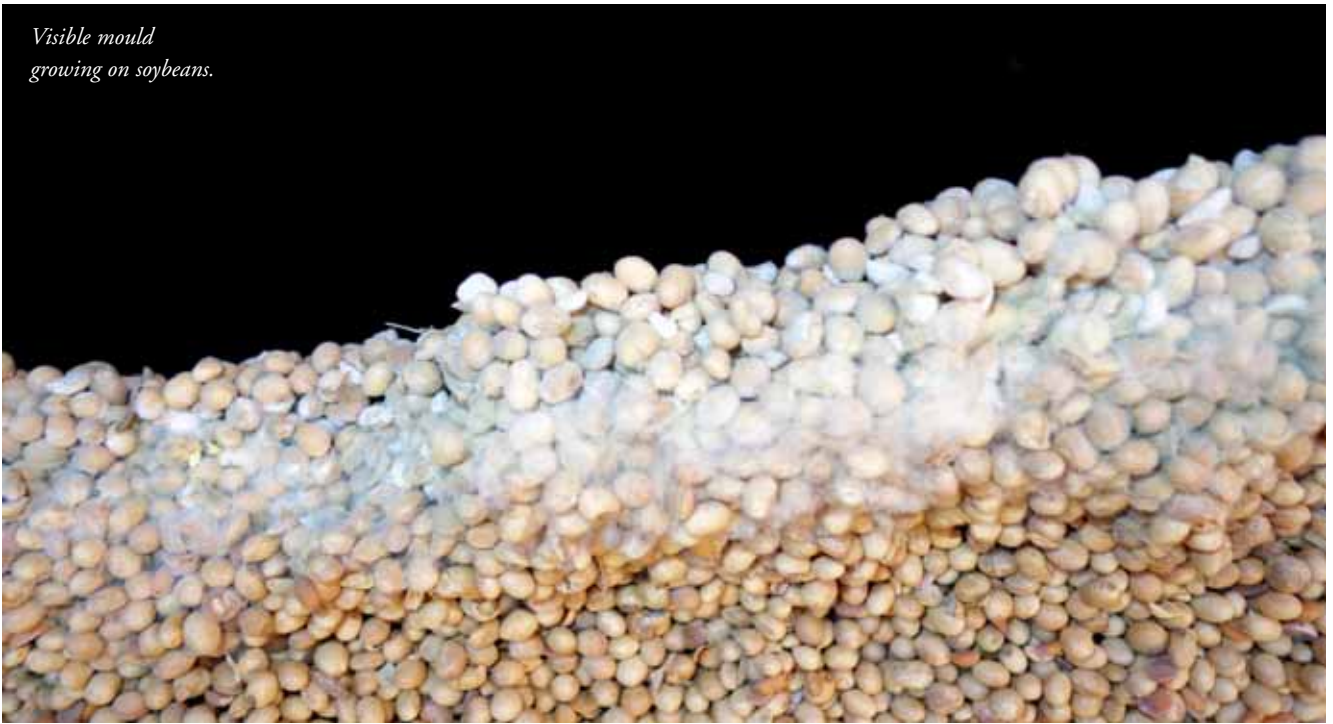
V. LOSS PREVENTION

A Master is only responsible for the readily apparent condition of a cargo during loading, such as abnormal presence of dark beans, mouldy beans and foreign matter. Soybeans at either 12% or 15% moisture content appear visually the same and only a laboratory test can determine moisture content. Therefore, with the exception of obviously wet parcels of cargo, the control



Severe self-heating of a soybean cargo.

*Visible mould
growing on soybeans.*



of the moisture content of a cargo is not a Master's duty during loading.

There is a perception that ship owners should be taking samples of cargo during routine loading. In our view, ship owners should not get involved in matters related to the quality of a cargo and we advise not to take samples unless something unusual is encountered. As explained in the previous section, even cargoes loaded at relatively low moisture contents and temperatures can self-heat during a sea voyage because mould growth can be caused by other factors, such as age and storage history of a cargo. In these instances, samples are of little value and might in fact implicate the owners in attempting to make cargo storability assessments.

From a loss prevention perspective, the following actions can be taken by the vessel to show that the cargo was cared for prior to and during the voyage:

- ❖ Prior to loading, ensure that the holds are clean and the hatch covers are weathertight and document any evidence that demonstrates this, e.g. hose tests, etc.
- ❖ Prior to and during loading, attempt to obtain information on the origin and storage history of the cargo to be loaded. For example, which silos are used for which hold; if the cargo is coming from flatstore, silos or barges, etc. However, this information can be often difficult to obtain.
- ❖ During loading, the crew should regularly monitor the apparent condition of the cargo, and not be afraid to stop loading operations in the event that portions of a cargo are visibly different from the normal appearance of soybeans.
- ❖ During loading, the crew should take photographs of the cargo to obtain evidence of the cargo condition both during and at the completion of loading. The presence of dust during loading can often prevent the crew from taking photographs of the cargo, however it is advisable to take photographs to provide evidence for the presence of excessive dust. Abnormal parcels of cargo could be loaded when the visibility is poor and a crew could then be accused for not noticing it, being a readily apparent condition of the loaded cargo.
- ❖ During loading, cargo temperatures can be taken in several locations both during temporary interruptions and at the completion of loading.
- ❖ During the voyage, ventilation should be carried out day and night, whenever permitted by the weather, and in accordance to the 3° rule, e.g. ventilate only when the outside air temperature is at least 3° less than the cargo temperature, as measured during loading.
- ❖ During the voyage, ventilation should be clearly and accurately recorded in the relevant logbook, along with instances and the associated reasons when ventilation was not conducted.
- ❖ During the voyage, the drain valves of the hatch covers should be checked for the presence of condensation, which is an indication that a cargo is undergoing self-heating.
- ❖ During the voyage, the crew in the engine room should be made aware of the properties of the cargo in order to avoid overheating the fuel oil tanks in way of the cargo in the holds.
- ❖ During the voyage, bilge soundings should be checked and recorded for the presence of water in the holds, which can be an indication of ingress from some source.
- ❖ At the discharge port, photographs of the cargo should be taken at the opening of the hatch covers to obtain evidence for the surface cargo condition, i.e. sound or mouldy/damaged. Often cargoes that appear perfectly sound at outturn might later show damage below and obtaining this evidence can be very helpful for the cargo experts.
- ❖ At the discharge port, in the event of a complaint, a cargo expert can gather evidence and assist with the assessment of the cause, nature and extent of the damage and on how to mitigate the resulting losses. Importantly, the expert can also plan sampling operations of the cargo and assist with the subsequent laboratory tests to quantify the damage to the oil and protein fractions of the damaged cargo. These laboratory results and the expert's opinion on the causation of damage will be crucial for future disputes in the event of a claim.

DCi

Produced by Dr. Luigi Petrone, Consultant Scientist from the Hong Kong office of Brookes Bell Group, a leading multidisciplinary consultancy to the maritime, offshore and energy, and industrial sectors.



Bulk carrier market

a sustainable upturn?



Ultramax geared bulker.

Richard Scott, Bulk Shipping Analysis

Expectations of a solid recovery phase unfolding in the bulk carrier freight market cycle became more convincing over the past twelve months. During the first half of 2017 progress was not sufficiently consistent to prevent doubts about whether an improving trend could continue. But in the second half shipowners operating bulk carriers benefited from freight rates strengthening further. There were signs that the return to profitable activity could persist in 2018.

The improvement seen last year reflected reviving global dry bulk trade expansion. Large rises in iron ore and coal trade, accompanied by growth in grain and minor bulk movements resulted in notably stronger demand for bulk carriers. Higher trade volumes and employment more than offset the effects of growth in the world bulk carrier fleet. Substantial newbuilding ship deliveries, only partly offset by scrapping, caused a sizeable addition to transport capacity supply.

Cautious optimism (from a shipowner's viewpoint) about the freight rates trend, in 2018, is based on expected positive contributions from both the demand and

supply sides of the market balance.

Sustained growth in dry bulk commodity trade volumes could be accompanied by a very limited increase in the bulk carrier fleet. However, it remains hard to be certain how several elements which will have a big impact on these predicted changes will actually evolve.

FLEET GROWTH VARIATIONS

Forecasts of a continued slowing in the bulk carrier fleet's expansion last year proved incorrect. Deadweight capacity is estimated to have increased by 3%, almost one percentage point faster than growth in the preceding twelve months. Newbuilding deliveries were significantly lower, but scrapping (otherwise known as demolition, or recycling) roughly halved, compared with the previous year, resulting in a larger net additional deadweight tonnage.

At the end of 2016 the world fleet of bulk carriers (ships with capacity exceeding 10,000 deadweight tonnes) was comprised of 10,878 ships totalling 794 million dwt, according to data compiled by Clarksons Research. By the end of last year this fleet apparently had grown to reach about 818m

dwt, a 24m dwt addition, based on estimates for the main influences.

Bulk carrier newbuilding deliveries in 2017 were well below the total seen in the previous twelve months. Provisional estimates which may be revised when more complete information becomes available suggest that the annual total was 39–40m dwt, down from the preceding 47.2m dwt total, a reduction of 15% or more. Vessel sales for scrapping may have amounted to about 15m dwt, almost a 50% reduction.

Among the main bulk carrier size groups — Capesize, Panamax, Handymax and Handysize — estimated percentage growth rates last year varied only within a fairly narrow 2–4% range. In preceding years there was a much wider range of changes.

In 2017 the Handymax (40–65,000dwt) bulk carrier fleet apparently saw the fastest growth at over 4%, reflecting high deliveries of the popular Ultramax geared vessels providing capacity of more than 60,000dwt. The Capesize (100,000dwt and larger) and Panamax, including Kamsarmax (65–100,000dwt), fleets evidently grew by about 3%. A slower 2% increase was seen

in the Handysize (10–40,000dwt) size group.

These deadweight growth figures are not always an entirely accurate indication of actual changes in transport capacity available. Increases or decreases in capacity to move cargoes, within any period, depend partly on how productively ships are employed. Ship speed, ballast voyage patterns, and duration of port visits including any delays, are crucial influences affecting the supply of transport services. Statistical data on these aspects is often not available, however, and therefore simple fleet deadweight volume is the usual indicator.

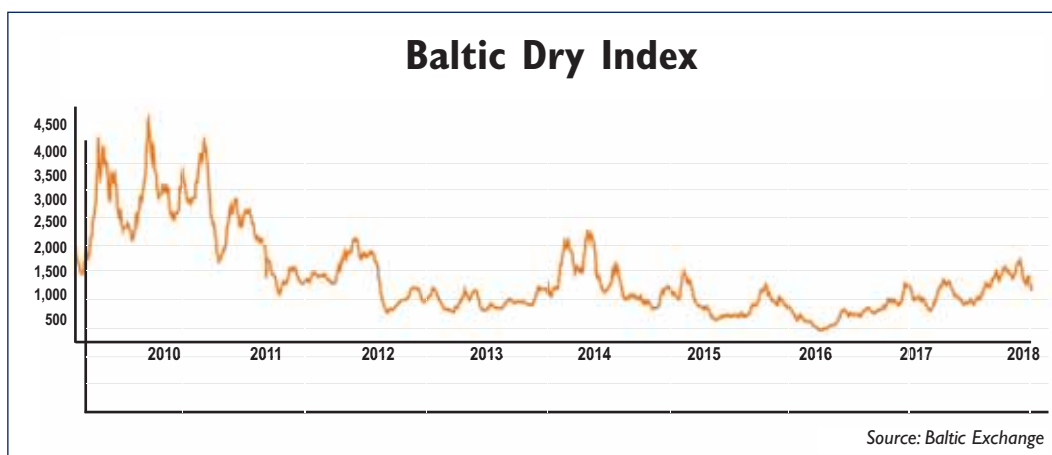
Even small variations in the entire fleet's average voyage speed, or in an individual size group segment, can have substantial implications for capacity availability. Much of the world bulk carrier fleet appears to be still 'slow steaming', operating at below the normal service speed previously envisaged. Improved freight rates — by changing the balance between earnings and costs and providing more opportunities for obtaining profitable employment — could act as an incentive, in some circumstances, to adopt at least a slightly higher speed, raising carrying capacity.

TRADE PACE CHANGES

Renewed vigour in global seaborne dry bulk trade growth emerged over the past twelve months, encouraging a more positive view of the longer term trend. A separate article in this edition of *DCI* (entitled 'Reviving Dry Bulk Trade Expansion', on page 6) provides more detail and so only a brief overview is included here.

Provisional calculations point to dry bulk trade resuming a growth rate closer to historical experience in 2017, after two very subdued years. The annual rate last year apparently reached 3–4%, raising total volume to more than 5,000 million tonnes.

A contributory positive factor in the past twelve months was a return to fairly robust growth in coal trade after previous weakening. The minor bulk commodities group also appears to have seen an increased overall volume instead of flatlining. Iron ore trade advanced more rapidly, while grain and soya trade growth assisted. These changes, in combination, were enough to restore the dry bulk trade



expansion trend.

As in earlier years, China's rising imports provided a major boost during 2017. Iron ore purchases were strengthened by higher steel production and greater use of foreign ore supplies. Higher coal imports reflected shortfalls in supply availability from domestic mines. Among other large volume commodity imports, increasing soyabean volumes reflected strong consumption trends.

Changes in cargo volumes carried are a useful, although not necessarily always precise indicator of demand for ships' carrying capacity. Another influence also determines the transport capacity required: voyage distances. A lengthening average distance for cargo-carrying voyages boosts the demand for ships' capacity in any given period, because of the longer duration of each voyage, assuming unchanged service speed. When the average distance shortens, the opposite result occurs.

Transport demand is more accurately represented by the 'tonne-mile' unit, which incorporates both the volume of trade movements and the transport distance. But statistics compiled on this basis, involving complex calculations and assumptions, are not usually readily available or up-to-date. Consequently the tonnage volume of cargoes shipped is often the only guide.

DEMAND/SUPPLY BALANCE

The recovering bulk carrier freight market seen last year was assisted by an improvement in the balance between the global demand for, and supply of shipping capacity. In particular, the volume of commodity trade expanded at a resumed healthy rate. This change was the most visible contributory positive influence on the demand/supply balance trend during 2017 as whole.

Despite the improved freight market balance it was not a boom period because

substantial over-capacity continued to exist, even if it was being reduced. Potential for freight rates to further strengthen is restrained by the still large extent of the surplus, which is partly absorbed by many ships operating at below full operating speed.

Surplus capacity in the bulk carrier market has persisted, although estimates of its magnitude vary and calculations are in any case partly theoretical. Over-capacity in the current cycle originated almost a decade ago, in the dramatic trade and vessel demand downturn after the world financial crisis caused an economic depression. Subsequent years of excessive fleet growth exacerbated over-supply. Varying degrees of market weakness continued, interspersed with brief upturns which sometimes suggested that a longer term recovery could be taking hold.

Other market drivers affect short term freight rate patterns. Cargo volumes loaded fluctuate even within stable annual volumes, while geographical trade patterns change, often reflecting seasonal influences. Inventory building or destocking by commodity-using industries or merchants sometimes has a noticeable impact. Port congestion and delays modify cargo flows. Also, market sentiment and expectations, as well as derivatives trading, are instrumental in contributing to physical freight market fluctuations.

The freight market trend in 2017 broadly aligned with changes in the vessel demand/supply balance. Trade expansion was sufficiently strong to exceed growth in the bulk carrier fleet. An accelerating increase in annual commodity movements also improved market sentiment and raised expectations for the future trend. A decline in scrapping during the second half was a response, resulting in the fleet experiencing limited growth acceleration.

FREIGHT MARKET HIGHLIGHTS

Changes in various influences are reflected

in the evolution of the Baltic Dry Index (BDI), shown by the chart. This index, calculated each day by the Baltic Exchange, is based on a basket of bulk carrier freight rates (mostly time charter hire rates) for a variety of ship sizes and employments. It provides a useful very broad indicator for the entire bulk carrier market.

After the recovery in freight rates seen during 2016, from very depressed levels at the beginning of that year, the early 2017 weeks saw renewed weakness to a 685 low point in mid February, before a strong rally took the BDI to 1333 points at the end of March. Subsequently there was a retreat over the next couple of months down to 818 in early June. But from mid-July onwards an upwards trend evolved, taking the index to a 1,743 peak for the year in mid-December.

Viewing the year 2017 as a whole, a firm recovery trend seemed to be unfolding, following three years of low and often depressed markets. In the 2017 second half profitability returned for many bulk carrier operations. Spot market rates, as represented by the BDI, were high enough to cover not only direct vessel operating costs, but also financing costs for typical circumstances.

FUTURE MARKET

Prospects for the twelve months ahead are traditionally reassessed at the start of each year. As 2018 begins, how likely is a continuation of the improvement occurring last year, towards a more balanced bulk carrier market, implying higher freight rates? Although supply side pressures seem destined to ease, it is currently difficult to argue convincingly that the vessel demand trend will maintain or improve upon that seen in the past year.

During 2018 a prolonged albeit moderate global economic growth revival is forecast. This outlook implies strengthening demand for the products of industries consuming dry bulk com-

modities. A pick up in business investment spending may assist. The trend envisaged provides a solid basis for increases in commodity import demand in many countries. Rising trade in agricultural products could also prove beneficial. However, there is great uncertainty about global coal trade, and some doubts have arisen about additional expansion of China's commodity imports. Consequently expectations for dry bulk trade suggest that slower growth than seen last year is quite likely.

Political events may intervene. In America, Europe and Japan policy changes sometimes have noticeable effects on international trade and economic development generally, although not always in the short term. The impact on dry bulk trade of government policy changes in China has been greater, sometimes immediately affecting commodity consumption and import flows. While the general nature of possible changes in China's policies is apparent, predicting whether these will actually happen and, if so, what the timing and magnitude of effects will be, is a matter for speculation rather than forecasting.

The outlook for fleet growth in 2018 suggests that a marked deceleration is likely. New bulk carriers scheduled for delivery in the twelve months ahead comprise a relatively low volume. This development reflects shipowners' greatly reduced ordering patterns in the past two years, amid relatively low freight rates and widespread recognition of the over-capacity problem. Therefore it seems almost certain that newbuilding deliveries will decline in the current year and, assuming recycling remains fairly large, the fleet could see as little as 1% deadweight capacity expansion.

As again demonstrated clearly over the past twelve months, scrapping sales volumes are heavily influenced by large short-term changes in freight rates and

market sentiment about the immediate future.

Although other factors such as scrap prices are significant, demolition sales volumes react quickly to freight market events and perceptions. This relationship provides a rapid adjustment mechanism which could possibly, during 2018, result in a further scrapping reduction, offsetting some benefits from lower deliveries of new bulk carriers.

Recent comments by international shipping association BIMCO highlight the still fragile bulk carrier market balance prevailing. Emphasis is added to reasons for being cautious about expectations for trade growth in 2018.

Some of the positive influences seen last year may not be repeated, or not repeated as briskly, possibly resulting in slower annual global seaborne dry bulk trade expansion. This possibility is one of the 'headwinds' considered likely to confront freight market players in the twelve months ahead.

Another justification for caution emphasized relates to the supply side. It seems realistic to predict that bulk carrier fleet deadweight capacity growth this year will be only marginal at one percent. But that percentage could be easily exceeded. Higher growth of 2% or more could result, if newbuilding deliveries are a larger proportion of scheduled deliveries than seen in past years (due to reduced orderbook slippage), and if scrapping diminishes further.

What seems conceivable, although not currently the most likely outcome, is that in a particular combination of circumstances fleet growth may be almost equal to trade growth in 2018. Such changes in key influences could prevent, or at least severely restrain, any more improvement in the freight market demand/supply balance. As a consequence, the rising freight market rates trend could become harder to sustain. DCi

Capesize bulker.



ETE Group increases investment in Cape Verde

ETE GROUP — founded in 1936 and currently the largest and most experienced Portuguese group operating in Portugal in the maritime economy — has been serving Cape Verde for over 29 years through its ship-owner Transinsular. The group recently announced, at the Cape Verde International Fair (FIC), its decision to increase significantly its presence in the country as well as new investments in due course.

Luis Mira de Oliveira, board member of ETE GROUP and in charge of the Cape Verde affairs, revealed “During FIC we met with Government officials, where we reaffirmed our commitment to invest in the country, giving our contribution to the recognition of Cape Verde as the Hub for West Africa. Therefore, we declared our availability to build joint solutions that may combine an integrated and structured vision of port operations, inter-island and regional maritime transport, together with logistics and shipbuilding.”

Regarding port operations, ETE GROUP is currently completing the establishment of ‘ETE Cabo Verde – Operações Portuárias, Lda,’ with the purpose of submitting a proposal for the operations management of the ports of Praia, Mindelo, Palmeira and Sal Rei — whether in direct competition, as a consortium, or as according to any other model specified by the government of Cape Verde — that would bring advantages to both parties.

The new shipping company offers a pioneering service from Cape Verde to the world

ETE GROUP has just established ‘Transinsular Cabo Verde – Transportes Marítimos Insulares de Cabo Verde, Lda,’ a new shipping company. Currently it is the only shipping line meeting all requirements for cabotage and international maritime transportation in connection with nearby Atlantic markets.

Additionally, the group is currently concluding the transfer of its vessel *Ponta do Sol* to this new ship-owner, which will operate under the Cape Verdian flag. This vessel is certified and classified to international standards, and meets all requirements to sail in international waters, thus enabling ETE GROUP to offer a service that is a first in the market, from Cape Verde to the world.

The ETE GROUP Board Member explained that “this operation is quite relevant to the development of our activity in Cape Verde and it was made possible because we have our own vessels, thus



meaning investment capacity and not depending on chartered vessels. We made this decision because we believe in the Cape Verdian economy and trust the coming future.”

TRANSFERRING EXPERTISE AND CONTRIBUTING TO CABNAVE SHIPYARD DEVELOPMENT

ETE GROUP has over 80 years' experience in maritime economy and technical expertise from its two shipyards in the port of Lisbon involved in domestic and international projects, that can be transferred to CABNAVE, contributing to the company's development.

De Oliveira commented, “We have also acknowledge to the Ministers of Finance and Economy that we are totally committed to the CABNAVE concession — or any other public-private partnership that the Government may decide upon — a fundamental support sector for reinforcing Cape Verde in the Atlantic region.”

‘ÁFRICA EXPRESSO’ CONNECTS CAPE VERDE TO THE WORLD AND THE WORLD TO CAPE VERDE

Transinsular, ETE GROUP ship-owner, upgraded its ‘África Expresso’ service from 1 October 2017, currently the most competitive in the market:

- ❖ The only regular direct service (without transshipment), sailing every ten days, connecting Portugal (Leixões and Lisbon)/Canary Islands with Praia, Mindelo, Sal and Boavista.
- ❖ The shortest transit time in the market — Portugal/Cape Verde in five days.
- ❖ The fastest maritime export solution of goods from Spain to Cape Verde — from Galicia via the port of Leixões or from other regions through Las Palmas.

- ❖ The only service offering a regular direct connection between Portugal, Sal and Boavista.
- ❖ With own local logistics agents and operators — Praia, Mindelo, Sal and Boavista.
- ❖ Service operated with own ships, equipment and crew.

Miguel Paiva Gomes, Transinsular CEO, highlights that “the África Expresso service optimizes both cargo transport solutions to Cape Verde from Portugal and Spain and those to Guinea-Bissau, Mauritania and the Canary Islands. In addition, it consolidates Transinsular's position as the preferred fish export partner to Europe, ensuring the connection between those markets and Northern Europe, Baltic states, Mediterranean and Asia, among others.”

INTER-ISLAND MARITIME CARGO TRANSPORTATION SOLUTION SUPPORTS DOMESTIC ECONOMIES

ETE GROUP solution for inter-island cargo maritime services delivers domestic and regional economic agents competitiveness, regularity, flexibility and reliability. Therefore, promoting suitable logistical solutions in line up with intermodality that contribute to the development of local economies.

In this area, ETE GROUP (through its ship-owner, Transinsular) has a broad level of experience in shipping cargo in Insular markets — Azores, Madeira and Canary Islands.

De Oliveira states that “we want to enter into a long-term commitment for providing the inter-island service. We are convinced that the África Expresso service, provided by our ship-owner Transinsular, has the added value to potentiate the

inter-island service and, consequently, to drive commercial exchanges between the various islands, benefiting from economically efficient solutions that suit the needs of each client, each market and its communities.”

He adds, “although the core of our shipping operation is the cargo, we are available to build a partnership with other players to include passengers. In Portugal, we manage and operate a Ferry service in Aveiro, for passengers and cars.”

Finally, de Oliveira shares, “We foresee Cape Verde as a market where we can add value and where ETE GROUP can develop its core operations (Port Operations, Maritime Shipping, Logistics and Ship Building and Repair). Additionally, the fact that we speak the same language contributes to build lasting and trusting relationships.”

ABOUT ETE GROUP

The ETE GROUP, founded in 1936, is the largest Portuguese player in the economy of the sea, integrating the six main areas in the maritime sector — Port Operations, Inland Transport, Shipping, Shipping Agents, Logistic Operations and Naval Engineering, Shipbuilding and Repair. ETE GROUP comprises more than 40 companies: owns Transinsular, the largest Portuguese cargo shipping company; is the Iberian leader in inland water transport of goods, being the

only company to move cargo between ships and barges; in Portugal, it is the largest operator of port terminals and is at the forefront of companies moving solid and liquid bulk; is the market leader in shipping agency in Portuguese ports; offers door-to-door multimodal logistics solutions, combining shipping, railway, air and road of national and international scope, provides also cargo consolidation services and has a large experience in project cargo; in addition, is an international reference in engineering, naval repair and shipbuilding, offering also technical management services of ships and crews. Its International presence with own operations is spread through five countries (Colombia, Uruguay, Cape Verde, Mozambique and Portugal), of three continents.

ABOUT TRANSINSULAR

Transinsular, the largest Portuguese maritime trading company founded in 1984 — and held by GRUPO ETE since 1999 — has a significant presence in the autonomous regions of the Azores and Madeira, where it assures the public service, comprising regular shipping connections of both archipelagos with Portugal, inter-island cargo transport in the Azores and inter-region cargo transport between Azores and Madeira. In what regards international shipping services, Transinsular connects with regular lines Portugal to the Canary

Islands, Africa (Cape Verde, Guinea-Bissau and Mauritania), Northern Europe, Baltic countries, Mediterranean and Asian countries. For specific markets and projects, the company provides specialized transportation of cement, fuels and solid bulk. The logistics solutions it offers exploit the efficiencies of intermodality by integrating maritime, air and road transport on a national and international level. Through its network of agents ensures the transport of goods to and from any part of the world. Additionally, it provides cargo consolidation services.

ABOUT ETE GROUP SHIPYARDS

In Portugal, ETE Group holds two shipyards located in the heart of Port of Lisbon, for maintenance, repairs and building of naval crafts and vessels. The shipyards, with a total area of 50,000m² and 30,000m², are certified and comply with high quality, environmental and project management standards. They take cargo and cruise ships up to 170m LOA, tug-boats, pontoons and other floating equipment. Turn-key services are offered, using qualified labour, modern naval repair processes and technologies. The infrastructures include: four dry-docks, three slipways, two working piers, lifting capacity and workshops for electricity, piping, carpentry, boiler, mechanics, painting and others. International clients account for 55% of ship repair activity.

Port of Sept-Îles welcomes first ship of the year

The *New Explorer*, a Liberian registered vessel, sailing from Egypt, was the first ship to arrive in Sept-Îles this year at 8am on 5 January. The vessel arrived in ballast and set sail again on 6 January with 77,000 tonnes of iron ore from IOC Rio Tinto destined for Ghent, Belgium.

During a short ceremony, Pierre D. Gagnon, President & CEO of the Port of Sept-Îles, presented Captain Ioannis Kantounias with the prestigious cane bearing the Port of Sept-Îles insignia.

Several gifts were also offered to the Captain by Jean Masse, Deputy Mayor of Sept-Îles, as well as by Benoit Méthot, General Manager, Rail & Port of IOC Rio Tinto.

This tradition, now in its 31st year, marks the arrival of the first ship of the year to call the port. To be eligible, the vessel must come directly from a foreign port and be bound for a destination



outside the country without making any other calls at a Canadian port.

ABOUT THE PORT OF SEPT-ÎLES

Boasting diverse, state-of-the-art facilities, the Port of Sept-Îles is one of North America's largest ore-handling

ports, with an expected volume of more than 30 million tonnes in 2018. The port facilities at Sept-Îles play a vital and strategic role in the economy of Eastern Canada. Annual economic impacts are estimated at nearly \$1 billion and almost 4,000 direct and indirect jobs.

Port of Blyth sets sail on £12 million investment

A UK North East port has announced a new £12 million banking facility with Lloyds Bank that will enable the next phase in its rapid expansion.

Port of Blyth is set to make major investments in its terminal infrastructure and the construction of new warehousing, as well as strengthening quays and installing new cranes.

Having reported a second consecutive year of record financial figures in April including a 17% increase in turnover, the port is now viewed as one of the UK's fastest growing Trust Ports, driven largely by the continued development of offshore energy-related activities.

This expansion has necessitated a record level of investment from the

Port, via the consolidation of a long-term relationship with Lloyds Bank, with spending set to support key developments to serve clients in the offshore energy, dry and liquid bulks sectors.

Oran Robson, finance director at Port of Blyth, said: "The potential at the port across numerous sectors is huge, but to make the most of those opportunities and to ensure we continue to diversify our offering to protect the business's long-term security, it's crucial we invest now.

"This series of developments will facilitate a large number of new jobs on Port land as we aim to double the number of those employed on site from 500 to over 1,000 in five to ten years. These ventures will also act as a catalyst for growth in the local economy and will

no doubt stimulate inward investment into the town.

"We anticipate that major projects such as the joining of our Bates and Wimbourne Quay terminals will attract



significant interest from the industry and will enable us to exceed 50% turnover growth targets during the investment period."

Progress at the port in recent years has seen the arrival of major clients including Royal IHC, Global Marine Group and DeepOcean, with a powerful cluster of offshore energy companies and a well-developed supply chain making the port an increasingly attractive proposition.

The port's on-going development in partnership with Arch of Energy Central, one of the UK's largest quayside offshore energy development sites, alongside major projects such as EDF's demonstrator wind farm and the North Sea Link interconnector with Norway have continued to highlight the port's progress.

Michael Hindhaugh, relationship

director, Lloyds Bank Commercial Banking, said: "This investment represents a great step forward for the Port of Blyth.

"The new facilities will create jobs and investment straight away, and it will help to future-proof the port, making it a driver of prosperity for many more years to come.

"Lloyds Bank is committed to supporting investment that helps Britain prosper and we have dedicated teams on hand to offer bespoke funding solutions and expertise."

PORT OF BLYTH

Port of Blyth is the port operating division of Blyth Harbour Commission, an independent statutory trust established in 1882 and is one of the largest Trust Ports in the UK handling up to two million

tonnes of cargo per annum across five terminals based around the River Blyth.

Together with major logistics and training divisions, the port group has a turnover of over £23 million and has again announced record turnover and profitability for 2016 despite challenging global trading conditions.

Such success has been driven by growth across a variety of sectors but particularly offshore energy (oil & gas and wind) with the port is now recognized as a major strategic east coast base supporting the sector. Other trade handled includes containers, dry bulks (coal, aggregates, cement etc) and marine fuels.

As a Trust, all profits are re-invested back into the port to improve facilities and to provide benefits for its wider stakeholders.

Agribulk terminal for Guaymas

In Mexico, Guaymas Port Authority (API) has issued a tender for the use, exploitation, operation, equipping and modernization of an agribulk terminal in the port. This will be a common user facility, covering an area of 28,150m². It will be equipped by 72 silos, which will take up 26,540m² of the total available area.

The tender includes an electricity substation, an administrative office, a laboratory, a dumper for trucks, an unloading pit, a warehouse, a spare parts store, a workshop, a guardhouse and industrial toilets; as well as conveyor belts that link docks 5 and 6 of the southern half of the port.

The concessionaire will undertake handling of agribulk, plus stacking, storage, stowage and haulage within the facility, as well as having non-exclusive use for loading and unloading at docks 5 and 6.

Technical bids will be opened by the API on 12 June 2018 and financial bids on 19 June 2018.

Barry Cross

Netherlands bulk

adapting to a new reality

The EMO terminal at the Maasvlakte in the Port of Rotterdam.



Louise Dodds-Ely

Quality not quantity: Rotterdam aims to be the world's smartest port

Throughput volume ceased to be the only consideration at the port of Rotterdam a long time ago. The port is no longer the world's largest, but it does aspire to be the best, the smartest and the most sustainable.

This is why the Port of Rotterdam continuously strives to do things smarter, more efficiently, better and more sustainably. Digitization and automation provide major opportunities to make logistics processes more efficient. Furthermore, the Paris agreement on climate change gave a powerful boost to the energy transition. As a society in general and as a port and industrial complex in particular, the Port of Rotterdam has the complex task of reducing CO₂ emissions to virtually zero by 2050.

DRY BULK THROUGHPUT

Dry bulk throughput in the port of Rotterdam reached 80.3mt (million tonnes) in 2017 according to provisional figures. This was a drop of 2.5% compared with 2016, when 82.3mt were handled in the port. After a strong start to the year, with an increase of 5.2% compared with the first six months of 2016, the second half

of the year showed a decrease in dry bulk throughput of -9.4%.

The main reason for the decrease in throughput was a fall in steam coal imports. Coal throughput declined with 2.7mt. Demand for steam coal in The Netherlands and Germany is under pressure with the increase in renewable power production resulting in reduced operating hours of

DRY BULK THROUGHPUT AT THE PORT OF ROTTERDAM

	2017	2016	diff,
Agribulk	11,324	10,449	8.4%
Iron ore and scrap	31,175	31,229	-0.2%
Coal	25,706	28,443	-9.6%
Other dry bulk	12,070	12,179	-0.9%
Total	80,275	82,300	-2.5%

source: Port of Rotterdam, 3 Jan 2018 *thousand tonnes; 2017 preliminary figures



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coal plants. Also, several coal plants were closed in 2017, among others the MPP2 coal units of Uniper at the Maasvlakte in Rotterdam, and six plants in Germany.

As the energy transition goes forward, coal imports are expected to further decline in the coming years. However, as long as there still is demand for coal, the Port of Rotterdam is the ideal coal hub in Western Europe with state-of-the-art bulk terminals and excellent hinterland connections both by rail and barge.

Imports of coking coal for the steel industry were around the same level as in 2016. The same applies to iron ore. Last year 31.2mt of ore and scrap were handled in the port, almost the same as in 2016. Although steel consumption increased last year, demand for iron ore remained flat. Europe imported a lot of steel from third countries (dumping) and growth in steel production was met in large part by electric arc furnaces using scrap as a raw material.

The Port of Rotterdam saw an increase of steel scrap exports to other countries, notably Turkey.

Agribulk, mostly imports, showed a strong increase during the year, up until the third quarter when throughput dropped with 9%. Agribulk is used by the industry in the port itself (oilseed crushing plant, bio-refineries) and transported to the customers in the hinterland of the port (e.g. feed industry).

Other dry bulk, industrial minerals, aggregates, fertilizers, non-ferrous ores and concentrates etc., showed a slightly negative result (only -0.9%). But this was partly compensated by an increase in imports of biomass. Wood pellets used for co-firing in Dutch coal plants and also transshipment to biomass plants in Belgium increased.

ENERGY TRANSITION INVOLVES A LOT MORE THAN SIMPLY CUTTING BACK ON COAL

ENERGY TRANSITION

The Port of Rotterdam Authority fully endorses the objectives of the Paris climate agreement and is striving to reduce CO₂ emissions in line with the ambitions of the Dutch and European governments. In concrete terms, this means that by 2030, the Netherlands — including Rotterdam — will need to have reduced its CO₂ emissions by 49% compared with 1990. Moreover, the agreements set out in the Paris agreement concern the mitigation of global warming. To this end, CO₂ emissions are not allowed to exceed certain limits. The Paris agreement does not include any statements on the actual use or storage of



coal itself.

Whether or not to close the Dutch coal-fired power plants is at the discretion of the Dutch government. The recently-published coalition agreement states that the closure of the Dutch plants need to be effective by 2030. Fifteen per cent of the coal that enters the Port of Rotterdam is currently destined for coal-fired plants in the Netherlands.

Eighty-five per cent of the coal handled in Rotterdam is forwarded to Germany. It is at the discretion of Germany to decide for how long and for which purposes it will continue to import coal. Fifty per cent of the coal that is transported to Germany is used for producing steel in the country's blast furnaces. At present, it is not yet possible to produce steel from iron ore on a large scale without using coal. Steel is required for a wide range of purposes, including the manufacturing of wind turbines, bicycles and tracks for public transport. The remaining 50% of the coal in transit is used to generate electric power in Germany's coal-fired power plants. While over 35% of the electricity generated in Germany currently derives from renewable sources like wind and solar power, Germany continues to make extensive use of nuclear, gas-fired and coal-fired power plants on those days when there is hardly any wind and sun. Moreover, over the next few years, Germany is expected to become even more dependent on fossil fuels for its electricity supply, following the closure of the German nuclear plants.

If we intend to cut back the volume of coal (and other fossil fuels), it is imperative that we invest in coal-free steel production, increase the production of power from renewable sources and expand our options to store the generated renewable energy. As long as the use of coal is part of the Dutch and/or German energy and industrial policies, the Port of Rotterdam will strive to be the most efficient, reliable and safe port for handling this cargo type.

Since Germany is also a signatory of the Paris agreement, the volume of coal

transferred via the port — particularly coal intended for power production — is expected to decrease in the years ahead. In its medium-term projections, the Port Authority has consequently assumed a reduction in the volume of coal in transit.

In view of the announced termination of coal use in the Netherlands' power plants and all the projects that the Port Authority is working on in partnership with the private sector to reduce the CO₂ emissions of Rotterdam's industrial sector, a 49% reduction of emissions by 2030 (compared with 1990) is considered feasible.

SMART PORT

Rotterdam aims to be the world's smartest port. To maintain its leading position, it needs to keep on innovating. Innovation is a crucial means of realizing the envisaged changes in energy transition and digitization in the port of Rotterdam.

PORTXL SURPASSES EXPECTATIONS

PortXL is encouraging port-related start-ups around the world with innovative ideas for the logistics, maritime, chemicals and energy sectors. During 100 days in 2016, 12 selected start-ups brought their innovations to the market at an accelerated pace. All 12 start-ups were established in Rotterdam, and five immediately signed a customer contract. In March 2017 a new round was launched with ten port-related start-ups.

WASTE SHARK SLURPS UP PLASTIC FROM THE PORT

One of the ideas from the PortXL programme is the plastic-eating Waste Shark. The device can be used 24/7 to slurp up floating litter in the port of Rotterdam. The system has been incorporated into the Port Waste Catch project from the Port Authority's internal innovation programme, a pilot project that removes floating and suspended plastic from the port before it can end up in the sea. The Port Authority continues to facilitate pilot projects with start-ups in 2017 in order to promote innovation in the port.

Joint entry EMO B.V. and JERA Trading to supply speciality coal for silicon metal enabling the production of solar panels

Europees Massagoed Overslagbedrijf (EMO) B.V., a Rotterdam based 100% subsidiary of HES International B.V. and JERA Trading, a Singapore based major coal trader, have signed a five-year contract to jointly enter the speciality coal market for the production of silicon metal. This product is used as a source for photovoltaics (solar panels) and computer integrated circuits (chips).

Within the co-operation to produce, market and sell these speciality coals JERA Trading will provide the coal sourcing, transport and marketing & sales expertise. EMO will provide the transshipment, storage and manufacturing facilities and expertise at its location in the Rotterdam port.

EMO has a strong and successful position in the iron ore and coking coal market and is further diversifying its product portfolio of dry bulk commodities. Entering the speciality coal market for the production of silicon metal already matches the competence and technical equipment of EMO.

A major part of the high purity reducing agent is provided by speciality coals. Speciality coals are produced by purifying and selecting a specific surface area for reactivity control raw coal needs to be screened and washed. The coal purification will be performed in a recently refurbished washing and screening facility at a 10-hectare area on the EMO terminal in the Rotterdam port. The manufacturing process is operated with a closed water circuit and has negligible emissions.

Mathijs Pelsma, Managing Director of EMO said: "Smartly diversifying our product portfolio of dry bulk commodities is our answer in the current energy transition, where we respond to the demand of our clients. We very much welcome the five-year contract with JERA Trading, as this underscores our strong position in the market."

As one of the leading physical coal trader JERA Trading is keen to develop this segment of its customer portfolio by offering its sourcing and trading skills to this specialized customer segment.

Ronan Lory, JERA Trading Managing Director indicated that "JERA Trading is

very happy to partner with EMO a trusted and recognized expert in the handling and technical processing of coal to provide new sourcing opportunities for the growing silicon metal industry. We look forward to a very profitable co-operation."

ABOUT EMO

Europees Massagoed Overslagbedrijf (EMO) B.V. is the largest transshipment terminal in Western Europe for iron ore and coking coal for the European steel



industry and steam coal for the European power generation plants. Services for the silicon metal industry supplying amongst other photovoltaic cells are now added to the customer base.

Modern and multifunctional, the EMO terminal is strategically located at the Maasvlakte in Rotterdam. The terminal has grown rapidly since 1973 and has an excellent track record in storage and transshipment. The quayside, with a draught of 23 metres, makes it possible for the world's largest vessels to unload at EMO. State-of-the-art facilities unload seagoing vessels fast and efficiently. In addition to loading and unloading vessels, rail cars and barges, the EMO terminal offers added-value services such as screening, blending and washing coal (for instance for the silicon metal industry). EMO has ample access to the hinterland by means of rail links and inland waterways.

ABOUT JERA TRADING

JERA Trading (JERAT) is a jointly owned company two third by JERA Co. Inc., an equal joint venture between two major

Japanese electric companies, Tokyo Electric Power Company (Tepco) and Chubu Electric Power Company (Chubu) and one third by EDF Trading, the trading arm of EDF, the French leading low carbon power producer in Europe.

JERAT is responsible for the global coal procurement of Chubu, Tepco and EDF. It operates an integrated coal and freight supply chain and has benefited from EDF Trading's expertise in energy commodity trading and risk management to minimize the costs and optimize the revenues associated with the delivery of coal requirements of its shareholders and third party customers. JERAT operates in all major coal and freight markets (Europe, Asia, North and South America) and trade both physical and financial products. JERAT is headquartered in Singapore with offices in London and in Maryland.

ABOUT HES

HES International B.V., is one of Europe's largest independent providers of storage and transshipment capacity in dry and liquid bulk. Its terminals are situated at the best locations at

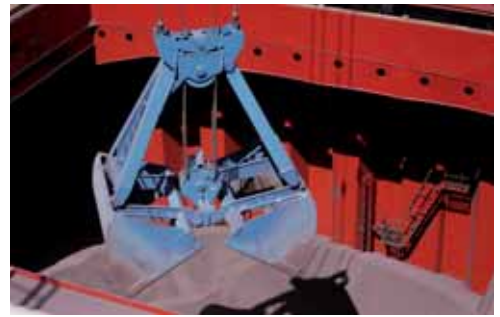
Europe's most important ports. Its aim is to also become one of the market leaders on the European tank terminal market. It aspires to achieve this mainly by enlarging and revamping its existing terminals, as well as by developing projects at new locations, taking over other existing terminals and converting former oil terminals and refineries into tank terminals.

HES International B.V. is developing a tank terminal for the storage and transshipment of petroleum products and biofuels at Hartelstrook, on the south side of the Mississippi harbour at Maasvlakte I. This terminal is expected to be operational at the end of 2019. Terminals of HES International B.V. in the port of Rotterdam are:

- ❖ Europees Massagoed Overslagbedrijf (EMO);
- ❖ European Bulk Services (EBS) B.V.;
- ❖ HES Botlek Tank Terminal B.V.;
- ❖ HES Botlek Tank Terminal – Bitumen B.V.;
- ❖ HES Hartel Tank Terminal; and
- ❖ Rotterdam Bulk Terminal (RBT) B.V. (50% joint venture).



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Hitachi ZX210LC-6 offers exceptional versatility to Dutch contractor

A Hitachi ZX210LC-6 medium excavator is offering Arco de Visser BV the highest levels of versatility on a challenging project in the province of Zeeland, The Netherlands. The company's owner, Arco de Visser, has been using the machine to build a trench for a small canal at the Zonedorp campsite in the coastal village of Renesse, as well as complete landscaping tasks at the five-hectare site.

De Visser is one of two subcontractors helping to modernize the campsite. The ZX210LC-6 (video) was supplied by local Hitachi dealer Pladdet (a sub-dealer of Hitachi Construction Machinery Nederland) and



specially fitted with a 1.3m³ V-shaped bucket. Pladdet also included several additional options and features with the medium excavator, such as a hydraulic quick coupler and LED work lights.

radius of the company's base in Oostkapelle. Pladdet carries out services on the Hitachi fleet at 500 and 1,000 hours, using Hitachi Genuine parts.

LOYAL TO HITACHI

Since he started his company 15 years ago, de Visser has relied upon a growing fleet of Zaxis mini and medium excavators. He took delivery of the ZX210LC-6 in March 2017, and it represents his 13th Hitachi machine. His first was a ZX50 mini excavator in 2009. Since then, he has remained loyal to Hitachi, and subsequently invested in other machines, such as a ZX65USB-5, ZX85USB-3, ZX180LC and a ZX19U-5.

The Hitachi fleet is used on a wide variety of projects, including demolition, earthmoving, rental, groundworks and road construction, within a 100km



THE TOTAL PACKAGE

"I first invested in Hitachi because of the price and the service from my local dealer," de Visser explains. "The relationship I have with sales manager Peter van Liere (at Pladdet) is extremely important. Over the years, I've noticed improvements in the Hitachi machines, particularly in terms of fuel consumption. We chose this model because it's powerful, has low fuel consumption, a long lifespan and a high resale value. Overall, we think it's a fantastic machine."

The ZX210LC-6's operator Ronnie Wattel agrees: "I love the work I do and Hitachi adds to my enjoyment. It has the total package: power, speed, a comfortable cab and it looks great on the outside too. The visibility is superb, thanks to the sunroof, the excellent camera angles and in combination with the mirrors, I don't miss a thing."

News from Port of Amsterdam: Western Europe's fourth-largest port

EMISSION-FREE VESSELS RECEIVE A 20% DISCOUNT IN AMSTERDAM AND ZAASTAD PORT WATERS

Inland navigation vessels with a zero-emission propulsion system receive a 20% discount on the inland harbour dues for the Amsterdam and Zaanstad port waters. This discount is granted to inland navigation vessels with a Green Award Platinum label. Amsterdam and Zaanstad are the first Dutch ports to reward this new label of the Green Award certification scheme. The new regulation entered into effect on 1 January 2018.

Green Award, a certification scheme for inland navigation and sea-going vessels, introduced its Platinum label for zero-emission vessels in mid-December last year. Green Award certifies vessels with a better environmental performance than the minimum statutory requirements.

The Port of Amsterdam became an Incentive Provider for the certification scheme in 2015, which at the time encompassed Bronze, Silver and Gold labels. Vessels receive a discount of between 5% (Bronze label) and 15% (Gold label). Green Award has now supplemented these with the Platinum label.

Marleen van de Kerkhof, Harbour Master of the Port of Amsterdam, is enthusiastic about this new label. "We launched our vision on Clean Shipping on 1 November [2017]. Our objective is to promote the introduction of cleaner vessels. The new Platinum label is completely in line with our vision. We expect to welcome the first inland navigation vessel with a zero-emission propulsion system during the course of next year."

Zero-emission propulsion systems contribute to more sustainable shipping. Vessels with electrical propulsion systems that are powered by batteries or fuel cells, such as hydrogen, do not emit CO₂, SO_x, NO_x or PM — and contribute to the reduction of air pollution levels.

Van de Kerkhof says: "I hope that other ports will soon join us in supporting this important initiative. We are all striving for cleaner and more sophisticated vessels. This includes Smart Shipping. Our joint efforts will result in the achievement of future-proof shipping."

ABOUT THE MUNICIPALITY OF ZAASTAD

With a population of more than 150,000, Zaanstad is the fifteenth-largest city in the Netherlands. Although part of the Amsterdam Metropolitan Area (AMA), it

has its own distinct character. Combining heavy industry with a revitalized city centre, leafy green outskirts and unique industrial heritage, Zaanstad is one of the most diverse cities in the Netherlands.

ABOUT PORT OF AMSTERDAM

Port of Amsterdam is Western Europe's fourth largest port and plays a major role in the transshipment and processing of energy products. The North Sea Canal Area transhipped approximately 96.5mt (million tonnes) of goods in 2016, with Port of Amsterdam accounting for approximately 79mt of this amount. A total of 68,000 people work in the port region either at companies in the port or at port-related companies. Approximately 34,000 of these people work in Amsterdam. Port of Amsterdam is committed to being a smart port and to adding value for customers and the environment in a sustainable and innovative manner. It seeks to promote growth at companies, while still taking a careful approach to the available space and the quality of water, soil and air. As 'Port of Partnerships', Port of Amsterdam works intensively with partners in the business community, city and region.

PORT OF AMSTERDAM TARIFFS TO RISE 1.11% IN 2018

With the approval of the port business organization ORAM, Port of Amsterdam has decided to increase its port tariffs by 1.11% in 2018. When setting this figure, account is taken of the level of tariffs in the other ports in the Amsterdam-Rotterdam-Antwerp (ARA) region as well as inflation.

Port dues are the fees charged for using the facilities of a port and are paid by visiting ships, both sea-going and inland. After income from ground leases, this represents the most important source of income for Port of Amsterdam.

Since 2013, it has been normal practice that Port of Amsterdam consults the market in setting these tariffs. The increase in tariffs at Amsterdam is in line with developments in previous years.

COMPETITION RULES ARE NECESSARY FOR A HEALTHY ECONOMY

PORT BUSINESS OWNERS APPRECIATE GUIDANCE ON GREY AREAS

The Dutch Authority for Consumers & Markets (the ACM), the employers' organization ORAM and Port of Amsterdam held a discussion with the port business community regarding competition rules on 13 December last year. Research

by the Vrije Universiteit in 2016 among sales managers of port businesses in the Rotterdam region shows that knowledge and compliance of competition rules among the port community could be improved.

According to ACM Chair Chris Fonteijn, the supervisory body has been receiving increasing signals from the port and transport world in recent years that indicate that the competition rules are being violated. Since 2016, the ACM has been focusing in particular on port businesses. Ports are logistics hubs where businesses can be closely interrelated. Cartel formation is harmful. For the competitive position of the Port of Amsterdam, for businesses and for consumers. He said that cooperation is essential, but must also be proportional. Fonteijn: 'Our doors are open. If you and your lawyers cannot resolve an important competitive issue, we appreciate it if you come to us for advice. We can then offer you guidance.'

Besides investigating cartels, the ACM is striving to raise the level of knowledge. In September 2017, the ACM wrote to businesses at the Port of Amsterdam and the North Sea Canal Area to inform them about the rules. This letter led to the ACM, ORAM and Port of Amsterdam taking the initiative to hold a seminar. They endorse the importance of fair competitive relationships. Fair competition leads to sectors that flourish. Both businesses and consumers benefit from this.

Kees Noorman, director of ORAM: 'Business owners are looking for clarity and certainty. If these are lacking, investment will dry up. Things are not always black and white. Much is already clear, but there is also a large grey area in which it is not clear whether something is permitted under the rules or not. Discussion helps everyone obtain a clear understanding.'

Koen Overtoom, CEO of Port of Amsterdam, said that there is a change occurring from a linear to a circular economy, and that cooperation is an inherent part of this. One man's waste is another's raw material. He asked the ACM to provide guidance, for instance by testing in advance, and was pleased with the help the ACM offered in response to this request.

The Port of Amsterdam and ORAM will therefore organize a number of meetings to discuss competition rules next year. They stress the importance of knowledge and compliance.

Cement Carrier 'Lelie C' returns to Damen Shiprepair Oranjewerf for additional tank capacity



Two years after its previous visit the *Lelie C*, owned by Cebo Marine, has left Damen Shiprepair Oranjewerf (Oranjewerf) following a full maintenance programme and a significant upgrade to its cement-carrying capacity. The three-week stopover included a full survey and a range of repairs and maintenance to prepare her for more years of reliable service.

These works included fitting a new fuel filter system, renewing the hydraulic pipes for the hatch crane, and repairing the propeller while at the same time replacing the seals and liner for its shaft and changing the shaft seals for the bow thruster. The hull and topsides also received a fresh coat of paint.

The main project, however, was the installation of eight new cement silos, each with a capacity of 40m³. These tanks were previously fitted on the *VOS Symphony*, another regular visitor to Oranjewerf, prior to it going for scrap. Damen Shiprepair Oranjewerf removed the tanks, refurbished them and then installed them on board the *Lelie C*.

Prior to their installation, Oranjewerf fabricated a silo foundation and fitted it in the vessel's hold. Eighty metres of stiffeners were also welded into place in the double bottom tanks to provide the

necessary support.

Meanwhile, approximately 100m² of grating walkway was fabricated and fitted on the deck to give access to the manifolds on each of the new silos. The supply/discharge and air pipe system for the two existing silos was also refurbished to accommodate the new capacity.

"This was a big project," commented Jeen van der Werf, Commercial Manager at Damen Shiprepair Oranjewerf. "Two years ago we installed the original tanks from the *Ritske*, a vessel belonging to the same client, and now we have repeated the process

again, this time on a much larger scale. The *Lelie C* began her life as a general cargo vessel, but now her transformation into a cement carrier is complete.

"Cebo Marine is a local and regular customer, continued Jeen van der Werf, "and the excellent levels of cooperation between all involved ensured a smooth project. The only element we could not control was the wet Dutch weather, but the provision of some additional dry boiler suits ensured that our flexible and motivated yard team kept the works on schedule."





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Five Damen tugs delivered to Empresa de Navegación Caribe, Cuba

Dutch company Damen Shipyards Gorinchem has delivered five new harbour tugs to Empresa de Navegación Caribe, a subsidiary of Cuban maritime company Grupo Empresarial de Transporte Marítimo Portuario (GEMAR). Prior to the order being placed, all of the vessels were being held in stock at Gorinchem and were subsequently delivered within three weeks of the orders being confirmed, steaming across the Atlantic Ocean to Havana on their own keels.

Four of the five vessels are Damen's best-selling Stan Tug 2608 model, 26-metres long and with a bollard pull of 47 tonnes. The fifth is the larger Damen ASD 2810, with 60 tonnes of bollard pull. All were built at the Damen Song Cam Shipyard in

selection of spares, and all the vessels will be fitted with power converters over the next few months to compensate for the fact that Cuba, like North America, generates power at 60Hz. Damen's build-for-stock vessels are equipped for 50 Hz, the standard across around 80% of the rest of the world.

Damen also organized export credit insurance from Atradius (the Export Credit Agency of the Netherlands). In order to



Damen vessels are based on thorough R&D and proven technology.

Damen offers a wide range of products, including tugs, workboats, naval and patrol vessels, high speed craft, cargo vessels, dredgers, vessels for the offshore industry, ferries, pontoons and superyachts.

qualify, the order was placed through Gilmar Project Finance Establishment, a company based in Europe, having a branch duly registered at the Chamber of Commerce of the Republic of Cuba.

For nearly all vessel types Damen offers a broad range of services, including maintenance, spare parts delivery, training and the transfer of (shipbuilding) know-how. Damen also offers a variety of marine components, such as nozzles, rudders, anchors, anchor chains and steel works.

The five new tugs have joined around 40 other Damen tugs operated by

Damen Shiprepair & Conversion (DSC) has a worldwide network of sixteen repair and conversion yards of which twelve are located in North West Europe. Facilities at the yards include more than 50 drydocks; conventional, floating and covered, the largest of which is 420 x 90 metres, as well



Vietnam before being transported to Damen Shipyards Gorinchem to be held in stock for finishing and rapid delivery. Three of the five are standard vessels. The 2810 was already equipped with a variety of options including a crane and a fire-fighting system and so was available for immediate delivery, and the last of the Stan Tug 2608s was fitted with an aft winch prior to handover.

GEMAR. They will be based in Havana, but undertake assignments at ports and harbours right around the main and subsidiary islands and cays.

DAMEN SHIPYARDS GROUP

Damen Shipyards Group operates 33 shipbuilding and repair yards, employing 9,000 people worldwide. Damen has delivered more than 6,000 vessels in more than 100 countries and delivers some 180 vessels annually to customers worldwide. Based on its unique, standardized ship-design concept Damen is able to guarantee consistent quality.



Damen's focus on standardization, modular construction and keeping vessels in stock leads to short delivery times, low 'total cost of ownership', high resale values and reliable performance. Furthermore,

as slopes, ship lifts and indoor halls. Projects range from the smallest simple repairs through Class' maintenance to complex refits and the complete conversion of large offshore structures. DSC completes around 1,350 repair and maintenance jobs annually, both at the yards as well as in ports and while vessels are at sea.

"This has been a highly successful project thanks to the efforts of all the parties involved," commented Ezequiel Najmias, Sales Manager Americas at Damen. "In Europe, the Damen tugs department and Damen Customer Finance worked fast and accurately to meet the needs of the client. Each tug was then delivered by a Damen crew and on arrival in Cuba was met by a Damen Services team. They conducted a detailed inspection following the trans-oceanic voyage and made final adjustments prior to each going into service. Damen Sales Americas was responsible for the administration and for ensuring that the entire process was smooth and trouble-free."

The contract included a comprehensive

Specialist services keep Ovet ahead of the bulk handling game



Ovet's special and custom-made screening and blending solutions for its clients mean that it still handles a considerable tonnage at its terminals in Vlissingen and Terneuzen.

Ovet dry bulk terminal is a stevedoring company which specializes in storing, transshipping and processing dry bulk. With over 100 employees, it has been able to offer the highest quality and flexibility in services, since 1957.

Ovet can achieve a total unloading

capacity of as much as 80,000 tonnes of dry bulk per day, by the use of its four floating cranes.

The basis of Ovet's high quality services is a continuous focus on the questions and requirements of its customers. Every Ovet employee knows their daily duty of

providing good service and quality; they deliver the best possible personal service available in the whole ARA (Antwerp–Rotterdam–Amsterdam) range. This distinguishes Ovet dry bulk terminal when it comes to the treating of and the flexibility and quality in dry bulk.

Covered storage facilities.



FLEXIBILITY

With its four floating cranes, Ovet is capable of working in the entire ARA range. The floating cranes can be moved between the terminals in the ports of Vlissingen (Flushing) and Terneuzen, in a mere three to four hours. On top of that, lightering can take place at Terneuzen Rede and Everingen (on the Scheldt). Also, almost all equipment at the terminals is mobile. Flexibility is key to the services offered by Ovet.

ADDED VALUES

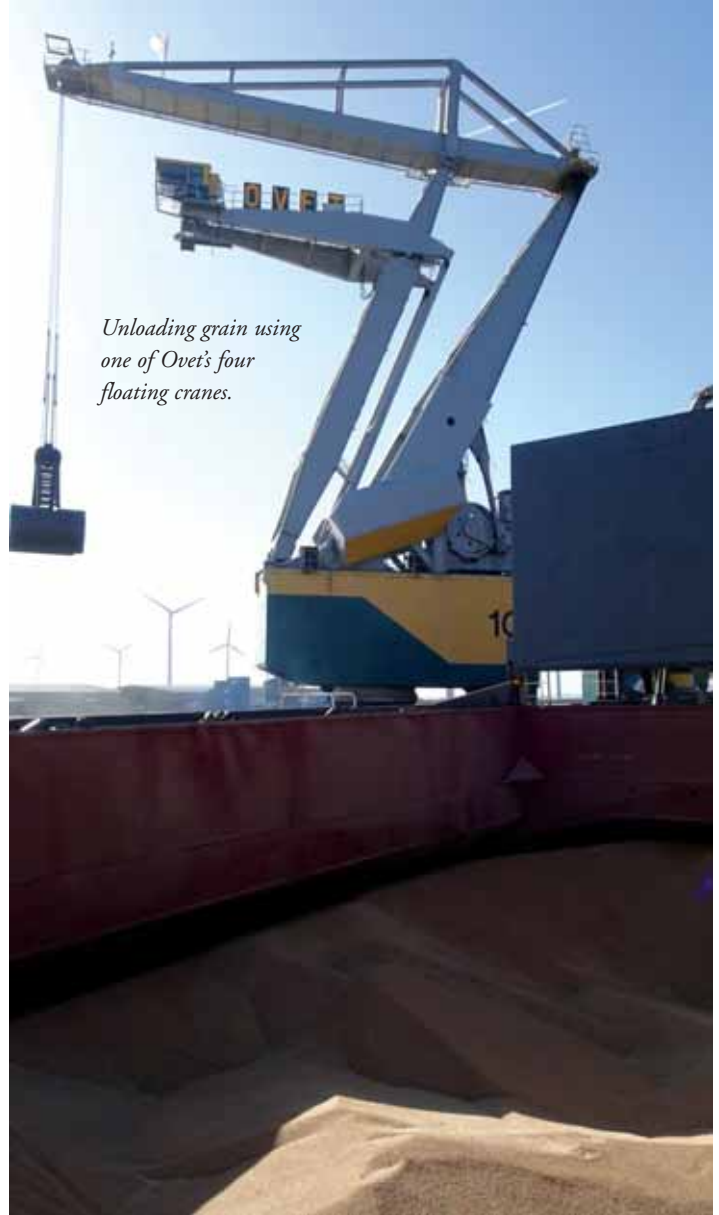
Apart from the storage, transshipment and processing of dry bulk, Ovet provides tailored solutions that add value to the products of its clients. At its terminal in Vlissingen (Kalootherbour), Ovet can provide services like screening, blending, crushing and the removal of iron. At the terminal in Terneuzen (Massagoedharbour) it can provide services like screening, blending, crushing, drying and bagging.

COPING WITH NEW CHALLENGES

Although Ovet has faced some reduction in the coal market in recent years, it has succeeded in maintaining its position as a dry bulk terminal in the ARA-range.

As Ovet already had to deal with a reduction in the coal market at the end of 2015 with the closure of the adjacent coal-fired power station in Vlissingen, it had a head start in searching for new opportunities. Ovet realized that a focus on specializations in the coal market would be needed to maintain its position as a dry bulk terminal. By offering special and custom-made screening and blending solutions for its clients, Ovet still handles a considerable tonnage at its terminals in Vlissingen as well as in Terneuzen.

Furthermore, Ovet has also expanded its focus from coal to other dry bulk products. In fact, the focus on specializations in the coal market is exactly the reason why the combination of coal products with other dry bulk commodities — such as GMP-products — is perfectly possible at the Ovet terminals. In order to handle the coal specialties in a correct way, it is necessary to have a terminal on which it is possible to separate different stockpiles easily from one and another, and to be able to work in a clean and neat way. These are also the conditions which are requested in order to handle for example GMP-products.



Unloading grain using one of Ovet's four floating cranes.

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Reijnders loads coke with Dino quickly, safely and without dust



Reijnders BV from Boxtel initially started as a transport company and developed into a trading company in coal products. The latest step in the company's development is the purchase of a Dino mobile bulk truck loader. "Thanks to the Dino we can do much more work for our clients," says production planner Ruud van Kollenburg. But there are even more important benefits that make him a satisfied client.

MAJOR TRADER IN COAL PRODUCTS

Reijnders is a renowned trader in coal products in the Netherlands. One of the products in which it trades is coke, a product which is produced during the refining process in a refinery. Reijnders sieves the coke which then leaves particles of from 0 to 2mm. This is then used as raw materials for the steel industry.

COKE ON CALL

"The coke is available from us on call. We then load it from the big bags into bulk trucks and take it to the client," explains Van Kollenburg. Before purchasing the Dino, the big bags were held and emptied with a shovel, with a loader above the bulk truck. Van Kollenburg does not want to go back to those days.

FASTER, SAFER AND HEALTHIER LOADING

"At that time we needed three men to empty the big bags. One on the ground, one on the bulk truck and one on the

shovel. It was not very fast," Van Kollenburg looks back. "Now we only need two men, it is much faster, a lot safer and we no longer have problems with dust."

DUST-FREE LOADING THANKS TO FILTER SYSTEM

The dust-free work environment is thanks to the dust filter system with which this Dino is equipped. On filling the bulk truck the air inside it comes out through the manhole. However this is connected to the Dino.

The escaping air first has to pass through a filter and the dust is removed before it gets into the work environment. "That is the main advantage of the Dino. In this way we are able to offer our employees a dust-free environment," says Van Kollenburg.

BEAUTIFULLY DECORATED DINO

"Reijnders has chosen a 'well decorated' Dino," sales engineer Roel Kneepkens explains. The dust filter has already been mentioned, the bulk truck loader also has a loading bellows, expansion rim, cover, a heavy-duty motor (37kW) and fluidizing pads in the hopper. The Dino is made of steel.

COAL PARTICLES RETAIN QUALITY

Another advantage for Van Kollenburg is that the coal products retain their quality. "The screw does not crush the coal particles. That is very important to us."

FAST PRODUCT CHANGES DUE TO EASY CLEANING

The cleaning system with which the Dino is equipped also works well. "As well as coke we also load other types of coal from 0 to 3mm and 1 to 5mm with the Dino. As the Dino is easy to clean, it takes only a short time for us to use the Dino for different loads," says Van Kollenburg.

DOUBT TURNS TO CONVICTION

Before the purchase, Reijnders still had a few doubts about whether it was necessary to invest in a Dino. "But since we have had it we have been using it daily. It took some getting used to that we can get much more work done," says Van Kollenburg.

"With the Dino we can work faster and more easily. It makes it easier to store product in big bags and load it into in bulk trucks on call. We are experiencing enormous growth and expansion." The growth and development that Reijnders BV has already undergone over almost 60 years can continue thanks to the Dino.

PART OF THE TEAM

Van Beek, the creator of the Dino, has sprayed the Dino in the company colours for Reijnders, so the mobile bulk truck loader really is now part of the team. "It contributes to our professional image. When clients come to visit, it is a real eye catcher which soon raises the question 'What is that?' Then it is nice to show it off," Van Kollenburg concludes. **DCi**



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ORTS GmbH





Germany: Regional Report

Equipment, Ports & Terminals



Transmax™ – a self-unloading bulk carrier to overcome draught limited ports

National Ports Corporation is a developer of integrated infrastructure solutions for floating ports and shallow water ports.

National Ports, in partnership with thyssenkrupp Industrial Solutions has developed a self-unloading super shallow draught bulk carrier that will revolutionize the transshipping operation in shallow water ports around the world — the Transmax™. The Transmax is a 190,000dwt bulk carrier with a 14-metre draught, the existing capacity on the same draught is 120,000dwt). Each self-propelled Transmax will be designed to match the depths of water available at each port; for example, a 60,000dwt Transmax can transit a port with water depths of only 6.5 metre.

The Transmax is equipped with innovative cargo handling systems designed and built by thyssenkrupp Industrial Solutions, capable of self-unloading its cargo into any size oceangoing vessel at rates of up to 10,000tph (tonnes per hour) compared with prevailing technologies with a maximum unloading rate of 3,000–5,000tph.

The Transmax can be loaded at existing berths using existing shiploaders, or it can be loaded directly from a shore conveyor avoiding the capital cost for a conventional marine berth and travelling shiploaders. This represents a substantial saving in

capital expenditure.

The Transmax is able to self-unload cargo from any size bulk carrier.

The Transmax is an ideal solution for draught restricted ports worldwide

LIMITED DRAUGHT IS A WORLD-WIDE PROBLEM

- ❖ The vast majority of global export ports are geographically remote and not sufficiently dredged to handle modern bulk carriers.
- ❖ The majority of import ports suffer the same difficulty.
- ❖ Most ports have a draught of 14m or less, e.g. some ports in Australia, India, Brazil, Africa and the Middle East.
- ❖ Dredging is very expensive and this cost increases exponentially when dredging hard materials, particularly in rock. Furthermore, environmental requirements/regulations are far reaching and challenging.
- ❖ Capesize bulk carriers require a draught of about 19 metres including clearance under the keel.
- ❖ Draught limitations constrain exports and imports

EXAMPLES OF COUNTRIES WITH CHALLENGING EXPORT/IMPORT:

1) AUSTRALIA (PORT HEDLAND)

The average vessel loading iron ore at Port

Hedland is 180,000dwt on 18.2m draught.

Port Hedland's inner harbour and channel have a draught of 14.3m at low tide. Laden Capesize ships can only depart the inner harbour at high tide.

According to the Pilbara Ports Authority, the maximum throughput capacity of the port is 577mtpa (million tonnes per annum). This will be reached in approximately three years.

The Pilbara Port Authority does not have a solution on how to increase the port throughput at Port Hedland beyond 577mtpa.

The self-propelled Transmax opens (24/7) the draught-limited port of Port Hedland to far greater tonnages with no dredging, capital expenditure, or change to materials handling process or equipment.

2) INDIA

With the exception of three ports, in India none of the 12 ports owned by the Indian government can handle Capesize ships at their berths because of lack of adequate depth, which average 13 metres.

Currently, Capesize ships loaded with coal would anchor in the mid-sea, some 31 nautical miles from Kandla. From there, floating cranes would unload the cargo into 2,000-tonne barges that are taken to the port.

This is a very inefficient and expensive process. The Transmax will self-load the full cargo (180,000 tonnes) from the Capesize ships at anchor and self-unload it at the port of destination at the rate of up to 10,000tph.

3) BRAZIL

The distance from Brazil to the markets of China, Japan, Korea, and other South East Asian countries, is about three times more than its Australian competitors.

This represents a major additional shipping cost.

To mitigate the challenge of the extra distance in an effort to reduce the freight costs and allow Vale to compete with the Australian producers, Vale has built a fleet of very large bulk carriers (400,000dwt 'Valemax').

Very few ports in China, Japan, Korea or other world countries can accommodate these 400,000dwt vessels

LIMITED PORT ACCESSIBILITY CONSTRAINS EXPORTS

By positioning the self-propelled Transmax in deep water near the port of destination, Vale can deliver its bulk commodities with its Valemax ships directly to any port in the world.

The Transmax can self-unload the full cargo from the 400,000dwt vessel and self-

discharge it directly at the port of destination at the rate of up to 10,000tph.

The Transmax can be chartered on a per tonne basis.

National Ports will be responsible for all operating and ports costs.

The transshipment cost per tonne will be offset by the following saving:

- ❖ For exporting ports such as Port Hedland, the ocean going vessel will no longer enter the inner harbour, therefore the port cost will be massively reduced.

- ❖ Exports/imports can now be undertaken by larger oceangoing bulk carriers, therefore the freight cost per tonne will be far less.
 - ❖ In some cases because of tide restriction, the oceangoing vessel currently departs the berth NOT fully loaded; by operating the Transmax, the dead freight cost is removed.
 - ❖ Reduction of demurrage cost.
- The effective net result is that the client will be able to increase the cargo throughput at almost zero cost.

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Aquaplot joins technology transfer programme of European Space Agency

START-UP FOR OCEAN ROUTE PLANNING ENTERS ESA'S BUSINESS INCUBATION CENTRE (BIC)

Start-up company Aquaplot has been a member of the incubator programme of the European Space Agency (ESA) since September 2017. The programme supports start-ups in the transfer of space technology to the commercial non-space sector. Aquaplot uses satellite position and earth observation data for a prognosis of fleet movements at sea and the optimization of the maritime supply chain.

"The incubator programme supports us during the development of our platform. So far, our clients are using the Aquaplot platform for order calculation, monitoring of ships or business intelligence applications amongst other things. Using the satellite data, we will be able to take into account dynamic influences like wind and currents and can thus offer an even more precise real-time image and realistic prognosis for our clients," says Henning Grimm, CEO of Aquaplot

Aquaplot uses nature-inspired artificial

intelligence for its software. "This includes particle swarm optimization and evolutionary algorithms that are merged in a network. We achieve positive effects, which can for example also be seen in an



© Flickr/Global Panorama.

experienced team that divides their labour and has effective consultations. This is a unique approach and it allows us to plan routes in real-time without the need to consult historic data. Furthermore, new possibilities for simulations and scenario analyses arise," Grimm adds. The start-up has already applied for a European patent for its route planning software.

For the further development of this innovative technology, Aquaplot receives a funding of €50,000. One half is paid by ESA and the other by the State of Hesse. The start-up also receives advice from ESA experts, will be part of a network of companies and investors and participate at events and networking evenings. The ESA Business Incubation Centre in Darmstadt (ESA BIC Darmstadt), Germany, was founded in 2007 and is managed by the Centre of Satellite Navigation Hesse (cesah).

ABOUT AQUAPLOT

Aquaplot was founded 2015 in Karlsruhe, Germany. The company develops web-based technologies for maritime route planning. In addition, the company supports other innovators in this area with app-components like user interface modules and offers data and information services via an application programming interface (API). Since September 2017, the start-up has been located at the Centre of Satellite Navigation Hesse in Darmstadt.

Liebherr earth movers win German design awards

OUTSTANDING DESIGN QUALITY: TWO GERMAN DESIGN AWARDS FOR LIEBHERR'S EARTHMOVING MACHINES

- ❖ The T46-7 Telescopic handler and XPower wheel loaders receive awards in the 'Excellent Product Design' category.
- ❖ Striking, functional designs won over the panel of expert judges.

In late October last year in Frankfurt (Germany), Liebherr received the 2018 German Design Award in the 'Excellent Product Design' category for its T46-7 telescopic handler and its XPower® L 550 to L 586 wheel loaders. The expert judges were impressed by the optimal visibility and the dynamic appearance of the telescopic handler, as well as the intelligent and functional design of the XPower wheel loaders.

The German Design Award is one of the most highly recognized design competitions worldwide.

The German Design Award sets the highest possible standards when it comes to selecting its prize-winners. Over 5,000 submissions are observed during a two-day judging session. The T46-7 telescopic handler and the XPower large wheel loaders succeeded in impressing the expert panel and were awarded this renowned prize.

With regard to the T46-7 model, Liebherr presented one of its eight new telescopic handler models that are available now in a total of 26 different versions. With the iF and Red Dot prizes already under its belt, the German Design Award is the third prestigious design prize that has been awarded to the latest generation of large wheel loaders from Liebherr.

LIEBHERR TELESCOPIC HANDLERS: OPTIMAL VISIBILITY WITH A DYNAMIC APPEARANCE

The application-specific demands required by telescopic handler operators resulted in the final design criteria for the new Liebherr telescopic handlers. The Liebherr developers placed the main focus on creating optimal visibility as well as intuitive and convenient operation.

The overall machine design was aimed at ensuring maximum visibility of the load at the front to give enhanced productivity, as well as to the side and rear, for maximum safety.

This was primarily achieved thanks to the very low pivot point of the telescopic boom, as well as the sloping sides of the handler and an engine hood that follows



Clever and functional design: XPower large wheel loaders win the 2018 German Design Award.

the line of sight. With its continuous windscreen and internal slim-line ROPS/FOPS grid, adapted to the operator's sight line, the cab design also helps ensure maximum visibility of the load.

An additional design focus was placed on intuitive operation, comfort and ergonomics. The 5-in-1 joystick fitted in the Value models and the multi-functional joystick in the S-models, make it possible to perform all essential work functions with single-arm operation. This means the left hand stays securely on the steering wheel at all times, which is important in guaranteeing safe and efficient work.

XPOWER LARGE WHEEL LOADERS: WHERE PERFORMANCE AND DESIGN COME TOGETHER

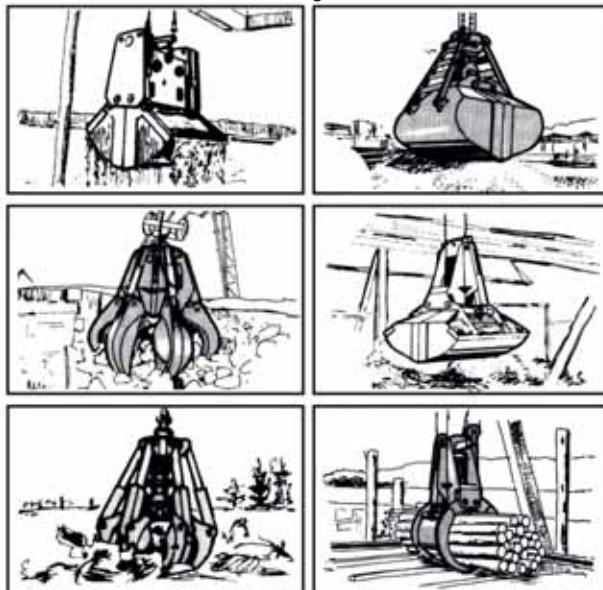
The XPower wheel loaders differ from conventional wheel loaders not only in

their innovative technology but also in their design. The design development phase focused on a powerful appearance and particularly on functionality and user friendliness. Even at first glance, it is clear

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Indonesian port operator Pelindo 3 orders five Konecranes Gottwald mobile harbour cranes

In the third quarter of 2017, PT Pelabuhan Indonesia 3 (Pelindo 3) expanded its fleet of Konecranes equipment by placing an order for three Model 4 and two Model 5 rubber-tyred mobile harbour cranes for its Tanjung Perak Port to serve vessels carrying containers, general cargo or bulk as required.

Pelindo 3 successfully operates Konecranes Automated Rubber Tired Gantry (RTG) cranes at its Semarang container terminal. It also operates a large Konecranes Automated RMG system, along with many Konecranes STS

cranes, at its Lamong Bay Terminal in Surabaya. Pelindo 3 subsidiary PT Berlian Jasa Terminal Indonesia (PT BJTI) has Konecranes Gottwald mobile harbour cranes at terminals in Surabaya and placed an order for eight Konecranes Gottwald cranes earlier this year.

Since Pelindo 3's cargo handling business is significantly growing and its subsidiary is familiar with Konecranes Gottwald equipment, Pelindo 3 decided to purchase mobile harbour cranes for its own use at Jamrud Terminal in Tanjung Perak Port in Surabaya, East Java from

Konecranes. The five new cranes are scheduled for hand-over in late summer of 2018, and will provide the versatility needed to handle different types of cargo at the terminal. Indonesia's dispersed archipelagic form means that Pelindo 3's terminals play a major role in the country's national and international logistics.

Mike Green, Regional Director APAC, Konecranes Port Solutions, remarks: "We are very pleased that Pelindo 3 sees Konecranes technology as the backbone of their diversified fleet of cargo handling equipment. Konecranes Gottwald mobile harbour cranes, operated throughout Indonesia, have shown excellent productivity and reliability."

Pelindo 3's five new cranes will be fitted with state-of-the-art, eco-efficient technology. Green says: "With an external power feed to hook them up to the terminal's grid, these electrically powered cranes will help the customer to reduce costs and its carbon footprint significantly in the long term."

The new Konecranes Gottwald Model 5 mobile harbour cranes have a lifting capacity of up to 125 tonnes and a maximum outreach of 51m. The new Model 4 cranes have a lifting capacity of up to 100 tonnes and a maximum outreach of 46m. To handle bulk cargo, the cranes will be equipped with motor grabs.

ABOUT KONECRANES

Konecranes is a major group of Lifting Businesses™, serving a broad range of customers, including manufacturing and process industries, shipyards, ports and terminals. Konecranes provides productivity enhancing lifting solutions as well as services for lifting equipment of all makes. In 2016, group (comparable combined company) sales totalled €3,278 million. The group has 16,600 employees at 600 locations in 50 countries.



Konecranes Gottwald Model 5 mobile harbour crane handling containers. The cranes ordered by Pelindo 3 will also be used to move bulk cargoes.

to see the XPower wheel loaders' dynamic proportions and modern design elements, which are consistently implemented from the lift arm, to the comfort cabin, right through to the rear end. The silhouettes looks compact; even while standing still, they create an impression of innovation and power.

The rear end is characterized by striking lines, which not only appear aesthetic but also offer functional advantages. The tapered engine hood provides the driver with maximum visibility towards the rear and increases safety in the immediate proximity of the wheel loader. Liebherr installs heavy components such as the engine right at the back of the rear end so that there is no need for any additional counterweights. This ideal weight distribution results in high tipping loads and an increased handling capacity per operating hour.

The radiator is located directly behind the operator's cab, the cleanest area on a wheel loader. In this position, the cooling system can take in dust-free air, which ensures a consistent and reliable cooling performance. This intelligent design reduces maintenance hence increasing machine availability.

Sophisticated details that fit harmoniously into the appearance of the wheel loader make servicing easier for the machine operator. The engine hood opens backwards, which provides unobstructed access to the engine for all maintenance work. A platform is incorporated into the open engine bonnet for comfortable and safe working.

The most important maintenance points are in close proximity to the cab and can thus be more easily accessed. The fuel and hydraulic tank are in close proximity which makes refuelling easier. A step at the cab facilitates safe cleaning of the windscreen and is also used to hold the driver's door in position.



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Imperial: change of CEO end of 2018

Carsten Taucke (Foto: Imperial)



Carsten Taucke (52), Chief Executive Officer of Imperial Logistics International B.V. & Co. KG, has announced he will step down from the board and leave Imperial with effect from 30 November 2018.

Taucke told Imperial executives on 28 November 2017 that his decision had not been an easy one and that he had thought about it for a long time. However, he said he wanted to set new priorities, in particular spending more time with his

family. "Over the next twelve months, Carsten Taucke will actively continue to lead the company with his typically strong commitment and focus on results in all areas of his responsibility," said Marius Swanepoel, CEO of the Global Logistics Division at Imperial Logistics. Taucke will also be closely involved in the selection of his successor and in the handover of his management responsibilities to that successor. "We will greatly miss Carsten Taucke's expertise and passion for logistics when he has gone," Swanepoel said, although added he is confident that these qualities would also be shared by Taucke's successor.

Carsten Taucke joined Imperial in 2010, initially as a member of the management team at what was then known as Imperial Reederei. He took over the position of chief executive of Imperial Shipping Holding GmbH in 2011 and also became a member of the Management Board at Imperial Logistics International B.V. & Co. KG. Carsten Taucke has been CEO of Imperial Logistics International B.V. Co. KG since 1 January 2015.

IMPERIAL LOGISTICS INTERNATIONAL

As a wholly owned subsidiary of the South African company Imperial Holdings

Limited, Imperial Logistics International is responsible for co-ordinating and managing all the international logistics business of Imperial Holdings Limited outside Africa. The varied portfolio of services at Imperial Logistics International, which has its headquarters in Duisburg, is separated into two divisions: the Group pools all its transport services in the Shipping, Road and Express Freight business units in the Imperial Transport Solutions division. The Imperial Supply Chain Solutions division covers all the services in the contract logistics and warehousing sectors for the Automotive, Industrial, Retail & Consumer Goods and Chemicals business units. Working together, both divisions provide a full and transparent range of services from one source along the complete supply chain.

Beyond its pure logistics services, Imperial Logistics International has also become established as a process consultant for third parties, a fleet manager for outside car fleets and a provider of insurance services related to particular sectors. Imperial Logistics International employs more than 9,000 people and, including the new acquisition, Palletways, generates turnover amounting to €1.6 billion at 170 business locations.

Achenbach covers for belt conveyors

From a small standard cover, right up to a gigantic JUMBO-cover to protect one or both walkways: Achenbach, Germany, produces metal covers in nearly every size.

The protective covers can be manufactured in four different profiles, which means that the user can be guaranteed access to an optimum, value-for-money solution.

Shown here are two of Achenbach's models, which are set to become best-sellers:

- ❖ AFlex-covers in combination with superTec-cover for openings on both sides and sure control by only one person; and
- ❖ JUMBO covers for covering belts and walkways for year-round use of the conveyor.

Achenbach is also offering its popular Organit covers, made of rigid PVC for the food and salt industry.

A range of fixing and accessories like wind shields for example round out the interesting Achenbach range.



17km long tunnel in combination of smaller AFlex and Viewing covers in Peru.



JUMBO covers in Maryland, US.



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Image: LISTENOW Loading system 4030 with fill-level indicator

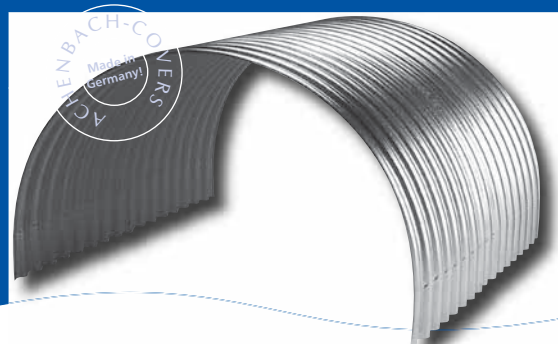
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Two Liebherr L 580 XPower® wheel loaders expand Willy Dohmen Group's state-of-the-art machinery fleet

The Willy Dohmen Group is also counting on Liebherr wheel loaders in the future. The image shows one of the new L 580 XPower® units in the gravel plant near Geilenkirchen.



Two Liebherr L 580 XPower® wheel loaders have recently joined the state-of-the-art machinery fleet of Willy Dohmen GmbH & Co. KG. The benefits of the XPower wheel loaders, which combine fuel efficiency, high performance, robustness and comfort, won over the traditional company. Positive experiences with machines of the previous generation also influenced the purchase decision. “We already had other Liebherr large wheel loaders in operation. This included several L 576 and L 586 models from the previous series. We were very happy with these machines. Liebherr is also a reliable service partner and

available whenever help is needed,” says Willy Dohmen’s management.

A loading cycle in the gravel plant measuring around 800,000m² near the town of Geilenkirchen, North Rhine-Westphalia, is between 30 and 150 metres. This is where the advantages of the power-split XPower drive train come into play. This brings together the hydrostatic and mechanical drive which ensures full performance and high efficiency for all tasks. “The new Liebherr wheel loaders are impressive in every respect. The two L 580 XPower® units are extremely powerful and on average consume only around 13 litres

of diesel per hour of operation, regardless of the application,” explains the management of Willy Dohmen GmbH & Co. KG.

The near-29-tonne wheel loaders have a considerable tipping load of 19,500kg. They are used for about ten hours a day. With their powerful Z-lift arm and a 5.7m² backfill bucket, they move up to 3,000m³ of sand, gravel and double-crushed chips per day. They also work directly on the demolition wall, feed systems and load material in the gravel plant. Reliability is of utmost importance to ensure efficient workflows. With their powerful axles, robust XPower drive and reinforced core components, the XPower wheel loaders offer high availability.

It was as early as 1952 that company founder Willy Dohmen started his gravel and sand mining business. Today the company is divided into five main business segments and employs around 280 people. At the Geilenkirchen site, not far from the German-Dutch border, the Willy Dohmen Group extracts sand and gravel and refines the material for the production of concrete. Like Liebherr, Willy Dohmen GmbH & Co. KG is a traditional family-run business and stands for first-class quality products.

Willy Dohmen refines raw materials into high-grade construction materials. To this end, Liebherr wheel loaders feed the processing facilities.



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Broad range of services at Duisport



The port of Duisburg in 2017. © duisport/Hans Blossey

The Duisburger Hafen AG (duisport), based in Duisburg, was founded in 1926 and is the holding and management company of the Port of Duisburg, the largest inland port in the world.

With a handling volume of 133 million tonnes and 3.7 TEU (2016) the Port of Duisburg has, in recent years, developed into a leading logistics turntable in Central Europe. This means that the port acts as an intersection for the transportation of

goods from and to Central Europe.

With its full-service approach the duisport Group covers a broad range of services. The range of services it offers includes, in addition to the movement of goods (primarily merchandise in containers, imported coal, iron/steel, mineral oil/chemicals), settlement management, the development of integrated port and logistics concepts, the development and optimization of intermodal transport

and logistics chains, rail freight services as well as packaging logistics.

Together with its partners, the duisport Group develops for example trans-continental train connections between Duisburg and China, inter alia to Chengdu, Wuhan or Chongqing. In packaging logistics, logistics services for mechanical and plant engineering are provided all over the world — including through duisport's own locations in Belgium, France, China and India.

Thus the duisport Group sees itself as a partner of the logistics industry and makes its own contribution to optimizing transport chains to deliver to and from industry and retail. About 300 logistics-oriented companies are based in the Port of Duisburg and they generate added value in excess of about €3 billion per year. Altogether more than 45,000 jobs depend on the port, more than twice as many as only 18 years ago.

Logport I area in Duisburg Rheinhausen. © duisport/Hans Blossey



Record container handling result at duisport

HANDLING VOLUME EXCEEDS 4 MILLION CONTAINERS

Duisburger Hafen AG (duisport) expected to finish the 2017 business year with a handling volume of 4.1 million standard containers (TEU). Following a volume of 3.7 million TEU in the 2016 business year, this figure represents an increase of approximately 12%.

Container handling accounts for over 50% of total handling volume, and is the most important goods segment of the duisport Group. "After years of above-

average growth, we expect that container handling volumes will grow at a more moderate rate in the future," says duisport Chief Executive Officer Erich Staake.

Mineral oil and chemical handling volumes are on a positive trend in 2017, similar to previous years. Coal handling volumes are declining, however. Staake: "This trend will continue in the next few years following the closure of older power plants in connection with the energy transformation. We expect a slight increase in the total handling volume for 2017."

Handling volume per vessel declined a little in 2017, which is also due to this year's delays in processing inland water vessels at Rotterdam and Antwerp. The opposite is true for train handling volumes, which will increase significantly. In this case, the China trains, which are already running 25 times a week between Duisburg and various destinations in China, are becoming a real driver in this context. Container handling volumes involving the China trains will grow by approximately 50% this year.

New quay opened at the industrial port in Bremen



Photo from the opening ceremony of the new quay at Terminal 2 of the Hüttenhafen in the city of Bremen on 3 November 2017.

After a building period lasting three-and-a-half years, the port logistics firm Weserport, the 'bremenports' company and invited guests from the worlds of business and politics celebrated the new construction of a quay at Terminal 2 of the Hüttenhafen in the city of Bremen on 3 November 2017. The new development is associated with the extension of the docks and the deepening of the industrial port in Bremen. It has been possible to eliminate a long-standing bottleneck at these docks through the extensive building project.

The key element in the project completed by 'bremenports' and Weserport was the dismantling of the previous quay and the new construction of a 250m-long quay that has been relocated three metres further inland next to Terminal 2. Panamax vessels can now be handled there too, thanks to the improved

nautical conditions.

"While ships with a maximum draught of 9.45m were able to dock at the Hüttenhafen in the past, it's now possible to unload vessels with a draught of up to 10.50m, following the extension work. That corresponds to as much as 5,000 tonnes of additional cargo, depending on the size of the ship. It's our goal to attract additional customers to the industrial port through the improved conditions," says Heiner Delicat, Managing Director of Weserport.

"The industrial port is a power house at the ports in Bremen," says the managing director of 'bremenports', Robert Howe. "As a result of the building work at the Hüttenhafen, 'bremenports' can make a contribution towards ensuring that this part of the ports area in Bremen is geared for the future."

Weserport handled the necessary

adaptation work to the superstructure within the project. This included work on the railway tracks, reinforcing space for heavy loads and moving the two gantry slewing cranes that have been modified.

ABOUT WESERPORT

Weserport GmbH is a joint venture between the Rhenus Group and ArcelorMittal Bremen GmbH. In 2016, Weserport's four terminals handled about 8.1 million tonnes of goods shipped by sea. They cater for storing and handling steel, building materials, containers, bulk and break-bulk cargo and project loads.

The Rhenus Group is a logistics services provider with global business operations and annual turnover of €4.8 billion. Rhenus has business sites at over 580 locations worldwide and employs more than 28,000 people.

Port of Hamburg handles 104mt of seaborne freight in the first nine months.

PORT OF HAMBURG SET TO PROFIT FROM CETA FREE TRADE AGREEMENT WITH CANADA

Comprising the general and bulk cargo segments, seaborne cargo handling in Hamburg during the first nine months at 104.3mt (million tonnes) was stable.

At 6.8 million TEU (20-ft standard containers), throughput of containerized general cargoes continued to grow; while at 34.1mt (million tonnes), bulk cargo throughput remained just below the previous year's figure. For Port of Hamburg Marketing, the excellent trend in container traffic with Canada is a gratifying pointer. The port's marketing organization sees the CETA free trade agreement as providing an additional boost for seaborne trade that will benefit the Port of Hamburg.

Bulk cargo throughput was basically stable, being down 1% at 34.1mt in the first nine months. Imports and export trends differed. Imports were slightly lower, 2.5% down at 25.1mt. Behind this were falls in throughputs of suction goods, 4.9% down at 3mt, and of liquid cargoes that were 8.1% lower at 7.4mt. At 14.7mt, up by 1.1%, grab cargoes re-asserted their position as the strongest segment of bulk cargo throughput. A renewed advance was achieved in exports of bulk cargoes, up by 3.6%, to 9mt. This positive trend covered differing developments in the sub-segments. Suction cargo throughput, for example fell by 18.4% to 3mt. Handling of grab cargoes was 11.8 percentage points higher at 2.9mt, while the liquid cargo total

actually rose by 26.8% to with 3.2mt. At 1.1mt, down by 9.4%, throughput of non-containerized general cargoes, for instance large plant elements or wheeled cargo, failed to reach the previous year's level.

ABOUT THE PORT OF HAMBURG

The Port of Hamburg is Germany's largest universal port, underpinning over 155,000 jobs in the Hamburg Metropolitan Region. It is also an important location for industry, very significant for the German national economy, with annual gross value added of €21.8 billion. For 2017, the Port of Hamburg's marketing organization reckons with seaborne freight handling of 138mt and container traffic of around 8.9 million TEU, with results equalling the previous year.

New forest products shed opens in the Ostuferhafen

PORT OF KIEL INVESTS IN TRADE LINKS WITH RUSSIA

Another warehouse for Russian forestry products was inaugurated in the Ostuferhafen on Tuesday January 9th. The new Shed 12 was built inside just six months and represents an investment of € 1.5 million. The Managing Director of the Port of Kiel (Seehafen Kiel GmbH & Co. KG), Dr Dirk Claus, said, "We are investing in our trade relations with Russia and want to further cement our co-operative partnership with Jacob Jürgensen Wood GmbH." The Hamburg-based trading company has signed a long-term rental contract for Shed 12 with the port. "We have already been working with the Port of Kiel for several decades and we are looking forward to this further deepening of our co-operation," said Rolf von Loßberg, Managing Director of Jacob Jürgensen Wood GmbH. "We value highly the service which the port of Kiel is able to offer us. Smooth processing and flexible support are just two reasons why, at present, we strongly favour Kiel as a Baltic port", he added.

The location of the new warehouse — directly next to the berth for Russian ferries in the Ostuferhafen — is also ideal when weather-sensitive forestry products need to be brought under cover quickly and stored in dry conditions. The timber business at Jacob Jürgensen has shown very strong growth in the last few years and a large part of that growth has been generated by Russian timber products. The firm is one of the biggest importers of Siberian larch in Europe and its expanded co-operation now with the Port of Kiel contributes to the stable and reliable supply of timber raw materials to European industrial and commercial clients. Claus said: "With Shed 12 we are meeting a growing need, boosting productivity and further increasing quality." The new facility boasts 5,000m² of ground area. It is 100m long and 50m wide and has a ridge height



The Ostuferhafen at the Port of Kiel.

of 10m. Last year well over 82,000m³ of sawn timber products were imported from Russia via Kiel and stored in the Ostuferhafen. That was an increase of 38% over the previous year.

"Growth in the Ostuferhafen is directly related to our investment in the expansion of warehouse space," said Claus. Inside just three years available shed area has just about been tripled and today 85,000m² are available. Some 20,000m² of warehousing space alone is available for Russian forestry products. Incoming sawn timber is stored for many months in Kiel before being gradually moved on for finishing in German and west European concerns. Some of the products travel from Kiel to Italy, Spain or Portugal and some overseas containers are occasionally also packed in the Ostuferhafen for destinations in Australia, New Zealand or South America. Widely diverse products are created from the processed timber — from planks to garden sheds and fencing.

ABOUT THE PORT OF KIEL

The Ostuferhafen is the Kiel fiord's freight and logistics centre. Every day, ferries of the shipping company DFDS link Kiel with Klaipeda in Lithuania. Once a week St Petersburg is also called at and in addition SCA RoRo cargo ships operate between the Swedish east coast and Kiel. Last year

for the first time, 3.5 million tonnes of cargo were turned round in the Ostuferhafen. That's about half of Kiel's total annual handling. In 2017 about 150,000 tonnes were transported to and from Russia between Kiel and St Petersburg — an increase of 20% compared with 2016. Mainly trailers with consumer and investment goods are shipped east for on shipments to western Russia, Moscow and also as far as Kazakhstan. Siberian forestry products in particular are transported in the opposite direction for handling and storage in Kiel.

ABOUT JACOB JÜRGENSEN

The Jacob Jürgensen Group is an internationally active trading company with more than 135 years of experience on world markets. It specializes in the marketing of forestry products: timber and timber products, cellulose and paper. It serves customers on five continents world-wide from its headquarters in Hamburg and in association with partners and offices abroad. More than 50 company employees advise customers on optimal product and service solutions.

Jacob Jürgensen Wood GmbH moves more than 150,000m³ of timber and timber products a year and has a turnover of more than €40 million. An attractive product programme is available to industry and commerce, with the emphasis on round wood, sawn timber and planed and semi-manufactured products.

An important part of company activity is the import of timber products from Russia. Handling a volume of more than 600,000m³, Jacob Jürgensen Wood is today one of the biggest European importers of Siberian larch. Extensive service packages are available to customers, ranging from tailor-made product advice to logistics, storage solutions, financing and insurance.



The new warehouse is also ideal for weather-sensitive forestry products.

Record results for Port of Kiel – increase of 14.3% over last year



HANDLING PASSES SEVEN MILLION TONNE MARK FOR FIRST TIME

In 2017 Kiel again posted record handling while also passing the 7mt (million tonne) mark for the first time. Overall, 7,407.376 tonnes were loaded or unloaded. That represents an increase of 14.3% over the previous year and is the best annual result ever achieved by the port. Dr Dirk Claus, the Managing Director of the Port of Kiel (Seehafen Kiel GmbH & Co.KG) said: “Kiel achieved a top result and improved performance in all sectors.

Particularly outstanding were developments at the SCA Forest Products Terminal, which fulfilled all the high expectations and fully justified our investment.”

The same can also be said of ferry traffic to Scandinavia (including SCA RoRo business) and into the Baltic region and to Russia — which together made up well over 80% of all port activity and showed an overall rise of 12.3%. Growth on the Kiel–St Petersburg route was above average, if at a lower level, and posted a 20% increase.

The biggest percentage growth in 2017 was achieved by the bulk goods sector where handling was 24% higher than the previous year.

SCAR FOREST PRODUCTS CENTRE ACCELERATES KIEL GROWTH

In the Ostuferhafen the new Forest

Products Centre stimulated growth and in doing so completely fulfilled the high expectations placed on it. In its first full year of operation well over 780,000 tonnes of paper products were offloaded, stored and distributed for the Swedish concerns SCA and Iggesund. “Paper — one of the most important trading commodities in the Baltic region — has returned to the Kiel Fiord”, said Claus: “Our investment has re-established Kiel in this market sector.”

The SCA Terminal was built on a site of about 16 hectares in the northern part of the Ostuferhafen and inaugurated in November 2016. In excess of 50,000m² of warehouse space is available in five harbour sheds. A total of €25 million has been invested and 80 new jobs created. SCA cargo ships call at Kiel from Sundsvall every Monday and Saturday unloading up to 160 cassettes of newsprint, kraftliners or high-value cardboard. A second cassette hall is currently being built in the Ostuferhafen to provide temporary covered storage for even more of these transport units. The 2,800m² Shed 7 represents an investment of more than €2 million and will go into operation this spring.

STRONG FERRY TRAFFIC GROWTH TO AND FROM GOTHENBURG

In the ferry traffic sector in 2017, Stena Line in particular showed strong growth on the Kiel–Gothenburg route, posting a 9.4%

(187,000 tonnes) rise in business. The biggest volume handled was on the Kiel–Klaipeda service of the DFDS Shipping Company which was just ahead of that carried by the Stena Line — with both services reporting more than 2mt.

HINTERLAND RAIL TRAFFIC RISES 9.5% TO OVER 32,000 CONSIGNMENTS

Intermodal rail/ship traffic continued to increase in the year just ended, recording a rise of 9.5%. A total of 32,104 trailers and containers were loaded onto rail wagons at the rail terminals on Schwedenkai and in the Ostuferhafen — passing the 30,000 mark for the first time. The biggest growth was recorded on the trains operated by Kombiverkehr KG between Kiel and Verona followed by those on the Kiel–Trieste route operated by TX Logistik.

In order to further improve the efficiency of intermodal transport, two expansion measures are planned in Kiel. The first of these is the upgrading of the Kiel–Meimersdorf Marshalling to a point where it can accept goods trains of 740 metres in length as part of the government’s priority Seaport Hinterland Traffic II programme. The second is the installation of a third rail track at the Schwedenkai Terminal. Construction work on both projects will begin during 2018, so that they can be completed in the coming year.

CASE G-Series wheel loaders win 2017 Good Design™ Award

CASE has been honoured with the prestigious Good Design™ Award in the Industrial Category for its G-Series wheel loaders from the Chicago Athenaeum: Museum of Architecture and Design and The European Centre for Architecture Art Design and Urban Studies.

CASE Construction Equipment received the Good Design™ Award for the G-Series wheel loaders – the latest generation of the brand's proven range, which introduced a revolutionary wind-screen design and raised the bar on operator comfort when launched in 2017. This recognition comes in the 50th year of the prestigious Award and was most significant in its history as a record number of Fortune 500 companies and the world's foremost design firms entered. The G-Series was one of the product designs selected by the Chicago Athenaeum: Museum of Architecture and Design and The European Centre for Architecture Art Design and Urban Studies out of the thousands of submissions sent by the world's leading manufacturers and industrial design firms. As a winner of the Award, the CASE G-Series wheel loader design is now part of the Museum's Permanent Design Collection.

Carl Gustaf Göransson, Brand President for CNH Industrial's Construction Equipment businesses, commented: "We have been judged against the very best in the world and the G-Series has emerged as a winner: this prestigious accolade crowns CASE wheel loaders' long history of excellence as we



prepare to celebrate this product line's 60th anniversary next year."

The cabin of the CASE G-Series wheel loaders sets new standards in comfort and safety with an operator environment, controls and interface that make it the brand's most intuitive and easy-to-operate range. Every element has been designed to provide an automotive feel with industrial performance.

The G-Series takes visibility to a new height. The one-piece windshield provides an unobstructed panoramic view to the front, while multiple rear view convex mirrors, rear view display, slim engine hood and rear grid defroster offer excellent rear visibility.

The cabin interior has been designed to maximize space for the operator. The ergonomically designed joystick steering system provides a symmetrical operating station to control loader functions and

machine steering, which reduces fatigue, especially during repetitive, high-production applications. The premium control monitor interface offers intuitive navigation through the machine's information and settings.

The suspended cab featuring an air ride active suspension premium seat, combined with the positioning of the engine at the rear of the machine, dramatically reduces noise and vibrations, improving operator comfort.

CASE sees design as an important driver in the product development process in order to deliver the superior operator comfort and intuitive operation achieved by the G-Series. In its pursuit of quality design that combines style and function, the brand relies on the experience and resources of CNH Industrial's Design Centre. The Good Design™ Award is testament to the high quality of the design resulting from the brand's focus and its efforts.



CASE CONSTRUCTION EQUIPMENT

CASE Construction Equipment sells and supports a full line of construction equipment around the world, including loader/backhoes, excavators, motor graders, wheel loaders, vibratory compaction rollers, crawler dozers, skid steers, compact track loaders and rough-terrain forklifts. Through CASE dealers, customers have access to a true professional partner with world-class equipment and aftermarket support, industry-leading warranties and flexible financing.

CASE Construction Equipment is a brand of CNH Industrial N.V.

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"WHITE is the New **Green"**

Quality Freight UK invests £700,000 in new Fuchs mobile harbour crane



Quality Freight UK has significantly increased its craning capability at its main operation at Ellesmere Port in Cheshire, UK. The company has invested over £700,000 in acquiring a Fuchs MHL390 crane.

The latest addition will complement QF UK's other cranes — a MHL360 wheeled crane based at its Ellesmere Port terminal, a Liebherr 150 and an RHL340 tracked crane.

The new Fuchs MHL390 is capable of handling over 400 metric tonnes per hour on cargoes.

Sebastian Gardiner, managing director of Quality Freight UK, said: "This significant further investment in the business will allow us to increase bulk volumes in the port, allow multi-vessel working and enhance customer service through faster vessel turnaround.

"We have seen volumes increase by over 20% during the past 12 months and are extremely confident about business prospects moving into 2018.

"Adding this new Fuchs crane to our fleet was therefore a natural next step,

increasing craning at Ellesmere Port and future-proofing QF UK's handling capabilities."

The investment also enables QF UK to maximize the usage of its mobile cranes at client sites.

The company's MHL360 and RHL340 are regularly moved at short notice to locations across the North West of England. This has included loading bulk ships from the INEOS terminal in Runcorn.

A spokesman for DB Cargo, which has utilized the RHL340 to discharge trains in St Helens, said: "The adaptability provided by using the QF mobile crane service has allowed us to deliver business we would otherwise not have been able to service."

The new mobile crane service forms part of the total logistics service provided by QF UK. The company has the ability to offer clients support across sea, road, rail and air.

Gardiner said: "Some companies are tapping into our mobile crane capability as a standalone service, while others are choosing to integrate it as part of a much wider logistics solution."

In addition to its 40-acre multi-modal facility in Ellesmere Port, Cheshire, the Quality Freight Group has bases in Dublin, Belfast, Cork, Knock, Hull, Chatham and Rotterdam.





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DELACHAUX GROUP

AUMUND India wins prestigious award from FLSmidth

In October last year, FLS congratulated suppliers which had successfully met its delivery requirements and quality of service standards during 2016. AUMUND India was proud to be awarded a certificate for “delivery excellence and dedicated support in meeting on-time delivery.”

AUMUND conveying equipment is frequently supplied to FLSmidth for the complete plants that it installs for customers in the cement and minerals industries all over the world. AUMUND Engineering Private Ltd. was among select suppliers invited by FLSmidth to a conference in Chennai, India. Its Indian subsidiary, FLSmidth Pvt. Ltd., hosted the two-day meeting. As a leading expert in bulk materials handling, AUMUND works closely with FLS on specialist solutions for conveying and storing technology, incorporating AUMUND machines and especially its flagship products, belt and chain bucket elevators, into the overall FLS projects.

The first day of the meeting in Chennai was dedicated to interaction between the procurement and engineering teams of FLS and their suppliers.

The various parties exchanged views,

experiences and suggestions for the future on all aspects of the project processes, from enquiry through design, manufacturing and installation to the final payment stage.

On day two FLS gave detailed presentations about its capabilities and future prospects in various industrial segments, followed by general discussions on the current market situation and how FLS and its suppliers can enjoy continued success. FLS detailed its expectations in the main target areas of: timely response from suppliers without the need for FLS to expedite; reduction in delivery times; value-added engineering; and competitive pricing structure.

ABOUT THE AUMUND GROUP

The AUMUND Group is active worldwide. The conveying and storage specialist has special expertise at its disposal when dealing with bulk materials. With their high degree of individuality, both its technically sophisticated as well as innovative products have contributed to the AUMUND Group today being a market leader in many areas of conveying and storage technology. The manufacturing companies AUMUND Fördertechnik GmbH (Rheinberg,



M.S. Balan, responsible for Sales & Marketing at AUMUND Engineering India (right), receives the award from Naresh Priyani, FLS India Vice President Procurement.

Germany), SCHADE Lagertechnik GmbH (Gelsenkirchen, Germany), SAMSON Materials Handling Ltd. (Ely, England), as well as AUMUND Group Field Service GmbH and AUMUND Logistic GmbH (Rheinberg, Germany) are consolidated under the umbrella of the AUMUND Group. In conjunction with the headquarters of the manufacturing companies, the global conveying and storage technology business is spearheaded through a total of ten locations in Asia, Europe, North and South America and a total of five warehouses in Germany, USA, Brazil, Hong Kong and Saudi Arabia.

Jens Müller: AUMUND Fördertechnik's new Commercial Managing Director

Since 1 October last year, AUMUND Fördertechnik GmbH in Rheinberg has had a new Managing Director, Jens Müller (54), who is responsible for finance, controlling, IT, HR, general admin, purchasing and production, alongside Robert Gruss, Managing Director for sales, service, technology and R&D, and Franz-W. Aumund, President.

Müller has taken over from Andreas Klottka, who had carried out this role on an interim basis since Dr Volker Brandenburg took early retirement. Klottka had undertaken this role in addition to his responsibilities as Managing Director of AUMUND Holding B.V.

As well as his principal responsibilities as head of the finance and controlling functions, the new Managing Director places strong emphasis on successful procurement management, for which he believes the input from staff at the AUMUND Group subsidiaries in other parts of the world will be of



From left: Andreas Klottka, Franz-W. Aumund, Jens Müller (photo: AUMUND).

paramount importance.

After graduating in economics, Müller started his career with chartered accountants Ernst & Young in Hamburg, Germany. After seven years in auditing, he joined the Körber AG Holding, also in Hamburg. Over a period of 14 years under this mandate he held various

positions, one of them being Chief Financial Officer of a machinery and equipment manufacturer which operated internationally. Since then Müller has been Managing Director of Richter-Helm BioLogics GmbH & Co. KG, Hamburg, and of DiaExpert GmbH, before joining AUMUND Fördertechnik.

New mobile dust suppression design: rugged construction, compact size

A major global provider of dust and odour control technology has introduced the newest model in its growing family of self-powered dust suppression equipment, as BossTek announces the debut of the DustBoss® DB-30 Fusion™. The new design is a versatile and transportable atomized mist unit, engineered with a workhorse electric motor and 30KW generator. Permanently mounted on a rugged road-worthy trailer, the company's Fusion lineup is proving to be a popular and effective means of delivering powerful dust suppression technology to sites that lack a convenient power source.

Unlike with its larger siblings, water is supplied to the DB-30 Fusion by a standard 5/8" (15.8mm) garden hose, so it can be used at any location with a working hose

The DB-30 Fusion™ is a versatile and mobile atomized mist solution from BossTek.



The new design utilizes the same rugged construction as the larger models in the DustBoss lineup.



bib. Equipped with an in-line 75 mesh, 200 micron filter, the unit can also be specified with special filtration to accommodate non-potable water sources.

With an adjustable throw angle from 0–50° of elevation and a range of approximately 30 metres (100 feet) in calm conditions, the standard configuration includes user-definable 359° oscillation, allowing the unit to cover as much as 31,000ft² (2,880m²) with a powerful dust-trapping mist. The new design can also be optimized with a Variable Frequency Drive (VFD) to precisely adjust fan speed. An optional dosing pump is available for precise metering of additives to even further enhance particle control.

The extremely water-efficient design consumes just 2.5 gallons per minute. That's compared to competing dust control methods such as manual spraying that can use hundreds of gallons per minute, resulting in over-saturation, run-off concerns and higher water costs.

A touch screen panel for controlling the

DB-30 Fusion is encased in a NEMA 3R cabinet, allowing operators to control oscillation, fan and water. The cabinet is constructed for outdoor use, designed to provide protection against solid foreign objects (such as dirt), air (dust, emissions), water (rain, sleet, snow) and ice formation.

Maintenance

requirements for the new design are minimal, even though the unit carries an industry-leading three-year/3,000-hour warranty on the dust suppressor and a two-year/2,000-hour warranty on the gen set. If potable water is being used, nozzles typically need to be inspected just once per year. The turntable bearing on the oscillator should be greased annually or as needed for harsh service conditions and the fan motor should be lubricated every 10,000 hours. Like any diesel engine, the gen set should have regular inspections and changing of oil, coolant and filters.

"This design was developed in response to input from the marketplace, which indicated that some customers would benefit from a more compact design that's well-suited to smaller projects or tight spaces," said BossTek Sales

Manager Mike Lewis. "The 7.5 HP electric motor generates 9,200 CFM of air flow, and it uses the same industrial-strength construction as the larger models: a manifold with 30 specially-designed nozzles that atomize the water supply, creating droplets between 50 and 200 microns in size for maximum particle attraction." The company also offers a full line of surfactants, tackifiers, and odour control additives that are fully compatible with the equipment.

"We're always developing new technologies, and we're excited to introduce this new product design to serve our customers even better," Lewis added. "It's our customers, first and foremost, that drive our innovation and passion, and they will always remain our primary focus."

BossTek is a global leader in solutions for dust suppression, odor control and crowd cooling, serving a wide range of applications. The company's high-quality, industrial strength equipment carries a no-excuses guarantee of customer satisfaction, backed by a three-year/3,000-hour warranty.

The manifold and specially-designed nozzles atomize the water supply for maximum particle attraction.



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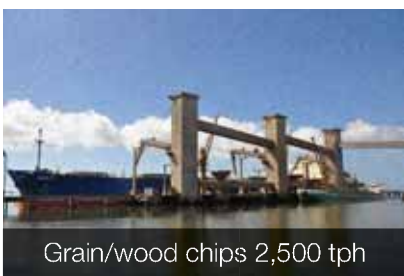
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Order awarded for AUMUND machines at LafargeHolcim in France

LafargeHolcim is investing around €100 million in the modernization of the Martres-Tolosane cement plant in the South West of France. AUMUND Fördertechnik GmbH and AUMUND France S.A.R.L. will be accompanying the customer on this ambitious upgrade project until well into 2019, supplying a varied range of equipment. The specialists from Rheinberg and Paris won an open bidding process against several competitors.

AUMUND Fördertechnik is supplying a package including belt bucket elevators to feed the 96m-tall heat exchanger and the raw meal silo at the plant. Two AUMUND BWZ chain bucket elevators will be used to convey raw meal and filter dust, and for silo feed. An AUMUND KZB pan conveyor with a vertical lift of nine metres will be installed under the clinker cooler.

Seven AUMUND LOUISE-type drag chain conveyors with short centre distances of 13m and conveying capacities between 7tph (tonnes per hour) and 50tph will extract filter dust. Two CENTREX® machines (25–250tph) will be extracting a mixture of limestone and clay as well as iron ore from silos up to seven metres high.

The modernization project at the Martres-Tolosane works is part of LafargeHolcim's extensive €300 million investment project in France. Comprehensive measures are being taken with a strong focus on environmental protection to make this plant, with its 110 employees, fit for the future.

Once upgraded, the plant will be equipped to burn alternative fuels, and energy consumption and CO₂ emissions will be greatly reduced. Work on the project will start in the final quarter of 2018 and be completed by mid-2020.

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AUMUND bucket elevator, pan conveyor, trough chain conveyor and CENTREX® (examples, photos by AUMUND).



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Compellingly different: SENNEBOGEN 8100 EQ balance material handler revolutionizes scrap handling

Zlompol Sp.J., based in Tarczyn in Poland, has been handling scrap for 25 years. The company started off using classic earthwork diggers, moved on to material handlers, and is now using a modern SENNEBOGEN 8100 EQ balance material handler. The balanced machine with a reach of 27m is not only revolutionizing the company's work processes, but is also saving it energy — the perfect gift for Zlompol's 25th birthday.

Robert Cimoszynski and Janusz Majewski, the two managing directors who run the family company, are currently experiencing an increase in visitor numbers to their 5.0 hectare scrapyards in Tarczyn. And they are not coming because of the yard's beautiful location between lakes and orchards, around 25km from the Polish capital of Warsaw, but because they want to see the new green SENNEBOGEN 8100 EQ balance material handler which has been the centrepiece of the yard since July 2017. "Our new machine can be seen from quite some distance away. People keep coming to admire it. Many people are even making special trips to bring scrap so they can see the new material handler, and no wonder — it's extremely efficient and the first of its kind in Poland," explains Cimoszynski.

Zlompol is celebrating its 25th anniversary in 2017. The Fortschritt



Investing in new technology: SENNEBOGEN 8100 EQ in operation at Zlompol in Tarczyn in Poland.

excavator from the 80s which is still on display at the scrapyards shows how material was handled when the company first started. Today, Zlompol handles around 6,000 tonnes of scrap every month on site. The material comes from within a radius of around 50km and is brought in by the company's own trucks or delivered by customers. When it came to successively replacing the existing material handlers, salesman Andrzej Tokarczyk from SENNEBOGEN dealer Komatsu Poland was able to win over Zlompol with a new approach.

BALANCE PRINCIPLE AND ELECTRIC MOTOR ENABLE SAVINGS OF UP TO 75%

As a material handler with flexible counterbalancing — referred to as the equilibrium concept — the new SENNEBOGEN 8100 EQ with a range of 27m comfortably covers an area of just

under 2,500m². The special advantage here is that, thanks to the constant balancing of the EQ principle, a relatively small motor is sufficient to power the machine. The machine used at Zlompol is fitted with a 110kW electric motor. According to Tokarczyk, a comparable hydraulic material handler would have needed at least a 200kW motor to provide comparable power levels and cover the operating area. The combination of the balance principle and the electric drive enables the company to save up to

75% of the operating costs. "Further advantages of the electric machine include lower service and energy costs, increased service life of the components, no fuel stops, and quiet, emission-free operation — which is particularly appreciated by our neighbours," adds Majewski.

For the driver who feeds the 1250 PS Lindemann shredder with the 8100 EQ, one key thing has changed: the view. With an eye height of 10.5m, he not only has an unobstructed view of the shredder feed area, but can also keep an eye on the entire yard and all the processes going on around him. Cimoszynski also likes to swap his office chair for the driver seat in the comfortable Maxcab industrial cab from time to time for the same reason. For him, one thing is clear: "By purchasing the new SENNEBOGEN 8100, we have invested in the future. At the same time, we have found a reliable partner in Komatsu Poland."

The driver of the SENNEBOGEN 8100 EQ enjoys an unobstructed view of the shredder feed and can keep an eye on the entire yard. Inset: official handover — (from left) Alfred Endl, Green Line sales director at SENNEBOGEN, regional sales director Ronald Haupt, Zlompol managing directors Janusz Majewski and Robert Cimoszynski, salesman Andrzej Tokarczyk, Komatsu Poland, Komatsu Poland managing director Takahide Oshitani, and SENNEBOGEN regional sales director Benjamin Blümel.



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CSUs: a continuing success

the popularity of continuous ship-unloaders shows no sign of waning



Two 250tph VIGAN pneumatic ship-unloaders and a bulk loader installed at the Port of Mongla in 2015.



Louise Dodds-Ely

Bangladesh uses VIGAN machines to help with fast growth due to rising population

Bangladesh is not only considered as one of the most densely populated countries in the world, but it has also been identified as one of the world's poorest.

Despite this situation, Bangladesh deserves credit and admiration for achieving a remarkably high economical growth of more than 7% in 2017 — the second-fastest economic growth in the

world in 2016, according to the IMF (International Monetary Fund).

Bangladesh is historically a rice-consuming market, but recent years have seen a robust demand for wheat in the domestic market as many people are switching to flour given the high prices of staple rice.

As such, Bangladesh has emerged as a

leading wheat importer in the world, and the country imports generally around 80% of its total wheat consumption needs.

Shipments primarily transit via two seaports: Chittagong and Mongla.

The Port of Chittagong handles the vast majority of Bangladesh's export-import trade, but due to increasing congestion in Bangladesh's largest port, many interna-



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First VIGAN pneumatic ship-unloader installed at the Port of Chittagong in 2008.

outlets for the feeding of two wharf conveyors. They are also equipped with a centrifugal three-stage VIGAN turbo blower and a main electric motor of 160kW, 400 Volts and 50 Hz. With their 25m-long suction boom, these unloaders make it possible to unload vessels at a rate of 200tph.

But the story of VIGAN in Bangladesh does not end here.

It is worth mentioning that VIGAN has also installed other types of pneumatic unloading machines in the country.

In 2012, VIGAN provided to Bashundhara Group a stationary pneumatic barge unloader of 200tph that was installed in Dhaka river port.

tional shipping companies have turned to Mongla as an alternative.

VIGAN'S ROLE IN BANGLADESH GRAIN IMPORTS

VIGAN benefits from a long standing cooperation with the Directorate General of Food of Bangladesh, a government department responsible for food management and policy in Bangladesh, and responsible for the import of foods under Bangladesh government contracts.

In 2008, VIGAN installed a first 250tph (tonnes per hour) pneumatic ship-unloader — 200kW — in the Port of Chittagong. In 2012, two additional pneumatic ship unloaders of the same type were installed for the same client in the same port.

In 2015, Directorate General of Food ordered two further pneumatic ship-unloaders that were installed in the Port of Mongla, together with a bulk loader.



VIGAN pneumatic ship unloaders installed at the port of Chittagong in 2012.

These two machines are mounted on a mobile self-propelled gantry on rails equipped with a heavy duty inclined chain conveyor of ±16 metres long with two

More recently, in 2017, VIGAN also provided a portable grain pump type 120 to Borotakia Construction Company in Chittagong.



VIGAN pneumatic barge unloader in Dhaka.

NEW PROJECTS TO FIGHT POVERTY

The Minister of Food and the Project Director of Directorate General of Food are planning more Bangladeshi investments.

They are considering the use of VIGAN pneumatic unloaders for various strategic sites planned in the large Modern Food Storage Project ('MFSP') financed by the World Bank.

Modern storage facilities proposed for construction in different strategic locations across the country will allow the increase of the grain reserve available to households to meet their post-disaster needs. They will also improve the efficiency of grain storage management, reduce grain losses and enhance nutritional value of the grain distributed.

VIGAN would be proud to take part in MFSP project that will certainly contribute to lower poverty in a country such as Bangladesh.

CSUs form important part of the Bühler product portfolio

Bühler has over 150 years of experience in processing and handling food products and has gained considerable experience in the continuous unloading of ships. It is more than 100 years since the first mechanical unloader was designed and installed by Bühler. Since that time, the company has continually improved its products, and it is these improvements that are behind its current continuous ship-unloaders (CSUs) such as the Portalink.

Key to the design and product improvements is the ultimate aim of setting new industry standards in, for example, significantly reduced energy usage; reduced product breakage; and overall lower operating costs. The Portalink is often the

better solution for the customer, due to the increased efficiency offered by the easy operation of the unloader. This is supported by the Portalink's auto sink-in function.

Through its long-term and intensive market experience, and its wide and extensive product portfolio — including the Portalink range — Bühler is able to meet the needs of its customers for fast, optimal, and efficient unloading of ships. For example the Portalink is the mechanical unloader for seagoing ships of up to 125,000dwt, and has an unloading capacity ranging from 300tph (tonnes per hour) to 1,500tph.

Bühler's CSUs are able to handle all free-flowing food products, including mealy

products such as soya meal. In particular, the unloaders are known for their efficient handling of delicate products.

Handling and processing grains can present specific problems; to do so economically is a further challenge. Through its global network of experts, Bühler is able to resolve all of its customers' problems with the greatest care and with close attention to each issue and, where necessary, a customized solution.

Bühler's mobile CSUs and mobile harbour equipment are used by the large trading and importing facilities demanding reliable, high capacity, efficient unloading and loading equipment with low operating costs. Other customers also include direct

Portalink 800 at the Port of Durban in South Africa. This unit belongs to Bühler's long-standing client SABT.



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SABT Portalink 800 at the South African Port of Durban.



end-users such as millers, brewers, feed plants, etc., and are trusted and important clients for Bühler.

One example of a longstanding customer for Bühler is the company South African Bulk Terminals (SABT) in the Port of Durban. SABT has placed a repeat order based on its excellent experiences with the Portalink 800tph installed in 2004 which has unloaded roughly 20 million tonnes in the last ten years. The repeat order consisted of a new Mobile Portalink 800 and mobile Portaload 1,000tph, both on rails, and both of which are installed and running.

CONTINUOUS PRODUCT IMPROVEMENT

Bühler is always looking for new developments, product improvements, and trying new materials. This is especially true for its mechanical unloaders such as the Portalink portfolio, which sets market standards for low energy consumption, high operating efficiency due to easy handling for the operators, and high availability due to reduced maintenance time and low wear and tear. All of these factors result in a short ROI (return on investment), and help to keep the company competitive in the market.

In the past year, Bühler has focused on a new operating and control system for its loading and unloading portfolio. The operating system has been developed on direct customer feedback to simplify the basic functions and increase functionality

for maintenance and traceability. This reduces the time needed to search for



Prima Flour Mills, a long-standing customer, using its Portalink 600 in Sri Lanka.

errors and train new staff to understand the equipment, and thus generates a higher ROI.

RECENT CONTRACTS

Of particular note among recent contracts won/completed by Bühler are:

- ❖ four contracts in South America to supply stationary shiploaders;
- ❖ the installation of a Portalino mechanical

unloader with a nominal capacity of 400tph in South America; and

- ❖ the installation of a Portalink mechanical unloader with a nominal capacity of 600tph in the Middle East.

ABOUT BÜHLER: COMMITTED TO SUSTAINABILITY

Every day, billions of people come into contact with Bühler technologies to cover their basic needs for food and mobility. Bühler strives for innovations for a better world, with a special focus on healthy, safe, and sustainable solutions. It contributes significantly to feeding the world's population, while setting the focus on food security and safety. Its solutions and technologies enable efficient and clean mobility.

Bühler is a major supplier of equipment to process grains, rice, cocoa, coffee, and other raw materials. Also, it is a renowned solution provider of die-casting and surface-coating technologies in high-volume application areas, such as automotive, optics, and inks. As a technology group, Bühler invests up to 5% of its turnover every year in Research & Development. In 2016, its roughly 10,500 employees in over 140 countries generated a turnover of CHF 2.5 billion. The globally active Swiss family-owned company Bühler is particularly committed to sustainability.

Bühler wants its customers to be successful. It wants every human being to have access to healthy food. It wants to protect the climate with energy-efficient cars, buildings, and machinery.

Equipment automation technology is key to the reliability of CSUs, says NEUERO

This article discusses ways of providing automation and thereby efficiently increase safety and reliability using high capacity equipment.

AUTOMATION TECHNOLOGY FOR CSUs

Simple systems are available to help operators be more efficient during ship-unloading. For the unloader operator, moving the nozzle down every 20 minutes — sometimes for several hours, depending on the size of the ship being unloaded — is boring. It makes more sense to use the operator's time to check the operation of the equipment.

Two devices are presented below. One to solve the above example, and the second to improve equipment monitoring.

ADS — AUTO DIPPING SYSTEM

Assistance system ADS (Auto Dipping System) for automatic sinking/lowering of the suction nozzle into (free-flowing) material, which allows for partially automatic unloading operations and the for higher average unloading capacity/better efficiency and avoiding operator inattention. At the beginning of operation, the nozzle is positioned in the centre of the hatch. Without ADS, the only work carried out by the operator is to lower the nozzle into the grain. This can be done automatically with ADS, saving time for other activities and ensuring the best nozzle position in the grain and avoiding any unnecessary interruption of unloading operations due to the inattention of the operator.

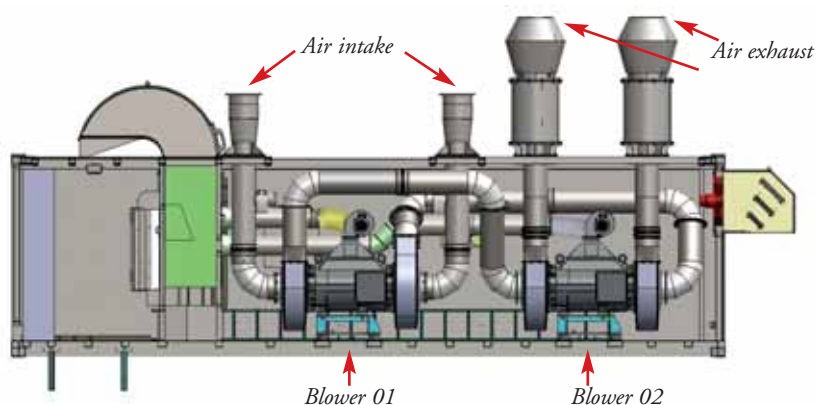
The use of a double-shell circular suction nozzle, with electrical adjustment for air-by-pass changing the air-product ratio, can increase efficiency. Normally adjustment is carried out by hand but it can also be done remotely to avoid any unnecessary interruption of unloading operations to carry out manual adjustments. The operator can select the best condition without removing the nozzle from the grain.

EQUIPMENT SAFETY REDUNDANCY

Main components should be reliable and protected against failure.

NEUERO understands the responsibility of equipment reliability when unloading a ship. A breakdown during unloading operations will come at a high financial cost, and cause considerable inconvenience.

To protect the main component in NEUERO's pneumatic unloader, the turbo blower, the company has developed the



ADS Auto Dipping System.

direct turbo drive. It has also added motor temperature sensors at the electric motor winding, plus temperature and vibration sensors at the ball bearings. These show operating temperatures in all conditions and set off alarms in cases of unusual

increases in bearing temperature or vibration, and the machine stops automatically if the limits are exceeded. Readings are continuously sent to a monitor touchscreen. The screen can be checked to see the operating conditions, so that preventative maintenance or repairs can be carried out, avoiding unnecessary downtime of the unloader.

This is possible because impellers are direct mounted on the motor shaft. This saves also energy with no mechanical losses and make the blower system almost maintenance-free. The only maintenance is greasing the motor bearing every 2,000 hours.

NEUERO has also designed another feature in its M600 and M800 (600tph [tonnes per hour] and 800tph) unloaders that use two blower stations in series. It has designed their connection in a way that in case of clean-up operation for power saving and any possible failure at one station, it is still possible to continue the unloading operation with a single blower station and achieve close to 50% capacity using just one station. In case of switching off blower 01 or 02, all the air will pass only at one stage with half the pressure but the same air volume.

This is not possible if blowers were designed to work in parallel and each one for part air volume.



Golfetto Sangati: from pneumatic to continuous mechanical ship-unloaders



From more than 90 years Golfetto Sangati (born from the merger of Golfetto, Sangati and Berga) has designed and built complete port systems for loading and unloading grains and meals from ships, as well as storage facilities for these commodities.

With a dedicated department for handling installations, the company has been designing and supplying pneumatic unloaders since 1965; later, in 1993, a new technology was introduced and is still in use today — the chain-type mechanical ship-unloader.

Golfetto Sangati has continued to supply both of these technologies. However, in the last 15 years, many of its clients have moved from pneumatic unloaders to mechanical unloaders. The company has therefore focused on the optimization of its TRANSMEC mechanical ship-unloader.

REASONS TO CHOOSE THE TRANSMEC MECHANICAL SHIP-UNLOADER

The main reason to choose a TRANSMEC

is the higher profitability and cost-effectiveness of the unit.

In particular, based on the experience of Golfetto Sangati clients which have been operating TRANSMEC unloaders in various countries for several years, the most important factors are:

- ❖ total installed power is 40% to 50% lower compared to that used by a pneumatic unloader of a similar capacity;
- ❖ energy consumption is 70% lower compared to that used by a pneumatic unloader of a similar capacity;
 - ❑ 0.37KWh/tonne of unloaded product at peak capacity and
 - ❑ 0.64KWh/tonne of unloaded product considering all the steps of the unloading process, including hatch changing, unloader movements, etc.
- ❖ nearly 0% of broken kernels thanks to the speed of the product inside the booms being 20 times lower than in pneumatic installations;
- ❖ maintenance costs during the service

life of the machine is 70% lower compared with pneumatic unloaders;

- ❖ much lower noise emissions compared with pneumatic systems;
- ❖ almost zero dust emissions during operation;
- ❖ high unloading efficiency across the vessel (higher than 70%) and hatch accessibility thanks to the kick-in-kick out system;
- ❖ range of capacity from 300tph (tonnes per hour) to 1,500tph with a single unloader.

While the initial investment value when purchasing a TRANSMEC unloader can be slightly higher, the savings accrued in two or three years of operation will rapidly offset the higher initial cost.

Thereafter, for the remaining (at least) 20 years of operation, a huge annual saving (energy cost, maintenance expenses and reduced unloading time) will ensure great profitability.



Another key factor is availability of the in-house designed DIGGER system for the efficient unloading of non-free-flowing products; the DIGGER is a circular cage system with interchangeable toothed blades driven by epicyclical-gear motors and gears.

In operational terms, the TRANSMEC is equipped with an up-to-date automation

system, with full remote control, that allows for the continuous monitoring of the main operational indicators.

REASONS TO OPT FOR GOLFETTO SANGATI SYSTEMS

Golfetto Sangati, part of the Pavan Group and now part of GEA Engineering, can offer its clients extensive expertise in the design and engineering of integrated technology

lines for grains and grain-based food.

This expertise, combined with decades of experience in grain handling and milling, is fundamental to enabling the company to offer the most suitable solution in terms of the best technologies and optimized investment profitability. This all takes into account the input and the output required by the client for the construction of loading/unloading plants and full grain handling terminals.

An example of this optimization was recently required by a client in eastern Europe, taking into account the site conditions (existing civil structures, operational requirements, types of cargoes and different sea levels): Golfetto Sangati proposed a combined system with one mechanical ship-unloader with a vertical boom, and one shiploader with a vertical boom installed in a single horizontal boom with double case chain conveyor accurately developed and designed.

As a recent project reference, a few weeks ago Cargill awarded Golfetto Sangati the contract for the supply of a mechanical ship-unloader (600tph) for soya beans to be installed later this year in the port of Barcelona (Spain); the system is also equipped with a shiploading boom for soya meal (200tph).

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The market's choice

Preventing fugitive coal dust with fences from

WeatherSolve

Photo 1: WeatherSolve wind fence in Peru.



Outdoor stockpiles can be by far the most efficient way to store coal. Wind fences are the central element in the design of an environment where the coal dust stays on the pile.

WHAT DOES A WELL PROTECTED OUTDOOR COAL PILE LOOK LIKE?

To answer this question, consider a thought experiment. Picture an outdoor coal pile in absolutely perfect weather. There is no wind and perhaps a very light mist. Of course the pile would just sit there. Now add a conveyor and a loader — still in the perfect weather. Dust is presumably kicking up from the tyres of the loader. There is also a cloud around the base of a neat stream of coal falling from the conveyor onto the stockpile. But where is the dust going? A little dust might be tracking out with the loader tyres, but apart from that the dust is just settling back down onto the pile. Simple.

Now picture the same pile in a strong wind.

The mist is long gone. Any dust is being whipped away. The coal being delivered off the conveyor probably looks more like a rooster comb than a neat stream, and the wind is probably eroding channels into the surface of the pile — particularly where it accelerates up the side and over the top.

In a gentle breeze the dust is a lot less intense, but it is still drifting in the breeze as a black cloud out and over the neighbours.

In that thought experiment, the difference between perfection and pollution was mostly the wind. It is the same in real life. That is why every coal storage project should make wind fences an integral part of their design. When the wind is controlled, then dust control follows close behind.

To illustrate the key features of a well-protected stockpile, two wind fences by a

leading wind fence specialist WeatherSolve Structures Inc are shown below. The company's fences are on every continent in the world (including Antarctica). Its website has an extensive gallery and technical pages on wind fence design. In this article, we are looking at one of WeatherSolve's fences in Peru, and one in Egypt.

The first is a relatively low fence. Note the mounting onto a short concrete wall. This is to provide optimum control down low where most dust travels. In fact studies of eroding fields in Texas have shown that over 90% of dust moving in the wind never gets higher than 0.5m above the ground. Seeing this you might think that a solid wall around the pile would be perfect, but no. A solid wall creates turbulence both in front of and behind the wall so dust is lifted over such obstructions. This is where the porous section above comes in. It allows some



Photo 2: WeatherSolve wind fence in Peru.

wind through the fence which both minimizes the dust-raising turbulence and filters out the dust.

The base wall is therefore an important part of any fence in a downwind mode. The other ingredient is having a relatively tight mesh. Large holes just let the dust escape. Together what happens is that the dust drifts up against the fence, hits it and mostly falls to the ground. Some dust will stick on the fence, but the wind will create vibrations in the fabric that cause those types of build-ups to fall to the ground too. The end effect is an accumulation of dust at the foot of the fence. This is why the base

wall (or a berm of dirt) is so critical. Fences with a large gap underneath are effectively creating an acceleration zone for the wind to scour out. This is related to the relationship between scouring effect and wind velocity and the nozzle effect of a gap. If the gap causes the wind speed to double, then the volume of dust scoured out increases eight times! Numerous studies with snow fences have investigated this effect in some detail as in snow fences it is a good thing (it stops the fence getting buried). In wind fences for dust control, it is clearly a bad thing. You want the dust kept within the stockpile perimeter where it can be

scooped up and used.

The same fence also shows doors and a cut-out for a conveyor. They can also create acceleration zones so their design should be carefully considered. In this case, because the doors are in critical locations they are set up so they can be closed. Often it is possible to locate the openings so they have minimal effect on the overall efficacy of the fence, in which case they can be left as openings, not doors.

The second fence illustrates an integrated solution for an opening on a windy side on a 13m wind fence in Egypt. There are four important components



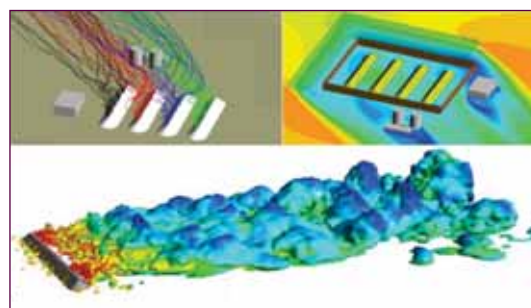
Photo 3: WeatherSolve wind fence in Egypt.

Photo 4: Egyptian fence showing baffle.



which can be utilized to different degrees.

- ❖ **Component 1:** Fence continues above the opening. This is part of making the opening as small as possible. Note that the WeatherSolve system is unique in that it allows door openings to be up to 30m wide when turning room for trucks or room for two trucks passing is required.
- ❖ **Component 2:** Baffle fence. In Photo 3, nearly all the winds are moving from left to right. The baffle has therefore been positioned on the left side of the opening to disrupt the flow of the wind along the fence and through the opening. Photo 4 shows a baffle when viewed from upwind.



Modelled wind and dust patterns around a stockpile.



- ❖ **Component 3:** Dry fog system. The dry fog system near the opening has been carefully positioned to complement the wind flow patterns. Fog systems need 'hang time' with the dust particles in the air so that they can combine and then drop out of the air-stream. WeatherSolve provides wind flow patterns as part of the design process to enable the optimization of supplementary dust control systems.

- ❖ **Component 4:** Pile location. The accelerated winds from all openings eventually diffuse back into the general wind pattern. The length and shape of the accelerated pattern can be used to position the stockpile away from the problem areas. This is not what is happening in the photo, but it is an option in many situations.

As has been illustrated, a carefully designed wind fence involves a lot more than just creating a fence. The size, location, porosity, base treatment and openings arrangement all dramatically affect the overall control effectiveness.

For larger jobs WeatherSolve strongly recommends using a Computational Fluid Dynamics (CFD) study from a supplier with extensive experience (such as the Midwest Research Institute) to fully understand the dust and wind flow patterns. Alternatively, and for smaller jobs, wisdom gained from past studies as well as on-site verification of study results can be used. In either case remember that thought experiment and know that when the wind is controlled, then so is the dust controlled.

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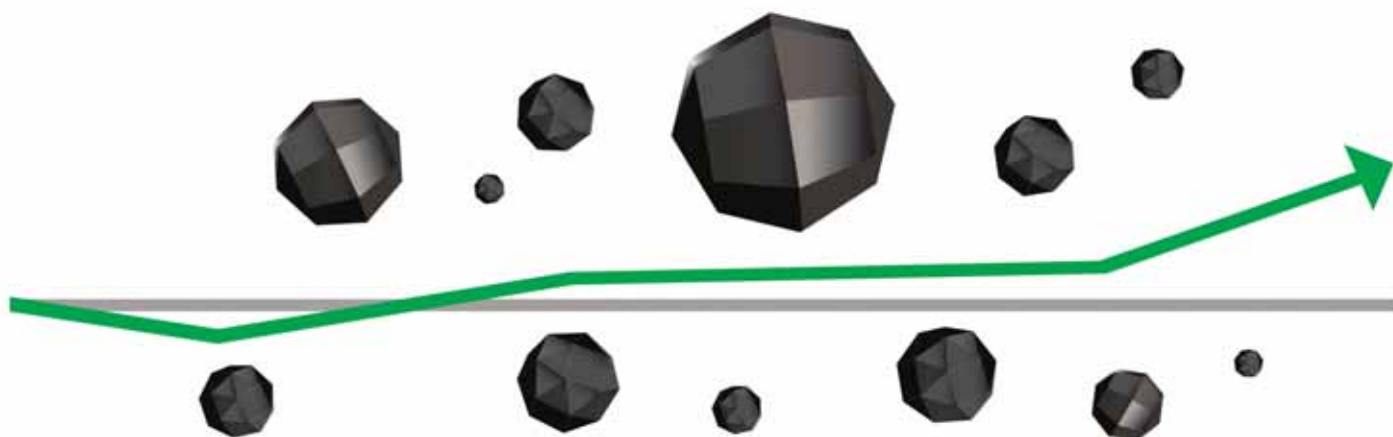
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Bulk handling in the US Gulf



Port Corpus Christi: surge in wind turbine cargoes

Port Corpus Christi is the fourth-largest port in the United States in total tonnage. The port provides a straight, 47ft deep channel (approved and authorized for 54ft) and quick access to the Gulf of Mexico, the intracoastal waterway and the entire United States inland waterway system. The port delivers outstanding access to overland transportation, with on-site and direct connections to three Class I railroads, BNSF, KCS, and UP, and direct, vessel-to-rail discharge capabilities. The Nueces River Rail Yard provides eight tracks for storage of unit trains up to 8,500 feet long.

DRY BULK BULK TERMINAL

The Bulk Terminal, docks #1 and #2 are used to discharge and/or load petroleum coke, coal, bayrite and other dry bulk commodities directly to/from vessels (including Panamax class ships), railcars and

trucks. The loading belt speed at the shiploader is 1,500tph (tonnes per hour) and the unloading gantry crane can handle 600tph.

Within 15 minutes and via the Joe Fulton International Trade Corridor trucks can access Interstate 37. The port maintains approximately 15 acres of open pads with 40 acres of developable land for future expansion. This facility features a loop track with rail capacity of 200 cars. Abilities include on-site trans-loads from rail to truck and dockside direct discharge from ship to rail.

GRAIN ELEVATOR

The Port Corpus Christi grain elevator facility managed by ADM/Growmark River Systems Inc, located on the Inner Harbor. The facility is used for shipments of grain, food, and farm products, and features a high storage capacity and excellent rail and highway connections.

PROJECT RO-RO CARGO

QUALITY SOLUTIONS

Port Corpus Christi offers quality solutions and superior logistics for all shipping needs. The Joe Fulton Corridor provides direct connections to Interstate 37 and Highway 181 for ease of cargo movement. Direct connections to three Class I railroads, BNSF, KCS, and UP plus dockside rail and truck service equip the port's clients with options. Minimal escort requirements and short channel transit save time and costs.

OUTSTANDING FACILITIES

The port offers multiple uncongested docks and Foreign Trade Zone #122 with greater flexibility and expedited access to FTZ benefits. More than 500 acres for project development and large manufacturing sites are available. The facilities sit adjacent to a 45ft deepwater channel and provide access to the Intracoastal Waterway system, allowing for offshore projects.



Shiploader and gantry cranes on the voestalpine dock at La Quinta Terminal.

NORTHSIDE TERMINAL

PROJECT CARGO, RO-RO, BREAKBULK AND GENERAL CARGO;

- ❖ Dockside rail or truck transfer capability;
- ❖ 122,000ft² of shipside covered storage;
- ❖ ro-ro ramp handles bow or stern ramp vessels.

RAIL AND HIGHWAY ACCESS

The Northside docks have uncongested, direct access to Interstate Highway 37 and US Highway 181. Rail service is provided by BNSF, KCS, and UP.

TRANSFER CAPABILITIES

Cargo can be loaded, unloaded and transferred directly between trucks, rail

and vessels at Dock 9. Shipside tracks on Dock 9 allow direct transfers between vessels and railcars and a 48ft-wide canopy over double rail tracks allows loading of weather-sensitive cargoes.

STORAGE

More than 30 acres of open storage area are available for marshalling, storage and fabrication. Paved yards are located adjacent to Dock 9 and ro-ro ramp.

SOUTHSIDE TERMINAL

HEAVY LIFT, RO-RO, BREAKBULK, CONTAINERIZED AND GENERAL/PROJECT CARGO

- ❖ Dock 8, the strongest open wharf on the Gulf of Mexico, capable of 1,500 lbs/ft² with 25 acres of directly

adjacent open storage;

- ❖ Docks 14 and 15, multi-purpose facilities with 173,000ft² of covered dockside storage.

RAIL AND HIGHWAY ACCESS

The Southside docks have uncongested, direct access to Interstate Highway 37 and US Highway 181. Rail service is provided by BNSF, KCS, and UP.

TRANSFER CAPABILITIES

The General Cargo Terminal can transfer containers, ro-ro, heavy lift, breakbulk and project cargo between vessels, railcars, chassis and trucks. On-dock tracks allow direct transfer between vessels and railcars. Docks 8, 14 and 15 are served by double rail tracks.



STORAGE

Additional warehouse space is located on Docks 14 and 15, adjacent to the wharf at Dock 8.

STRATEGIC LOGISTICS

Port Corpus Christi is the location for improved cost effectiveness and productivity, including the strongest dock available within the US. Gulf Ports (1,500 pounds per square foot). Port Corpus Christi has also been a designated, strategic military deployment port since December 1997.

- ❖ 45ft deep water port;
- ❖ convenient highway access;
- ❖ rail service and on-dock railroad capabilities;
- ❖ three Class I railroads;
- ❖ rail yard with eight 8,500ft tracks;
- ❖ covered storage;
- ❖ staging capabilities;
- ❖ transloading facilities;
- ❖ ro-ro;
- ❖ state-of-the-art security department; and
- ❖ union and non-union stevedores.

NUECES RIVER RAIL YARD

Along with deep water shipping channels and easy highway access, an efficient rail



Radial shiploader at Port Bulk Materials Terminal.

system is an integral component for multi-modal strategic logistics at Port Corpus Christi.

Phase I of the Nueces River Rail Yard came online in early 2015 and includes a 8,000ft-long unit train siding. The opening of Phase II opened in 2017. The completed rail yard has eight 8,500ft tracks.

Nueces River Rail Yard is made possible by the unique cooperation of three Class I rail lines including BNSF, UP, and KCS as

well as the short line rail operator Genesee Wyoming, and Port Corpus Christi.

The Nueces River Rail Yard is located along the Joe Fulton International Trade Corridor and the Corpus Christi Ship Channel.

FOREIGN TRADE ZONE #122

Established in 1985, Foreign Trade Zone #122 was the first continental zone with refinery subzones. In 2013, Port Corpus



**STOP, DROP
AND STORE YOUR CARGO.**

Approximately 240 acres, our cargo facilities include dockside rail and truck transfer capability, air-conditioned covered storage, direct vessel-to-rail unloading, and first-rate stevedores access. From agriculture to petro – Port Corpus Christi is your partner for dry bulk cargo movement.

WHY PORT CORPUS CHRISTI?

- Bulk dock 1 load and unload rate of 600 tons/hour
- Bulk dock 2 load rate of 1500 tons/hour
- Rail line with full unit train capacity and 230 car storage
- Three class I rail roads - BNSF, KCS and UP on site
- Foreign Trade Zone #122

Christi reorganized and expanded FTZ #122 under the Alternative Site Framework (ASF).

This new programme provides greater flexibility and expedites access to the benefits of the FTZ programme by using simpler and less time-consuming procedures to bring FTZ designation to locations where a company has decided to pursue an FTZ.

Under the ASF, FTZ #122 now includes seven counties within its service area – Aransas, Bee, Jim Wells, Kleberg, Nueces, Refugio, and San Patricio.

WIND TURBINE CARGO KEEPS GROWING AT PORT CORPUS CHRISTI

By the end of 2017, Port Corpus Christi reached a new wind turbine cargo milestone by handling more than 3,000 large wind turbine components including wind turbine blades and tower sections. In 2015 and 2016 the number of wind turbine components handled via Port Corpus Christi was 2,603 and 2,875 respectively.

Port Corpus Christi's strategic location on the Texas Gulf Coast allows for excellent logistics solutions for wind power projects across the wind rich great plains of North America.

Texas continues to lead the nation as the no. 1 wind energy industry state with over 20,000MW of installed wind power capacity. In 2017 wind power surpassed coal-fired power generating capacity in Texas.

The wind turbine cargo volumes handled via Port Corpus Christi have increased steadily over the past several years and are solid proof Port Corpus Christi is well equipped with all essential maritime and land-side facilities including an uncongested and easy access ship channel, berths, laydown areas, skilled labor, multiple highways and three North

The Rincon Industrial Park, located on the northside of the Corpus Christi Ship Channel, features more than 200 acres of land. It has all utilities available, competitive rail service provided by three carriers, and an intracoastal barge canal.



American Class-I railroads.

Coupled with its continued quest for improvement and excellence in customer service, the Port handles the multitude of wind turbine components from all major wind turbine manufacturers worldwide.

“Port Corpus Christi is proud to offer customized logistics solutions for the fast growing wind energy industry in North America. Port Authorities play an important role within the supply chain to help customers and users successfully execute major wind turbine projects”, says Jarl Pedersen, Port Corpus Christi Chief Commercial Officer.

“We also recognize the continued innovation in the wind energy industry and need to make infrastructure investments allowing us to offer competitive solutions for transport of ever larger wind turbine components.”

The Port Corpus Christi Commission on 12 December 2017 approved a contract for construction of an additional 25-acre laydown yard for storage of wind turbine components and other breakbulk cargo. The first phase comprising a 10-acre

laydown yard will be available by end the first quarter 2018 and the additional 15-acre laydown yard will be available within the following months.

Port Corpus Christi's vision is to be the Energy Port of the Americas. Since August 2017, Port Corpus Christi has purchased 100% renewable electricity produced by wind power projects and other renewable energy projects in Texas.

PORT CORPUS CHRISTI TO WORK WITH US ARMY TO WIDEN CORPUS CHRISTI SHIP CHANNEL

In October 2017, Port Corpus Christi and the US Army Corps of Engineers (USACE) signed a project partnership agreement (PPA) for the deepening and widening of the Corpus Christi Ship Channel (CC Ship Channel). The CC Ship Channel Improvement Project will widen the CC Ship Channel to 530 feet, plus add additional barge shelves, to allow for two way vessel and barge traffic, and deepen the CC Ship Channel to 54 feet MLLW (mean lower low water) for the safe and efficient passage of the modern fleet of world-class deep draught vessels.



Millard Maritime: central Gulf coast facility



Millard Maritime has been active on the US Gulf coast for over ten years. The company is privately owned.

Millard operates a deep water port facility, centrally located on the US Gulf coast, featuring a multi-berth large marine terminal boasting a 1,600ft wharf, with export and import capabilities for all types of bulk material.

Originally constructed as a cold storage warehouse to export poultry products, the facility was repurposed in May 2013 to handle general cargo — liquid, dry bulk, breakbulk and special projects.

Millard uses a wide range of equipment — including Superior brand mobile conveyors, related receiving hoppers and shiploaders, multiple brands of front-end loaders and excavation machines, various types and sizes of fork lifts along with a host of transit trucks — to handle a wide range of bulk and breakbulk:

Millard Maritime's focus is on dry and liquid bulk cargoes, including:

- ❖ **aggregates:** these include sand, gravel, pebbles, crushed limestone, and stone and are imported in bulk. They are destined for construction sites across the country for use in structural foundations.
- ❖ **chemicals:** largely as a result of North America's competitive advantage in sourcing natural gas, the



chemical industry is growing in the southeastern United States. Millard's Theodore, Alabama port, located in the centre of the US Gulf Coast is well positioned near numerous chemical and petrochemical manufacturing plants. Coastal rail routes, along with Interstate 10 and 65 provide easy and advantageous access to customers moving bulk cargo into or out of the region.

DEVELOPING FOR THE FUTURE

Millard Maritime has its eye on the future, and part of this includes the expansion of a 300-acre multi-use site. Plans include a build-out of the tank farm, specifically to accommodate speciality liquid cargo storage needs. Also planned is an addition to its rail capacity enabling it to handle unit trains as well as increase its railcar storage capacity, which is currently in excess of 100 railcars. Further, it has a long-term

intention to extend its 1,600ft seawall by an additional 2,000ft plus bulk heading its 24 acre barge harbour. Millard's build-to-suit model will dictate further infrastructure expansion as well.

PORT FACILITIES

Millard Maritime is able to host two Panamax vessels on dock at the same time, but more commonly handles cargo to and from Handymax-sized vessels.

Touch up dredging alongside the seawall is not regularly required — perhaps every five years or so. Dredging has not affected cargo operations to date, nor does Millard Maritime expect it to due to its multi-berth capability and minimal dredge requirements.

In terms of security, Millard Maritime is a TWIC (Transportation Worker Identification Credential) facility, maintaining security in strict compliance with the same. It continually monitors its site with security concerns in mind, and will develop additional security measures whenever it foresees any concerns.

The company also boasts an impressive safety record, with no loss-time incidents in over two years.

For more details on Millard Maritime's history and competencies, please see pp27–28 of the September 2017 issue of *Dry Cargo International*.



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Project cargo: Port of New Orleans collaborates with New Orleans-based construction & shipping companies to export oil platform components

SECOND OF FIVE HEAVY-LIFT PROJECT CARGO PIECES SHIPPED TO TRINIDAD

In December last year, the Port of New Orleans (Port NOLA) revealed that the second of five heavy-lift project cargo pieces manufactured in Louisiana had recently been exported through the Port of New Orleans, bringing together three New Orleans-based entities on an international supply chain solution. Port NOLA is partnering with Intermarine, a New Orleans-based shipping company, and Chet Morrison Contractors, a Harvey-based land and marine construction company, to export five shipments of locally manufactured oil platform components to Trinidad through 2019.

“The Port of New Orleans is proud to collaborate with our long-time shipping line partner Intermarine to be able to provide the most efficient international shipping option for a Louisiana-made product,” said Brandy D. Christian, Port of New Orleans President and CEO. “This partnership bodes well for the port’s diverse capabilities and carrier options, as well as for our homegrown manufacturers’ ability to compete globally.”

The first piece, the base of an oil platform built by Chet Morrison Contractors, arrived at Port NOLA by barge at the Poland Avenue wharf and was discharged directly from barge to the Intermarine Industrial Edge by terminal operator Coastal Cargo in August. The second piece, the top side deck also built by Chet Morrison Contractors, arrived by barge at the Harmony Street wharf and was also discharged directly from barge to the Intermarine Industrial Edge by Coastal Cargo in November 2017.

“Founded in New Orleans, Intermarine is always looking for any opportunities to bring our vessels to New Orleans,” said Fran Cruz, Commercial Line Manager for Intermarine, which specializes in transporting project, breakbulk and heavy-lift cargo. “It’s these strong partnerships with organizations like Chet Morrison Contractors and the Port of New Orleans that have contributed to the success of Intermarine.”

Chet Morrison Contractors is a leader in providing construction, maintenance and abandonment services for the oil and gas industry for land, inshore and offshore environments. For more than 15 years Chet Morrison has been shipping cargo exclusively with Intermarine through the Gulf of Mexico.

“Working hand in hand with our local resources we were able to identify cost savings for the transport of pre-fabricated modules from our Harvey facility to the project location in the Caribbean,” said Brent Desselle, Chet Morrison Contractors Project Manager.

Both oil platform components arrived in Trinidad and were successfully discharged. The next project will commence loading in March this year with the same two components.

ABOUT THE PORT OF NEW ORLEANS

The Port of New Orleans is a deep-draught multipurpose port at the centre of the world’s busiest port system — Louisiana’s Lower Mississippi River. Connected to major inland markets and Canada via 14,500 miles of waterways, six class-I railroads and the interstate highway system, the port is the ideal gateway for steel, project cargo, containers, coffee, natural rubber, chemicals, forest products, manufactured goods and cruising. An extensive network of ocean carrier services, along with added-value services like transloading of bulk into containers, make the Port of New Orleans the superior logistics solution for many types of cargo.

While the Port of New Orleans is renowned for its container handling capabilities, it is also heavily involved in moving bulk, breakbulk, heavy lift/project cargo, as well as perishable cargoes requiring cold storage.

BULK IN CONTAINERS

The Port of New Orleans receives bulk cargoes by barge or railcar, and its operators then transfer it to containers for export. Automated vacuum equipment allows for the efficient and safe transfer of cargo from barge to containers. Shipping bulk in containers reduces inventory and improves cash flow for bulk shippers. Shipping in containers minimizes contamination of identity-preserved grains and other bulk commodities.

BREAKBULK

- ❖ 13,511 feet (4,118 metres) of berthing space are available at six facilities, tailored to breakbulk cargo;
- ❖ 1.6 million ft² (151,000m²) of transit shed area for the temporary storage of breakbulk cargo;
- ❖ New Orleans is certified by the London Metals Exchange to handle and store

non-ferrous metals and steel billets traded on the exchange;

- ❖ Discharge directly to or from barge or rail;
- ❖ Certified by the London Metals Exchange to handle and store nonferrous metals traded on the exchange; and
- ❖ Breakbulk terminal operators include: Ports America, Coastal Cargo, Empire Stevedoring, and Seonus.

HEAVY LIFT/PROJECT CARGO

- ❖ Superior rail and waterway connections make New Orleans an ideal port for moving oversized and overweight cargo;
- ❖ Several heavy lift shipping lines offer regular service into New Orleans;
- ❖ Railroad spurs at docks allow cargo to be loaded and discharged direct to rail; and
- ❖ Direct load or discharge to barge provides convenient access to inland locations for the largest and heaviest loads.

HINTERLAND CONNECTIONS

Due to its geographical location, the Port of New Orleans has excellent connections to the hinterland.

- ❖ **Barges:** New Orleans is connected to 14,500 miles of inland waterways through the Mississippi River and its tributaries. Additionally, the Gulf Intracoastal Waterway provides direct access along the Gulf Coast.
- ❖ **Rail:** New Orleans is the only seaport in the United States to be served by all six Class-One railroads, which allows customers direct access to a 133,000 mile rail network. These railroads are connected to the Port of New Orleans via the New Orleans Public Belt Railroad, which maintains 26 miles of track along the New Orleans riverfront and inner harbour. The Huey P. Long Bridge provides a route for railcars to cross the Mississippi River. The Napoleon Avenue Intermodal Railyard allows for a quick and easy way to transport cargo to and from the Napoleon Container Terminal by rail.
- ❖ **Trucks:** On a typical day about 2,130 truck drivers haul cargo in and out of the port. Local and national carriers provide truck service via the Interstate Highway System. The Clarence Henry Truckway gives truckers speedy and dedicated access to the port’s Mississippi River terminals. **DCi**

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Industrietechnik



The loader is working exceptionally well. No dust and the operators love it. *Murray Vanderpont - G3*



Ausführung

Leistung: 1.500 t/h
 Fördergüter: Getreide
 Abmessungen: 27 m Ausleger
 Bauweise: Stationär
 Schiffgrößen: Laker
 Bemerkungen: KIKO Staubarm Beladepopf

Design

Capacity: 1.500 t/h
 Products: Grain
 Dimensions: 27 m Boom
 Type: Stationary
 Ship size: Laker
 Remarks: KIKO with DSH

EXCELLENCE

is **ASSOCIATED** with **US.**



When it comes to the movement of bulk, breakbulk and project cargo along the Lower Mississippi River, turn to Associated Terminals. We have assembled a team of experts and invested in modern facilities, equipment and related assets to best service your cargo shipping needs. Add to that our total commitment to safety and it is easy to see that Associated Terminals is an excellent choice for all of your cargo handling and logistical solutions.

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